

## Finance, Administration and Operations Committee

Tuesday, February 15, 2011, 4:15 p.m.  
City Hall - Council Chambers

<u>Committee Members</u>	<u>Areas of Responsibility:</u>
Councillor J. Fullarton, Chair	Clerk's Office
Councillor L. Bursey	Environmental Services
Councillor L. Journal	Finance Department
Councillor D. LeSueur	Fire Department
Councillor M. McFall	Human Resources Dept.
Mayor D. Henderson, Ex-Officio	Operations Department
	Airport Commission
	Arena Advisory Board
	Brockville Municipal
	Accessibility Advisory
	Committee (BMAAC)
	CRCA
	Cemetery
	Health Unit
	Joint Services Committee
	PLMG
	Police Services Board
	Safe Communities Coalition
	St. Lawrence Lodge Management
	Board
	Volunteer Awards
	All legal matters [excepting the purchase and sale of land]

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### **DISCLOSURE OF INTEREST**

#### **STAFF REPORTS**

- |         |   |
|---------|---|
| 3-36    | 1. 2011-015-02<br>2010 Annual Summary Report Water Pollution Control Centre                                   |
| 37-117  | 2. 2011-016-02<br>2010 Annual Water Quality Report – Brockville Drinking Water System                         |
| 118-147 | 3. 2011-018-02<br>2010 Work Plan Fourth Quarter Report  |
| 148-150 | 4. 2011-020-02<br>Water System Alterations Memorial Centre and Youth Arena                                    |
| 151-158 | 5. 2011-021-02<br>Addition of a Waste Management Steering Committee to the Joint Services Operating Agreement |
|         | 6. Cataraqui Drinking Water Source Protection   |

*Mr. Raabe will provide an oral update.*

#### **NEW BUSINESS**

- |     |                                     |
|-----|-------------------------------------|
| 159 | 1. GIS System<br>Councillor LeSueur |
|-----|-------------------------------------|

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**FAO - CONSENT AGENDA**

**FEBRUARY 1, 2011  
REPORT TO FINANCE, ADMINISTRATION, OPERATIONS COMMITTEE –  
FEBRUARY 15, 2011**

**2011-015-02**

**2010 ANNUAL SUMMARY REPORT  
WATER POLLUTION CONTROL CENTRE**

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

**RECOMMENDATION**

THAT the 2010 Annual Summary Report on the City of Brockville's Water Pollution Control Centre, Appendix 1 to Report 2011-015-02 be received; and

THAT the Director of Environmental Services be designated to sign the 2010 Annual Summary Report on the City of Brockville's Water Pollution Control Centre; and

THAT the 2010 Annual Summary Report on the City of Brockville's Water Pollution Control Centre be forwarded to the MOE District Office - Kingston.

**ORIGIN**

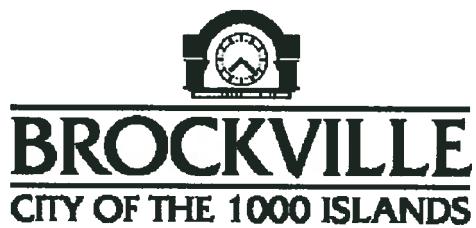
This annual summary report covers the period January 1, 2010 through December 31, 2010, and is a requirement under our Certificate of Approval 5526-7SGL3D, Section 10 (6).

**ANALYSIS**

We are pleased to present The 2010 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 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



## **CITY OF BROCKVILLE WATER POLLUTION CONTROL CENTRE**

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### **2010 ANNUAL SUMMARY REPORT FOR COUNCIL**

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

**DATE: January 25, 2011**  
**FILE: E03-04**

2010 ANNUAL SUMMARY REPORT FOR COUNCIL  
CITY OF BROCKVILLE – WPCC

## EXECUTIVE SUMMARY

The enclosed 2010 Annual Summary Report is prepared in accordance with the Certificate of Approval (C of A) for the City of Brockville's Water Pollution Control Centre (WPCC) for submission to the Ontario Ministry of the Environment (MOE). Included with this report are analytical data, plant flow, by-pass 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 C of A. The plant overview will discuss the level of performance with regard to effluent limits specified in the C of A, however as reported on a quarterly basis, the plant effluent cBOD<sub>5</sub> (concentration and loading) did not comply during the reporting period. In 2010 there were no bypasses at the WPCC, but there were three at the Main Pumping Station which were all reported and followed up with the required documentation.

Each year, the City of Brockville focuses on Capital and Operational Targets to improve the quality of the wastewater treatment system. In 2010 these improvements included:

- **WPCC Secondary Treatment Project** – On January 14<sup>th</sup>, 2010 Council awarded the contract to J.C. Sulpher Construction Ltd. Work on the project started in February 2010 and is progressing well. For a summary of works completed in 2010 and progress to date see **Appendix J: 2010 Secondary Treatment Plant Upgrade Progress Report**.
- **Digesters** – Digester #1 had all four header valves replaced as well as all sample valves and associated piping. New sludge feed grinders were purchased for both digesters and they will be installed in 2011.
- **Main Pumping Station** – New pump, motor and VFD control panel were purchased to replace Pump #1. This equipment will be installed in 2011. Proposals were received late in 2010 for an Environmental Assessment on the Main Pumping Station and forcemain. Acceptance is contingent on securing financing.
- **Pumping Stations** – During 2010 there were twenty-one mechanical pump calls. All grating and access ladders were replaced in the wet well at West End Pumping Station. Pump #2 at Thomas Street Pumping Station was removed and rebuilt. Both 6" pumps at the Leachate Pumping Station were removed and rebuilt.

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Peter Raabe, P. Eng.  
Director of Environmental Services

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Ed Malcomnson  
Supervisor – Wastewater Systems

2010 ANNUAL SUMMARY REPORT FOR COUNCIL  
CITY OF BROCKVILLE – WPCC

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2010 ANNUAL SUMMARY REPORT FOR COUNCIL  
CITY OF BROCKVILLE – WPCC

## 1. INTRODUCTION

We are pleased to present the 2010 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 1<sup>st</sup> to December 31<sup>st</sup>, 2010, and is a legal requirement under Section 10 (6) of Certificate of Approval (C of A) number 5526-7SGL3D, made under the *Ontario Water Resources Act* (R.S.O. 1990, c. O.40). This Annual Report must be forwarded to the Ministry of Environment no later than March 31<sup>st</sup>, 2011.

## 2. FACILITY DESCRIPTION

Brockville's wastewater treatment facility is a chemically enhanced (for phosphorus removal) primary treatment plant with a capacity of 21,800 cubic metres per day and a peak design of 54,500 cubic metres per day. It is classified as a physical/chemical process inclusive of screening, grit removal, primary clarification, sodium hypochlorite disinfection, with phosphorus removal, anaerobic digestion of sludge, centrifuge dewatering of sludge, centrate return to the primary clarifiers and sludge cake disposal to landfill/compost. 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 commencement of the current 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 and an aerial photograph appears on the cover of this report.

The wastewater treatment plant services a population of approximately 24,000 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 & CERTIFICATION

### 3.1 Certificate of Approval

The City of Brockville's WPCC (Works #120000122) operates under a new Certificate of Approval (C of A) NUMBER 5526-7SGL3D issued to the facility on June 26<sup>th</sup>, 2009 in order to proceed with the upgrade to secondary treatment. The Facility is a Class III facility in accordance with the *Licensing of Sewage Works Operators Regulation* (O. Reg. 129/04) made under the *Ontario Water Resources Act*.

The C of A for Brockville's WPCC establishes final effluent limits for 5-day Carbonaceous Biochemical Oxygen Demand (CBOD<sub>5</sub>), Total Suspended Solids (TSS) and Total Phosphorus (TP). The limits are based on annual rotating averages, and apply to concentration as well as total daily loading. The limits are used to determine compliance with the C of A. The limits are found in the lower area below the Monthly data of **Appendix B: 2010 WPCC PARS Report**.

The C of A also establishes the rating of the facility for *average daily flow* or ADF. 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 m<sup>3</sup>/day and the peak flow rating is 54,500 m<sup>3</sup>/day.

2010 ANNUAL SUMMARY REPORT FOR COUNCIL  
CITY OF BROCKVILLE – WPCC

### 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. Barry Fox is the designated ORO holding a Class 3 license in Wastewater Treatment and a Class 2 license in Wastewater Collection. If Mr. Fox is unable to fulfill these duties Ed Malcomnson, Supervisor of Wastewater Systems, will assume the ORO responsibility. Ed currently holds a Class 3 Wastewater Treatment License and a Class 3 Wastewater Collection license.

## 4. FLOW MONITORING DATA

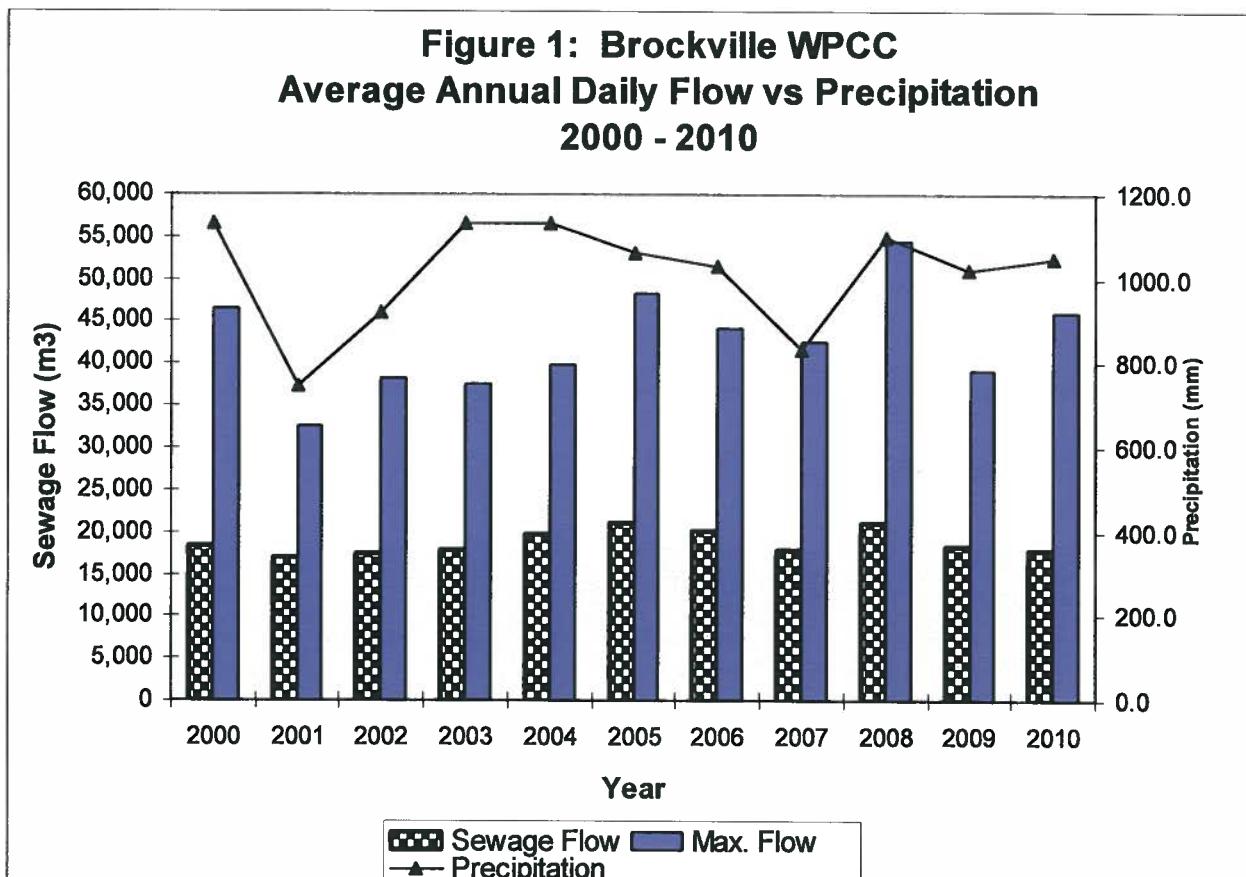
### 4.1 Plant Flow

The wastewater flow during the reporting period is outlined in **Appendix B: 2010 WPCC PARS Report**. The total flow received during the 2010 reporting period was 6,498,069 m<sup>3</sup> with an annual ADF of 17,783 m<sup>3</sup> or 82% of the plant's current rated capacity. The Maximum Daily Flow of 46,072 m<sup>3</sup> occurred on Jan. 28<sup>th</sup>, and the minimum daily flow of 12,568 m<sup>3</sup> occurred on August 1<sup>st</sup>. The ADF at the WPCC for 2010 compared to 2009 showed a decrease of 2.82%. Figure 1 shows the precipitation and flow graphically.

### 4.2 Bypasses, including Pumping Station Overflows

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

There were 3 bypass events at the Main Pumping Station in 2010. See **Appendix C: 2010 Bypass Summary Report**.



#### 4.3 Chemical Usage

The consumption of chemicals that aid in achieving effluent criteria are tracked by the treatment facility, and are outlined in **Appendix D: 2010 WPCC Annual Chemical Summary**.

Sodium Hypochlorite (NaOCl) has been the disinfectant at the WPCC since the 1993 Upgrade when Chlorine gas was removed from the facility. Ultraviolet radiation will be used as the new disinfection technology for the secondary plant upgrade, therefore eliminating the use of Sodium Hypochlorite.

The chlorine dosage averaged 2.67 mg/L resulting in a total of 17,079 kg applied in 2010, and is a 8.53% decrease from 2009.

Ferric Chloride ( $\text{FeCl}_3$ ) is used to aid in phosphorus (P) removal and enhance the coagulation and removal of total suspended solids (TSS) and carbonaceous biochemical oxygen demand ( $\text{cBOD}_5$ ). An average dosage of 109.1 mg/L of Ferric Chloride (product as received) resulted in 703,774 kg of Ferric Chloride applied throughout 2010. This represents a 0.27% increase from 2009.

2010 ANNUAL SUMMARY REPORT FOR COUNCIL  
CITY OF BROCKVILLE – WPCC

## 5. ANALYTICAL DATA

### 5.1 Background

WPCC staff perform analysis on the samples collected, and participate in a Proficiency Testing Program as part of the 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). Laboratory staff schedule the sampling days, and maintain a sampling schedule for the WPCC that meets the requirements of the C of A.

### 5.2 Sampling and Analysis Program

WPCC staff maintain a schedule of sampling Raw Influent and Final Effluent weekly as per the C of A, as well as raw sludge, digested sludge and other process samples. The frequency of sampling and the testing performed met or exceeded the minimum requirement in the Certificate of Approval.

### 5.3 Abatement Program

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

In addition to regular laboratory and abatement work, our Land Application Program for Digested Sludge also utilized abatement staff for the sampling component as per the Certificate of Approval. This program includes digested sludge analysis, as well as surface water monitoring.

Abatement staff continued to monitor and work with local industry in 2010 as they implemented capital work projects to address high strength BOD and high pH issues.

WPCC staff started to review the City's existing Sewer Use By-law (12-91) in preparation for updating the by-law in conjunction with the completion of the Secondary Treatment Upgrade.

### 5.4 Effluent Quality Performance – Compliance Limits

The analysis results of the routine sampling at the WPCC are shown by month in **Appendix E: 2010 City of Brockville Wastewater Treatment Plant Operational Data** for both the raw influent and final effluent samples. Compliance was achieved in both TP and TSS (concentration and loading) however, CBOD<sub>5</sub> continues to be non-compliant for concentration and loading.

Quarterly reports were submitted to City Council and monthly reports were submitted to the MOE outlining the treatment plant's performance for each month respecting flows and sampling results for CBOD<sub>5</sub>, Total Suspended Solids and Total Phosphorus concentrations and loadings. The PARS Report contains the concentration and loading values as an average for the month (**Appendix B: 2010 WPCC PARS Report**).

## 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 F: 2010 WPCC & Pumping Stations Operational Highlights**.

### 6.2 Maintenance Programs

Preventative Maintenance (PM) routines are performed at a minimum of once a year or 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 that is found to be malfunctioning is repaired or replaced immediately.

### 6.3 Biosolids Management, Land Application and Disposal

The 2010 Land Application Program covered the period of May 3<sup>rd</sup> – November 19<sup>th</sup>, 2010. The material land applied was from the routine operation of Digester #2 and the clean-out material from Digester #1. No incidents of non-compliance to report.

**Appendix G: 2010 WPCC Centrifuge Sludge Feed and Cake Disposal.** From January to May the cake was hauled to Lafleche's compost facility. From November to December the cake was hauled to Lafleche's landfill facility. Both facilities have C of A's to receive this material. A separate report has been filed with the MOE for the Biosolids Application Program, confirming that 11,507.79 m<sup>3</sup> of digested sludge was land applied in 2010. This Report was filed ahead of the March 1<sup>st</sup>, 2011 deadline, and is also available for review.

### 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 H: 2010 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 I: 2010 Capital Project Manager's Sheet** contains the 2010 Capital Projects for the WPCC and Pumping Stations. We allocated \$231,000 in Capital for the purchase of a new pump, motor, and Variable Frequency Drive (VFD) to replace Pump #1 at the Main Pumping Station. This completes the replacement of all three pumps, motors, and VFD's. We also allocated \$138,000 to replace various pieces of equipment at the WPCC and pumping stations

2010 ANNUAL SUMMARY REPORT FOR COUNCIL  
CITY OF BROCKVILLE – WPCC

as they had completed their life cycle. 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:

Ed Malcomnson  
Supervisor - Wastewater Systems  
613-342-8772 ext 8301  
E-mail: [emalcomnson@brockville.com](mailto:emalcomnson@brockville.com)

Peter Raabe, P. Eng.  
Director of Environmental Services  
613-342-8772 ext. 8357  
E-mail: [praabe@brockville.com](mailto:praabe@brockville.com)

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

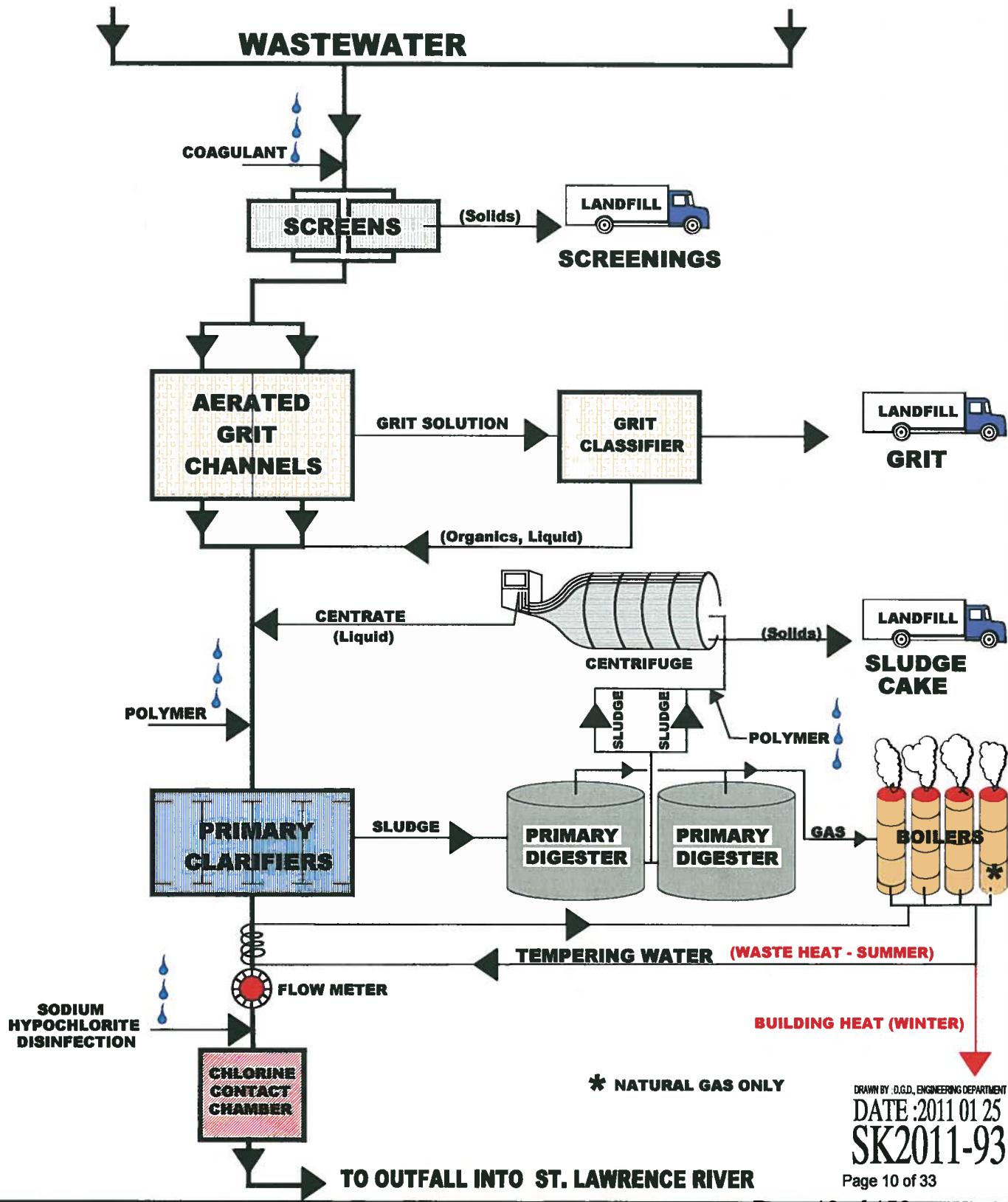
[www.ene.gov.on.ca](http://www.ene.gov.on.ca)  
[www.owwco.ca](http://www.owwco.ca)  
[www.wef.org](http://www.wef.org)  
[www.weao.org](http://www.weao.org)  
[www.gov.on.ca/omafra](http://www.gov.on.ca/omafra)

# WATER POLLUTION CONTROL CENTRE PROCESS FLOW DIAGRAM

APPENDIX A

**BROCKVILLE  
SEWERS**

**ELIZABETHTOWN- KITLEY  
SEWERS**



DRAWN BY: D.G.D., ENGINEERING DEPARTMENT  
DATE: 2011 01 25  
SK2011-93

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## APPENDIX B

### BROCKVILLE WATER POLLUTION CONTROL CENTRE SEWAGE PLANT PERFORMANCE ASSESSMENT REPORT

MUNICIPALITY: <b>BROCKVILLE</b>	PROJECT: <b>BROCKVILLE</b>	YEAR: <b>2010</b>
PROJECT NUM.:	WORKS NUM.:	WATER COURSE: <b>ST. LAWRENCE RIVER</b>
120000122	12000M3	DESIGN CAPACITY: <b>21,800 X 1000 m<sup>3</sup>/d</b>
<b>A PRIMARY TREATMENT FACILITY, COMPLETE WITH TWO PRIMARY ANAEROBIC DIGESTERS TWO CENTRIFUGES FOR SLUDGE THICKENING AND UTILIZING POLYMER FOR PHOSPHORUS REMOVAL AND SODIUM HYPOCHLORITE FOR EFFLUENT DISINFECTION.</b>		

MONTH	FLOWS		BOD/CBOD		SUSPENDED SOLIDS		PHOSPHORUS		BACTI RESULTS		
	TOTAL FLOW 1000m <sup>3</sup>	AVG DAY FLOW 1000m <sup>3</sup>	MAX DAY FLOW 1000m <sup>3</sup>	AVG RAW BOD (mg/L)	CBOD (mg/L)	TOTAL SS (mg/L)	AVG SS (mg/L)	PERCENT REMOVAL EFF. SS (kg/day)	TOTAL P HOS. (mg/L)	RAW AVG P HOS. (mg/L)	FECAL COLIFORM (Organisms per 100 ml)
DEC-10	605.17	31.548	123.50	51.75	101.26	116.75	29.38	73.58	74.8	2.66	0.65
JAN-11	594.29	28.810	152.23	59.22	1114.97	142.36	33.46	628.38	76.5	2.73	0.66
FEB-11	712.57	22.986	40.672	42.46	97.59	114.73	33.27	764.74	71.0	2.30	0.59
MAR-11	498.83	16.628	40.528	165.78	66.11	1098.28	164.33	36.17	601.43	78.0	3.05
APR-11	528.55	17.082	116.82	52.18	89.13	128.64	35.27	602.48	72.6	2.99	0.86
MAY-11	475.45	15.336	19.539	118.55	42.36	949.63	138.91	29.55	453.19	78.7	2.95
JUN-11	488.39	16.613	25.459	134.00	46.78	777.16	147.67	26.92	447.22	81.8	2.73
JULY-11	474.22	15.297	18.134	131.50	43.83	670.47	168.58	28.43	434.89	83.1	3.34
SEPT-11	484.38	16.146	18.384	140.08	53.50	863.81	154.42	33.75	544.93	78.1	0.73
OCT-11	620.05	20.002	23.315	106.92	45.84	912.89	115.27	26.57	531.45	76.9	0.43
NOV-11	455.69	16.275	22.463	164.31	78.58	1278.89	155.00	37.58	611.61	76.2	0.62
DEC-11	579.49	18.693	46.072	126.75	56.91	1063.82	132.58	32.82	613.50	75.2	2.70
JAN-12	177.83	133.61	53.28	942.37	140.19	31.93	567.37	76.92	2.87	0.76	13.15
AVG											73.98
MAX											
Criteria	21,800			165.78	78.58	188.58	37.58	83.14	3.39	0.94	
				35.00	783.00	45.00	45.00	981.00	1.00	22.00	
COMPLIANCE	YES	NO	NO	NO	NO	YES	YES	YES	YES	YES	

STATISTICS FOR THE MONTH OF DECEMBER:			COMMENTS:		
MONTH	TOTAL RAW BOD (kg/day)	TOTAL RAW SS (kg/day)	TOTAL P (kg/day)		
2009	628.37	20,270	32,364	107.29	43.43
2008	716.62	23,117	37,739	72.50	33.75
2007	574.49	18,532	30,871	96.40	46.20

Note: As per our new C of A 5526-7SGI 3D issued on June 26th, 2009, we are currently not required to sample for bacti. We stopped sampling Fecal Coliform in August 2009.
Note: As per our new C of A 5526-7SGI 3D issued on June 26th, 2009, we now measure BOD on raw influent.
Note: Due to changes in our new C of A 5526-7SGI 3D regarding BOD/CBOD, we are no longer reporting percent removal for this parameter. This change is reflected in our 2010 reporting.
Note: The October 2010 Final Effluent CBOD was corrected on November 10, 2010 due to a calculation error in the CBOD formula.

## APPENDIX C

Facility Name: Brockville Water Pollution Control CentreReport Year: 2010

## 2.0 Pumping Station and Plant Bypass Monthly Summary:

Month	Primary Bypass			Secondary Bypass		
	No. of Days (days)	Duration (hours)	Volume (1,000 m <sup>3</sup> )	No. of Days (days)	Duration (hours)	Volume (1,000 m <sup>3</sup> )
January	1	2.92	1.20			
February						
March						
April						
May						
June						
July						
August	1	9.00	34.4			
September	1	10.00	39.146			
October						
November						
December						
<b>TOTAL</b>	<b>3</b>	<b>21.92</b>	<b>74.746</b>			
Volume of Bypass as % of * Average Daily Flow (ADF)			1.15 %			%

ADF = 17.783 (1,000 m<sup>3</sup>/d)

\* % = Volume of Bypass ÷ ADF ÷ 365 × 100

## Comments Area - Pumping Stations and Plant Bypasses

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## APPENDIX D

### 2010 Brockville WPCC Annual Chemical Summary

	Average	Minimum	Maximum	Count	Total
01 Sodium hypochlorite use (kg)	46.792	20.74	180.58	365	17079.14
02 Sodium hypochlorite use (L)	378.877	170	1490	365	138290
03 Sodium hypochlorite dose (mg/L)	2.696	1.1	7.23	365	2,696
04 Sodium hypochlorite residual (mg/L)	0.730	0.01	2.2	365	0.730
05 Ferric chloride use (kg)	1,928.148	1118.01	3355	365	703773.86
07 Ferric chloride dose (mg/L)	109.103	49.8	133.12	365	109.103

## APPENDIX E

## APPENDIX E

Date	01 Raw Influent			02 Final Effluent			Quality Flow (Current day)		
	02 Total Suspended Solids (mg/L)	03 Total Phosphorus (mg/L)	04 COD (mg/L)	05 Nitrogen / TN (mg/L)	06 Suspended Solids (mg/L)	07 Total Phosphorus (mg/L)	08 COD (mg/L)	09 pH - range (degrees C)	10 Ammonia (total, as N) (mg/L)
February, 2010	116.00	2.50	128.00	30	0.98	32.00	0.82	67.00	7.01
1	123.00	2.75	136.00	0.77	0.77	32.00	0.87	64.00	NT
2	114.00	2.63	137.00	0.77	0.72	31.00	0.66	61.00	11.8
3					0.63				18,544.72
4					0.63				18,302.43
5					0.63				18,040.88
6					0.63				17,889.80
7					0.63				17,083.33
8	160.00	3.10	157.00	1.04	NT	NT	NT	NT	15,827.84
9	176.00	3.05	172.00	0.63	0.57	43.00	1.01	90.00	NT
10	151.00	3.08	177.00	0.95	0.95	37.00	0.89	77.00	NT
11					0.85				15,755.0
12					0.85				17,068.66
13					0.85				16,486.21
14					0.85				16,243.29
15	179.00	3.63	172.00	0.51	0.51	40.00	0.91	92.00	NT
16	162.00	3.33	178.00	0.545	0.545	47.00	1.10	107.00	NT
17	166.00	3.70	205.00	0.595	0.595	38.00	1.07	90.00	NT
18	180.00	3.43	206.00	0.715	0.715	39.00	1.08	103.00	NT
19					0.615				13,457.15
20					0.615				14,285.18
21					0.565				15,035.48
22	178.00	3.73	158.00	0.535	0.535	38.00	1.01	66.00	6.7
23	157.00	3.18	165.00	0.74	0.74	34.00	0.85	74.00	9.7
24	192.00	3.03	146.00	0.49	0.49	40.00	0.96	52.00	14,591.16
25					0.75				14,973.54
26					0.69				14,435.68
27					0.85				13,454.57
28					0.74				13,153.18
									14,916.21
									15,276.62
									17,171.17
									19,080.45
									22,462.74
									19,357.20
									18,884.05

Average	158.000	3.165	164.308	30.000	0.700	37.583	0.938	78.583	6.803	10.126	11.800	16,274.735
Minimum	114	2.5	126	30	0.45	31	0.86	52	6.7	9.7	11.8	13,153.18
Maximum	192	3.73	206	30	1.04	47	1.1	107	7.01	10.4	11.8	22,462.74
Count	13	13	0	13	1	28	12	12	4	4	1	28
Total	0	0	0	0	0	0	1	1	0	0	0	455682.58
95 Percentile Exceedences	0	0	0	0	0	0	1	5	12	0	0	0

## APPENDIX E

	March, 2010	01 Raw influent				02 Final Effluent				03 Chemicals				
		02 Total suspended solids (mg/L)	03 Total phosphorus (mg/L)	04 BOD (mg/L)	05 COD (mg/L)	06 Total Suspended Solids (mg/L)	07 Temperature (degrees C)	08 pH - grade	09 COD (mg/L)	10 Ammonium (total, as N) (mg/L)	11 Chemicals	12 Sodium hypochlorite residue (mg/L)	13 Solids (mg/L)	14 Total phosphorus (mg/L)
1	137.00	2.55	127.00	0.53	24.00	0.58	43.00	6.9	10.0	11.7	19.585.60	17.828.51	18.633.01	
2	124.00	2.53	108.00	0.8	27.00	0.63	43.00	10.6	NT	20.017.74	20,145.79	20,221.59	19,874.88	
3	121.00	2.40	121.00	0.78	26.00	0.61	44.00	NT	NT	19,141.07	18,623.69	20,533.25	18,623.69	
4				0.93										
5				0.81										
6				0.98										
7				0.96										
8	128.00	2.65	112.00	0.86	29.00	0.72	43.00	7.0	NT	NT				
9	124.00	2.35	108.00	0.79	27.00	0.67	45.00	NT	NT	NT				
10	104.00	2.48	112.00	0.815	26.00	0.57	41.00	NT	NT	NT				
11				0.88										
12				0.80										
13				0.76										
14				0.67										
15	87.00	1.95	77.00	NT	NT	NT	NT	7.0	11.0					
16	87.00	2.20	84.00	0.74	21.00	0.51	32.00	NT	NT					
17	90.00	2.15	82.00	0.89	22.00	0.53	32.00	NT	NT					
18				0.955				NT	NT					
19				0.995				NT	NT					
20				0.775				NT	NT					
21				0.875				NT	NT					
22	122.00	2.65	134.0	0.875	38.00	0.85	82.00	NT	NT					
23	112.00	2.28	107.00	1.525	31.00	0.61	50.00	NT	NT					
24	108.00	2.35	110.00	1.2	26.00	0.56	47.00	NT	NT					
25				0.88										
26				0.96										
27				0.87										
28				0.85										
29	120.00	2.68	NT	0.80	23.00	0.56	NT	6.8	11.2					
30	116.00	2.38	NT	0.68	25.00	0.58	NT	NT	NT					
31	148.00	2.85	NT	0.55	27.00	0.64	NT	NT	NT					
Average	115.287	2.430	108.917	0.848	28.571	0.618	45.838	6.800	10.620	11.700	20,001.589			
Minimum	87	1.95	77	0.53	21	0.51	32	6.8	10	11.7	17827.48			
Maximum	148	2.85	134	1.525	38	0.85	82	7	11.2	11.7	23315.41			
Count	15	15	0	0	12	0	14	14	5	5	1	31		
Total													620049.26	
95 Percentile Exceedences	0	0	0	0	0	0	0	0	0	0	0	0	0	0

## APPENDIX E

Date	01 Raw Influent		02 Final Effluent		03 Discharge	
	Chemicals	Solids	Chemicals	Solids	Chemicals	Solids
April, 2010						
1	0.97	0.37	NT	NT	18,384.05	
2	1.37	1.12	NT	NT	18,807.32	
3	1.2	0.83	NT	NT	16,764.00	
4	0.83	0.53	6.9	12.5	16,188.20	
5	0.77	20.00	6.7	15.4	17,395.00	
6	0.53	33.00	54.00		18,117.18	
7	0.79	37.00	71.00		17,495.1	
8	0.28				17,789.20	
9	0.54				16,739.98	
10	0.74				15,491.76	
11	0.55				15,988	
12	0.67				16,303.43	
13	0.57				16,276.33	
14	0.48				15,327.21	
15	0.55				16,009.83	
16	0.33				16,108.43	
17	0.44				15,624.14	
18	0.86				15,403.90	
19	0.64				15,830.88	
20	0.94				15,563.90	
21	0.94				15,259.07	
22	0.57				15,530.23	
23	0.53				15,088.98	
24	0.385				13,948.10	
25	0.36				14,361.66	
26	0.285				15,081.94	
27	0.35				17,692.12	
28	0.25				16,956.59	
29	0.85				15,892.94	
30	0.59				14,781.97	
	0.58					
Average	154.417	3,391	140.083	21,000	33,750	6,900
Minimum	135	2.85	122	21	0.838	13,375
Maximum	182	4.03	168	21	0.28	16,400
Count	12	12	0	12	45	16,146.115
Total					7	15.4
95 Percentile					12	13,848.1
Exceedences	0	0	0	0	4	13,834.05

## APPENDIX E

## APPENDIX E

	Date	01 Raw Influent				02 Final Effluent			
		02 Total suspended solids (mg/L)	03 Total phosphorus (mg/L)	04 Sodium bicarbonate residual (mg/L)	05 COD (mg/L)	16 BOD (mg/L)	17 Nitrogen / TN (mg/L)	18 Total Phosphorus (mg/L)	19 Dissolved Solids (mg/L)
	June, 2010	193.00	3.15	131.00	0.92	28.00	0.67	49.00	15.588.42
1		177.00	3.23	129.00	0.38	31.00	0.76	56.00	16.466.18
2					0.56				17.056.11
3					0.88				14.187.39
4					0.455				13.798.07
5					0.955				16.808.28
6					0.57	27.00	0.70	46.00	15.530.20
7		180.00	3.23	154.00	1.125	28.00	0.77	47.00	14.388.24
8					1.3				14.254.71
9					0.96				15.529.42
10					0.61				15.398.27
11					1.2				16.539.87
12					0.99				14.992.88
13					0.80	24.00	0.74	NR	15.582.89
14		143.00	3.15	132.00	0.69	27.00	0.76	53.00	15.117.23
15		168.00	3.20	130.00	1.04	23.00	0.57	46.00	16.291.73
16		157.00	2.98	217.00					15.385.80
17					0.81				14.584.77
18					0.46				13.708.06
19					0.45				13.829.40
20					0.58	28.00	0.67	46.00	15.494.21
21		168.00	3.45	136.00	0.34	30.00	0.72	45.00	17.808.45
22		105.00	2.63	90.00	0.46	29.00	0.66	33.00	18.742.54
23		77.00	1.98	69.00	0.38				25.458.58
24					0.51				18.374.90
25					0.65				17.088.97
26					0.68				18.867.89
27					0.61				21.316.45
28		126.00	1.85	NT	1.13	19.00	0.33	NT	20.486.18
29		102.00	0.53	NT	1.02	28.00	0.62	NT	18.586.28
30					0.885				0

Average	147.687	2.730	134.000	0.739	28.917	0.684	46.778	7.050	20.225	15.000	16.612.849
Minimum	77	0.53	69	0.34	18	0.33	33	6.9	18.1	15	13708.06
Maximum	193	3.45	217	1.3	31	0.77	56	7.3	21.7	15	25458.58
Count	12	12	0	10	0	30	12	12	4	1	30
Total	0	0	0	0	0	0	0	0	0	0	498385.47
95 Percentile Exceedences	0	0	0	0	0	0	0	0	0	0	0

## APPENDIX E

Date	01 Raw Influent		02 Final Effluent		Quality Flow (Cumulative)
	Chemicals	Solids	Solids	Solids	
July, 2010					
1	0.38	NT	NT	NT	16,538.93
2	0.24	NT	NT	NT	16,215.00
3	0.31	NT	NT	NT	15,210.45
4	0.37	6.8	20.57	NT	15,267.96
5	0.255	39.00	42.00	NT	16,800.10
6	0.12	36.00	48.00	NT	16,512.01
7	0.18	34.00	46.00	NT	16,153.46
8	0.35	0.65	NT	NT	16,474.35
9	0.22	NT	NT	NT	18,136.53
10	0.98	NT	NT	NT	14,749.61
11	0.50	35.00	48.00	7.0	14,539.39
12	146.00	0.78	33.00	24.4	16,129.59
13	3.00	0.71	0.68	7.0	17,880.57
14	112.00	95.00	31.00	NT	15,925.88
15	2.38	123.00	1.2	NT	14,532.37
16	115.00	120.00	28.00	0.65	15,603.31
17	2.90	0.35	0.22	NT	14,036.36
18	143.00	108.00	1.5	NT	14,530.08
19	2.88	140.00	1.5	NT	15,40.27
20	140.00	121.00	1.32	NT	15,048.38
21	2.88	0.52	0.52	NT	19,538.65
22	140.00	0.91	0.91	NT	15,736.16
23	121.00	0.95	0.85	NT	15,134.85
24	3.25	0.82	0.82	NT	14,271.26
25	153.00	119.00	0.80	NT	13,912.01
26	3.03	121.00	0.69	NT	14,129.31
27	147.00	116.00	0.82	NT	13,947.04
28	3.33	116.00	0.18	NT	14,104.50
29	144.00	0.26	26.00	NT	13,713.75
30	3.33	0.275	0.275	NT	12,728.35
31	11	0	0.725	NT	12,722.11
Average	138.809	2.854	118.545	20.000	20.400 15,338.276
Minimum	112	2.38	85	20	20.57
Maximum	155	3.33	140	20	20.4 12,722.11
Count	11	11	0	11	1
Total					19538.65
95 Percentile Exceedences	0	0	0	0	475424.57
					0 0 0 0 0 0

## APPENDIX E

Date	01 Raw Influent			02 Final Effluent			Daily flow (cumulative)																		
	02 Total Suspended Solids (mg/L)	03 Total Phosphorus (mg/L)	04 Specific Gravity	05 COD (mg/L)	06 BOD (mg/L)	07 Nitrogen / TN (mg/L)		08 Specific Residue (mg/L)	09 Specific Residue (mg/L)	10 Total Phosphorus (mg/L)	11 Chemicals	12 Total Suspended Solids (mg/L)	13 Total Phosphorus (mg/L)	14 Temperature (°C)	15 pH - scale (degrees C)	16 COD (mg/L)	17 Dissolved Oxygen (mg/L)	18 Ammonia (total, as N) (mg/L)	19 NT (mg/L)	20 NT (mg/L)	21 NT (mg/L)	22 NT (mg/L)	23 NT (mg/L)	24 NT (mg/L)	25 NT (mg/L)
August, 2010	1	166.00	3.75	155.00	1.005	0.375	12,567.79	12,711.93	12,773.65	14,156.43	14,183.45	14,970.72	13,804.86	12,567.79	22.9	NT	23.9	NT	NT	NT	NT	NT	NT	NT	NT
	2	148.00	3.15	134.00	0.47	0.085	12,711.93	14,156.43	14,183.45	14,970.72	13,804.86	12,567.79	12,773.65	14,183.45	22.9	23.9	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6
	3				0.47	0.085	14,156.43	14,183.45	14,970.72	13,804.86	12,567.79	12,773.65	14,183.45	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	
	4				0.47	0.085	14,970.72	13,804.86	12,567.79	12,773.65	14,183.45	14,156.43	14,183.45	14,970.72	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6
	5				0.47	0.085	13,804.86	12,567.79	12,773.65	14,183.45	14,156.43	14,970.72	14,183.45	14,970.72	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6
	6				0.47	0.085	14,183.45	14,970.72	13,804.86	12,567.79	12,773.65	14,156.43	14,183.45	14,970.72	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6
	7				0.47	0.085	14,156.43	14,183.45	14,970.72	13,804.86	12,567.79	12,773.65	14,183.45	14,970.72	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6
	8				0.47	0.085	14,970.72	13,804.86	12,567.79	12,773.65	14,183.45	14,156.43	14,183.45	14,970.72	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6
	9				0.47	0.085	13,804.86	12,567.79	12,773.65	14,183.45	14,156.43	14,183.45	14,970.72	14,183.45	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6
	10				0.47	0.085	12,567.79	12,773.65	14,183.45	14,156.43	14,183.45	14,970.72	14,183.45	14,970.72	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6
	11				0.47	0.085	12,773.65	14,183.45	14,156.43	14,183.45	14,970.72	14,183.45	14,970.72	14,183.45	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6
	12				0.47	0.085	14,183.45	14,970.72	13,804.86	12,567.79	12,773.65	14,156.43	14,183.45	14,970.72	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6
	13				0.47	0.085	14,156.43	14,183.45	14,970.72	13,804.86	12,567.79	12,773.65	14,183.45	14,970.72	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6
	14				0.47	0.085	14,183.45	14,970.72	13,804.86	12,567.79	12,773.65	14,156.43	14,183.45	14,970.72	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6
	15				0.47	0.085	14,970.72	13,804.86	12,567.79	12,773.65	14,183.45	14,156.43	14,183.45	14,970.72	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6
	16				0.47	0.085	13,804.86	12,567.79	12,773.65	14,183.45	14,156.43	14,183.45	14,970.72	14,183.45	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6
	17				0.47	0.085	12,567.79	12,773.65	14,183.45	14,156.43	14,183.45	14,970.72	14,183.45	14,970.72	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6
	18				0.47	0.085	12,773.65	14,183.45	14,156.43	14,183.45	14,970.72	14,183.45	14,970.72	14,183.45	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6
	19				0.47	0.085	14,183.45	14,970.72	13,804.86	12,567.79	12,773.65	14,156.43	14,183.45	14,970.72	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6
	20				0.47	0.085	14,156.43	14,183.45	14,970.72	13,804.86	12,567.79	12,773.65	14,183.45	14,970.72	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6
	21				0.47	0.085	14,183.45	14,970.72	13,804.86	12,567.79	12,773.65	14,156.43	14,183.45	14,970.72	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6
	22				0.47	0.085	14,970.72	13,804.86	12,567.79	12,773.65	14,183.45	14,156.43	14,183.45	14,970.72	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6
	23				0.47	0.085	13,804.86	12,567.79	12,773.65	14,183.45	14,156.43	14,183.45	14,970.72	14,183.45	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6
	24				0.47	0.085	12,567.79	12,773.65	14,183.45	14,156.43	14,183.45	14,970.72	14,183.45	14,970.72	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6
	25				0.47	0.085	12,773.65	14,183.45	14,156.43	14,183.45	14,970.72	14,183.45	14,970.72	14,183.45	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6
	26				0.47	0.085	14,183.45	14,970.72	13,804.86	12,567.79	12,773.65	14,156.43	14,183.45	14,970.72	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6
	27				0.47	0.085	14,156.43	14,183.45	14,970.72	13,804.86	12,567.79	12,773.65	14,183.45	14,970.72	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6
	28				0.47	0.085	14,183.45	14,970.72	13,804.86	12,567.79	12,773.65	14,156.43	14,183.45	14,970.72	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6
	29				0.47	0.085	14,970.72	13,804.86	12,567.79	12,773.65	14,183.45	14,156.43	14,183.45	14,970.72	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6
	30				0.47	0.085	13,804.86	12,567.79	12,773.65	14,183.45	14,156.43	14,183.45	14,970.72	14,183.45	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6
	31				0.47	0.085	12,567.79	12,773.65	14,183.45	14,156.43	14,183.45	14,970.72	14,183.45	14,970.72	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6

Average	128.636	2.891	116.818	20.800	0.883	35.273	0.855	52.182	6.800	22.833	17.500	17.082	17.398	22.9	NT								
Minimum	88	1.75	155.00	20.8	0.85	19	0.42	40	6.8	21.8	17.5	17.5	17.5	21.8	NT								
Maximum	186	3.78	134.00	15.6	0.95	53	1.5	74	7	24.6	17.5	17.5	17.5	24.6	NT								
Count	11	11	0	11	1	31	11	11	11	6	6	6	6	6	1	31	31	31	31	31	31	31	31
Total	0	0	0	0	0	0	0	0	1	3	11	0	0	0	0	0	0	0	0	0	0	0	0
95 Percentile Exceedences	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

## APPENDIX E

Date	01 Raw Influent										02 Final Effluent									
	Chemicals					01 Raw Influent					02 Final Effluent									
	02 Total suspended solids (mg/L)	03 Total phosphorus (mg/L)	04 Soluble phosphorus (mg/L)	05 COD (mg/L)	06 BOD (mg/L)	07 Nitrogen / TN (mg/L)	08 Nitrate / NO <sub>3</sub> - (mg/L)	09 Phosphates (mg/L)	10 Suspended residue (mg/L)	11 Chemicals residue (mg/L)	12 Total suspended solids (mg/L)	13 Total phosphorus (mg/L)	14 Soluble phosphorus (mg/L)	15 COD (mg/L)	16 BOD (mg/L)	17 Temperature (degrees C)	18 pH - grab	19 Ammonia (total, as N) (mg/L)	20 Daily flow (m <sup>3</sup> /day)	
September, 2010	1 137.00	2.75	113.00	0.78	35.00	0.70	52.00			0.78	17,077.40									
	2			0.44						0.44	16,575.49									
	3			0.23						0.23	16,075.64									
	4			0.52						0.52	14,732.82									
	5			1.1						1.1	14,070.42									
	6			0.77						0.77	14,290.49									
	7	152.00	3.15	144.00	0.58	31.00	0.56	50.00		0.58	16,50.46									
	8	161.00	3.35	174.00	0.38	38.00	0.74	73.00		0.38	15,886.89									
	9					0.01				0.01	15,037.22									
	10					0.36				0.36	14,062.48									
	11					0.13				0.13	12,676.31									
	12					0.86				0.86	13,547.80									
	13	228.00	3.80	179.00	22.2	1.20	37.00	66.00		66.00	15,403.36									
	14	187.00	3.58	191.00	0.24	43.00	1.01	74.00		74.00	14,588.68									
	15	177.00	3.55	202.00	0.17	43.00	0.99	76.00		76.00	14,336.08									
	16					0.03				0.03	17,841.89									
	17					1.19				1.19	14,886.07									
	18					1.12				1.12	13,630.48									
	19					0.94				0.94	13,466.07									
	20	179.00	3.70	179.00	0.86	41.00	0.93	79.00		79.00	14,583.61									
	21	190.00	3.03	170.00	0.48	37.00	0.83	71.00		71.00	16,821.41									
	22	143.00	2.83	140.00	0.93	39.00	0.84	64.00		64.00	15,791.21									
	23					0.325				0.325	17,574.52									
	24					1.305				1.305	15,888.37									
	25					0.515				0.515	14,447.82									
	26					0.585				0.585	14,259.62									
	27	150.00	2.45	NT		0.69		68.00		68.00	20,024.51									
	28	141.00	2.25	NT		2.06		58.00		58.00	23,715.79									
	29	127.00	2.13	NT		1.14		33.00		33.00	20,528.45									
	30					1.19				1.19	40,528.02									
	Average	164,333	3,048	165,778	22,260	0.704	36,167	0.782	66,111	6,975	22,075	17,800	16,6327,713							
	Minimum	127	2.13	113	22.2	0.01	28	0.66	50	6.9	20.8	17.8	12,676.31							
	Maximum	228	3.8	202	22.2	0.26	43	1.01	79	7	23.7	17.8	40,528.02							
	Count	12	12	9	1	30	12	12	9	4	4	1	30							
	Total	0	0	0	0	0	0	0	0	0	0	0	0	498831.38						
	95 Percentile Exceedences	0	0	0	0	0	0	0	1	9	0	0	0	0	0	0	0	0	0	0

## APPENDIX E

Date	01 Raw Influent		011 Chemicals		02 Final Effluent		Quality Flow (Cumulative)
	02 Total Suspended Solids (mg/L)	03 Total Phosphorus (mg/L)	04 COD (mg/L)	05 COD (mg/L)	06 COD (mg/L)	07 Temperature degrees C	
October, 2010	1	2.50	119.00	16.0	2.2	40.672.17	
	2	2.28	135.00	1.7	1.88	28.840.61	
	3	0.94	40.00	1.21	1.21	24.807.46	
	4	35.00		1.07	65.00	23.000.47	
	5			0.46	26.00	21.737.25	
	6			1.36	31.00	37.147.45	
	7			1.05	0.60	36.152.56	
	8			1.05	29.00	28.438.44	
	9			0.72		24.056.75	
	10			0.60		21.406.96	
	11			0.42		19.825.85	
	12	2.58	155.00	0.33	33.00	20.223.35	
	13	2.58	132.00	0.38	32.00	19.282.38	
	14			0.22	0.64	19.554.87	
	15			0.45	47.00	26.631.72	
	16			1.585		23.369.24	
	17			0.985		21.689.12	
	18	2.38	122.00	0.83	24.00	21.104.31	
	19	2.30	127.00	0.62	35.00	20.505.80	
	20	2.33	138.00	0.47	30.00	20.883.6	
	21			0.48	0.59	20.789.98	
	22			0.25		18.963.23	
	23			0.46		18.215.03	
	24			0.53		18.772.08	
	25	2.45	124.00	0.68	31.00	20.028.26	
	26	2.70	130.00	0.64	28.00	20.844.61	
	27	144.00	128.00	0.52	31.00	20.328.17	
	28	2.28		0.41	0.54	19.847.31	
	29			0.24	41.00	18.165.82	
	30			0.44		18.779.88	
	31			0.68		17.792.05	

Average	114.727	2.302	122.818	16.000	0.770	33.273	0.591	42.455	7.025	16.300	3,800	22,988.251
Minimum	35	0.94	40	18	0.22	24	0.48	28	6.8	16.7	3.9	17792.05
Maximum	144	2.7	155	16	2.2	65	0.89	61	7.2	20.2	3.9	40672.17
Count	11	11	0	11	1	31	11	11	4	4	1	31
Total	0	0	0	0	0	0	0	0	0	0	0	712573.79
95 Percentile Exceedences	0	0	0	0	0	0	0	0	0	0	0	0

## APPENDIX E

	01 Raw Influent												02 Final Effluent																		
	Chemicals				011				02 Total suspended solids				02 Total phosphorus				02 Final Effluent				02 Final Effluent										
	02 Total suspended solids (mg/L)	03 Total phosphorus (mg/L)	04 Soluble phosphorus (mg/L)	05 COD (mg/L)	06 Nitrogen / TN (mg/L)	07 BOD (mg/L)	08 Solids (mg/L)	09 Chemicals residue (mg/L)	10 Total phosphorus (mg/L)	11 Total phosphorus (mg/L)	12 Total phosphorus (mg/L)	13 Total phosphorus (mg/L)	14 Total phosphorus (mg/L)	15 Total phosphorus (mg/L)	16 COD (mg/L)	17 BOD (mg/L)	18 Solids (mg/L)	19 Chemicals residue (mg/L)	20 Total suspended solids (mg/L)	21 Total phosphorus (mg/L)	22 Total phosphorus (mg/L)	23 Total phosphorus (mg/L)	24 Total phosphorus (mg/L)	25 Total phosphorus (mg/L)	26 Total phosphorus (mg/L)	27 Total phosphorus (mg/L)	28 Total phosphorus (mg/L)	29 Total phosphorus (mg/L)	30 Total phosphorus (mg/L)		
November, 2010																															
1	149.00	2.70	162.00	0.46	33.00	0.65	49.00	7.1	16.2	12.1	18.136	18.186	18.15.13	18.960.10	18.969.60	17.481.58	17.539.53	18.016.04	17.353.68	17.680.81	16.003.54	16.302.23	15.300.72	15.881.19	16.297.76	20.907.25	26.423.03	23.195.12	21.169.74	18.983.52	18.598.17
2	142.00	2.70	167.00	0.71	30.00	0.62	60.00	NT	NT	NT	18.136	18.186	18.15.13	18.960.10	18.969.60	17.481.58	17.539.53	18.016.04	17.353.68	17.680.81	16.003.54	16.302.23	15.300.72	15.881.19	16.297.76	20.907.25	26.423.03	23.195.12	21.169.74	18.983.52	18.598.17
3	156.00	2.80	156.00	0.76	38.00	0.71	54.00	NT	NT	NT	18.136	18.186	18.15.13	18.960.10	18.969.60	17.481.58	17.539.53	18.016.04	17.353.68	17.680.81	16.003.54	16.302.23	15.300.72	15.881.19	16.297.76	20.907.25	26.423.03	23.195.12	21.169.74	18.983.52	18.598.17
4	147.00	2.63	152.00	0.305	1.015	0.32	NT	NT	NT	NT	18.136	18.186	18.15.13	18.960.10	18.969.60	17.481.58	17.539.53	18.016.04	17.353.68	17.680.81	16.003.54	16.302.23	15.300.72	15.881.19	16.297.76	20.907.25	26.423.03	23.195.12	21.169.74	18.983.52	18.598.17
5	137.00	2.78	172.00	0.27	36.00	0.65	85.00	NT	NT	NT	18.136	18.186	18.15.13	18.960.10	18.969.60	17.481.58	17.539.53	18.016.04	17.353.68	17.680.81	16.003.54	16.302.23	15.300.72	15.881.19	16.297.76	20.907.25	26.423.03	23.195.12	21.169.74	18.983.52	18.598.17
6																															
7	153.00	2.73	158.00	0.715	36.00	0.65	70.00	NT	NT	NT	18.136	18.186	18.15.13	18.960.10	18.969.60	17.481.58	17.539.53	18.016.04	17.353.68	17.680.81	16.003.54	16.302.23	15.300.72	15.881.19	16.297.76	20.907.25	26.423.03	23.195.12	21.169.74	18.983.52	18.598.17
8	147.00	2.63	152.00	0.505	40.00	0.70	78.00	NT	NT	NT	18.136	18.186	18.15.13	18.960.10	18.969.60	17.481.58	17.539.53	18.016.04	17.353.68	17.680.81	16.003.54	16.302.23	15.300.72	15.881.19	16.297.76	20.907.25	26.423.03	23.195.12	21.169.74	18.983.52	18.598.17
9																															
10	137.00	2.78	172.00	0.27	36.00	0.65	85.00	NT	NT	NT	18.136	18.186	18.15.13	18.960.10	18.969.60	17.481.58	17.539.53	18.016.04	17.353.68	17.680.81	16.003.54	16.302.23	15.300.72	15.881.19	16.297.76	20.907.25	26.423.03	23.195.12	21.169.74	18.983.52	18.598.17
11																															
12																															
13																															
14																															
15																															
16	148.00	3.08	130.00	0.39	30.00	0.63	42.00	7.0	15.6																						
17	113.00	2.25	118.00	1.15	26.00	0.49	40.00	7.3	15.5																						
18																															
19																															
20																															
21																															
22																															
23																															
24	131.00	2.78	199.00	1.15	34.00	0.67	54.00	NT	NT	NT	18.136	18.186	18.15.13	18.960.10	18.969.60	17.481.58	17.539.53	18.016.04	17.353.68	17.680.81	16.003.54	16.302.23	15.300.72	15.881.19	16.297.76	20.907.25	26.423.03	23.195.12	21.169.74	18.983.52	18.598.17
25																															
26																															
27																															
28	144.00	2.80	126.00	0.59	33.00	0.75	57.00	7.2	13.6																						
29	146.00	2.80	137.00	0.47	32.00	0.72	63.00	0	0																						
30																															

## APPENDIX E

	Total	95 Percentile Exceedences	99 Percentile Exceedences	99.9 Percentile Exceedences	99.99 Percentile Exceedences	99.999 Percentile Exceedences	99.9999 Percentile Exceedences
Average	116.750	2.882	123.500	0.716	29.375	0.848	51.750
Minimum	86	1.83	96	0.36	22	0.49	35
Maximum	143	4.1	147	1.3	38	0.98	84
Count	8	9	0	4	0	8	4
Total	928	21.544	1,188	2.882	230	0.848	490
95 Percentile Exceedences	0	0	0	0	0	0	0
99 Percentile Exceedences	0	0	0	0	0	0	0
99.9 Percentile Exceedences	0	0	0	0	0	0	0
99.99 Percentile Exceedences	0	0	0	0	0	0	0
99.999 Percentile Exceedences	0	0	0	0	0	0	0
99.9999 Percentile Exceedences	0	0	0	0	0	0	0

## APPENDIX F

### **BROCKVILLE WPCC & PUMPING STATIONS OPERATIONAL HIGHLIGHTS**

#### **1<sup>st</sup> Quarter (January, February, March)**

1. **Main Pumping Station:**
  - **Pumps & Motors:** A vibration analysis was completed on all pumps and motors.
  - **Bypasses:** On January 25<sup>th</sup>, 2010 there was a bypass at the Main Pumping Station due to heavy rain and snow melt. Approximate volume of the bypass was 1200 m<sup>3</sup>. MOE was notified of the event. Chlorination was established and samples taken.
2. **Pumping Stations:**
  - **Elizabeth Street Pumping Station:** On January 28<sup>th</sup> and February 28<sup>th</sup>, 2010 there was a pump blockage due to a rag in the check valve. No issues to report.
  - **Riverview Drive Pumping Station:** On February 1<sup>st</sup>, 2010 there was a pump blockage due to a towel in the impeller. No issues to report.
  - **Leachate Pumping Station:** On March 13<sup>th</sup>, 2010 WPCC Staff responded to the Leachate Pumping Station due to a meter chamber high level alarm due to infiltration. On March 31<sup>st</sup> the forcemain was cleaned.
  - **Georgina Street Pumping Station:** On March 14<sup>th</sup> and March 16<sup>th</sup>, 2010 there was a pump blockage due to a towel in the impeller. No issues to report.
  - **Central Avenue Pumping Station:** WPCC Staff are continuing to gather data and monitor the situation at this station. The volume of discharge entering the station is causing the pumps to run continuously.
3. **Primary Clarifiers:** Continuing with upgrades to Primary Clarifier #2. The VFD on the distribution channel blower was replaced and the unit placed back in service.
4. **Screen & Degrift:** The VFD on inlet blower #2 faulted and the blower has been taken out of service. WPCC Staff and contractor working on the issue.
5. **Disinfection:** Both Sodium Hypochlorite pumps had rebuild kits installed.
6. **TSSA Digester Gas Audit:** Response report submitted to TSSA on January 28<sup>th</sup>, 2010. Some corrective actions have been completed. WPCC Staff have been in contact with TSSA to advise them of our recent management changes.
7. **Power Outages:**
  - On January 21<sup>st</sup>, 2010 there was brief power outage at the WPCC. No issues to report.
  - On January 25<sup>th</sup>, 2010 there was a power outage at Broome Pumping Station. WPCC Staff brought the portable generator on site until the power was restored (approx. 5-6 hours). No issues to report.
  - On February 3<sup>rd</sup>, 2010 there was a power outage at the Leachate Pumping Station. Communication was lost due to a loose contact on a fuse holder. Repairs were made and communication restored.
  - On February 26<sup>th</sup>, 2010 there was a power outage at Chelsea Street Pumping Station. No issues to report.
8. **Plant Inspection:** The MOE completed their annual plant inspection on January 14<sup>th</sup>, 2010. A draft report was received for review and comment. We are still waiting on the final report.
9. **National Pollutant Release Inventory (NPRI) Report:** The 2009 NPRI Report was submitted to Environment Canada on March 31<sup>st</sup>, 2010.

## APPENDIX F

### **BROCKVILLE WPCC & PUMPING STATIONS OPERATIONAL HIGHLIGHTS**

10. **TSSA fuel and Appliance Inspections:** These inspections were completed by an outside authorized contractor on all diesel engine and standby generators. Repairs and recommendations are being coordinated through the City's fleet division.

#### **2<sup>nd</sup> Quarter (April, May, June)**

1. **Main Pumping Station:**
  - **Pumps & Motors:** A new pump, motor and control panel has been ordered for Pump #1.
  - **Bypasses:** No bypasses to report.
2. **Pumping Stations:**
  - WPCC Staff responded to eight (8) mechanical pump calls. Six (6) were repaired and placed back in service. The necessary repairs were made and the pumps put back in service.
3. **Primary Clarifiers:** Primary Clarifier #2 upgrades have been completed and it is back in service. Primary Clarifiers #3 and #4 have been taken out of service, drained, cleaned and turned over to the contractor as part of the Secondary Treatment Upgrade.
4. **Screen & Degrift:** The east section distribution channel was taken out of service, drained, cleaned and turned over to the contractor as part of the Secondary Treatment Upgrade. The east and west grit tanks were taken out of service for inspection and repair. They are both back in service.
5. **Power Outages:** We had power outages at the WPCC, Thomas Street, Leachate and Chelsea Street Pumping Stations. No issues to report.
6. **Plant Inspection:** The MOE completed their annual plant inspection on January 14<sup>th</sup>, 2010. A draft report was received for review and comment. We are still waiting on the final report. No new updates.
7. **WPCC Outfall Inspection:** M.C. Marine completed the outfall inspection on April 29, 2010. No changes from last year's inspection. The only deficiency noted was the three bagged anchors have deteriorated to the point of being non-effective. A quote is being obtained for the replacement of these anchors in 2011.
8. **Lightning Strike:** On May 26th, 2010 a severe electrical storm caused an outage of the WPCC phone system, alarm dialler and paging system, leaving the alarm system unable to dial out. When Operations Staff arrived for work in the morning they determined that all the boilers had shut down causing methane gas from the digesters to vent to the atmosphere. The storm also caused damage to our Sodium Hypochlorite metering pump leaving no disinfection to our effluent during this time period. All the required documentation was submitted to the MOE.

#### **3<sup>rd</sup> Quarter (July, August, September)**

1. **Main Pumping Station:**
  - **Pumps & Motors:** Waiting on delivery of new pump, motor and control panel for Pump #1.
  - **Bypasses:**
    - On August 23<sup>rd</sup>, 2010 due to heavy rains there was a bypass event at the Main Pumping Station. Approximately 34,400 m<sup>3</sup> of wastewater was bypassed. A report was submitted to the MOE.

## APPENDIX F

### **BROCKVILLE WPCC & PUMPING STATIONS OPERATIONAL HIGHLIGHTS**

- On September 30<sup>th</sup> – October 1, 2010 due to heavy rains there was a bypass event at the Main Pumping Station. Approximately 39,146 m<sup>3</sup> of wastewater was bypassed. A report was submitted to the MOE.
- 2. **Pumping Stations:**
  - WPCC Staff responded to five (5) mechanical pump calls. The necessary repairs were made and the pumps were put back in service.
  - West End Pumping Station wet well was cleaned.
  - Leachate Pump #3 was rebuilt and installed. Pump #4 is still out for repair.
- 3. **Primary Clarifiers:**
  - New drive chain is being installed in Primary Clarifiers #3 as part of the upgrade.
  - Raw Sludge Pump #3 replaced with new pump.
- 4. **Screen & Degrift:** The rake mechanism bent on Bar Screen #1 and was repaired by a contractor.
- 5. **Disinfection:**
  - Contact tank was cleaned and repairs made to the sodium line.
  - Sodium Pump #2 was removed for repair.
- 6. **Digesters:** Digester #1 was drained, cleaned and turned over to the contractors as part of the upgrade.
- 7. **Power Outages:** We had three power outages at the WPCC. No issues to report.
- 8. **Plant Inspection:** The MOE completed their annual plant inspection on January 14<sup>th</sup>, 2010. A draft report was received for review and comment. We are still waiting on the final report. No new updates.
- 9. **Flow Meter Calibrations:** Annual flow meter calibrations were completed in August 2010.

#### **4<sup>th</sup> Quarter (October, November, December)**

- 1. **Main Pumping Station:**
  - New pump, motor and control panel for Pump #1 are now on site.
  - Communication link lost due to water main break on Water Street East. WPCC Staff and Bell Canada made repairs and communication was restored.
  - No bypasses to report.
- 2. **Pumping Stations:**
  - WPCC Staff responded to five (5) mechanical pump calls. The necessary repairs were made and four pumps were put back in service. Thomas Street Pump #2 is out for repair.
  - Thomas Street Pumping Station wet well was cleaned. The station was turned over to the contractors and the necessary upgrades completed with a few deficiencies still outstanding.
  - Thomas Street Pumping Station communication link was lost. The contractors and Bell Canada made the necessary repairs and communication was restored.
  - West End Pumping Station new platforms and ladders were installed in the wet well.
  - Leachate Pump #4 was repaired and is back in service.
- 3. **Primary Clarifiers:**
  - Primary Clarifier #3 upgrades were completed and it is back in service.

APPENDIX F

**BROCKVILLE WPCC & PUMPING STATIONS OPERATIONAL HIGHLIGHTS**

4. Disinfection:
  - Sodium Pump #2 is out for repair.
5. Digesters:
  - Digester #1 upgrades have been completed and it is back in service.
  - Four new header valves were installed on Digester #1.
6. Dewatering:
  - All centrate lines were high pressure cleaned by WPCC Staff and outside contractor.
7. Power Outages:
  - We had one power outage at the WPCC/Pumping Stations. No issues to report.

## APPENDIX G

### 2010 Brockville WPCC Centrifuge Sludge Feed and Cake Disposal Summary

		17 Centrifuge - Sludge Feed - Dig #1		18 Centrifuge - Cake - Dig #1		20 Centrifuge - Sludge Feed - Dig #2		21 Centrifuge - Cake - Dig #2		27 Cake Weight	
		% Total Solids (%)	% Volatile Solids (%)	% Total Solids (%)	% Volatile Solids (%)	% Total Solids (%)	% Volatile Solids (%)	% Total Solids (%)	% Volatile Solids (%)	Cake Weight to Compost - Norterra (kg)	Cake Weight to Landfill - Lafecche Environmental (kg)
Average		2.546	49.056	57.702	35.558	2.193	48.763	51.332	35.976	10,594.848	11,131.111
Minimum		0.63	45.06	13.9	33.21	0.75	42.43	24.14	34.51	6520	7740
Maximum		10.07	52.03	135.1	38.5	3.38	51.75	98.06	38.31	12910	20010
Count		15	15	63	12	22	22	89	10	33	0
Total				3635.21				4568.51		349630	100180



## APPENDIX H

127 Zion Road.  
Frankford, ON  
K0K 2C0

Tel: (613) 398-0296  
Fax: (613) 398-0294  
cell (416) 779-1456

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

January 17 2011

Attention: Barry Fox

Re: Main P.S. Greyline Flow Meter Calibration

Flowmetrix thanks you for the opportunity to provide our flow meter calibration services. Mr. Curtis King attended your Brockville PCP facility on August 4<sup>th</sup> and August 10<sup>th</sup> 2010 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 representative of specific flow conditions. The local display and local outputs are checked and documented for accuracy at each specific test point.

#### Level Instruments, Milltronics & Greyline

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.

#### Calibration Summary

Instrument	Method	Result	Comment
1 Milltronics Final Effluent	Sec. Transducer	Pass	Recommend Dye Test to verify primary device.
2 E&H Alum & Ferric	Primary Simulator	Pass	None
3 FIT 369 East Sludge Transfer	Primary Simulator	Pass	none
4 FIT 368 West Sludge Transfer	Primary Simulator	Pass	none
5 FIT 511 Raw Sludge #3	Primary Simulator	Pass	none
6 FIT 512 Raw Sludge #4	Primary Simulator	Pass	none
7 Raw Sludge #1	Primary Simulator	Pass	none
8 Raw Sludge #2	Primary Simulator	Pass	none
9 FIT 473 Chlorine Feed	Primary Simulator	Pass	none
10 FIT 461 Boiler Effluent	Primary Simulator	Pass	none
11 Main Pump Station Effluent	Primary Pressure	Pass	none

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

Kind Regards

Curtis King C.E.T.

## APPENDIX I

## **2010 CAPITAL PROGRAM**

<u>PROJECT NAME:</u>	Water Pollution Control Centre Equipment Replacement Program	<u>YEAR PROPOSED:</u> <u>ITEM NO:</u>	2010 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.		
C4060-WPCE-CONT	<u>Lab Services &amp; Abatement Equipment:</u> Portable Electronic Sludge Probe 8,000		
	<u>Digester Operations:</u> Raw Sludge Feed & Loop Valves, Actuators (4 total) 13,000 Digested Sludge Header Valves (4 per Digester) 5,000 Digested Sludge Feed Grinders (2) Refurb. 30,000		
	<u>PUMPING STATIONS:</u> PUMP STN'S - PAVING, ACCESS & GRADING 20,000 PUMP STN'S - LADDER RUNGS H & S 10,000 MAIN PS - Main Pump #1, Motor and VFD REPLACE 231,000 MAIN PS - HVAC SYSTEMS DRY WELL (Basement) 25,000 LEACHATE PS - Replace/Refurb. Piping & Safety* 12,000 (* May defer pending Study on Leachate On-Site Treatment)		
	CONTINGENCY: <u>15,000</u>		
	<u>WHY REQUIRED:</u> See the attached 10 Year Plan - Water Pollution Control Centre Capital Needs		
	Advantages & Benefits 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):**

DATE:

Melodie J. Hobbs

Melanie J. Hill  
Oct 27 2009

**2010 Secondary Treatment Plant Upgrade Progress Report**

**New Works:**

- Concrete work completed on two of the three secondary clarifiers, 3 cell aeration tank, spliter box, and the tunnel to tie into the Operations Centre.
- Concrete and brick work completed for the basement and first floor of the Operations Centre.

**Existing Site Works:**

- Primary Clarifiers: Two of the four primary clarifiers have been refitted with new chain and drive systems, along with repairs to the existing concrete.
- Digester #1:
  - New draft tube mixing system installed – old gas gun system removed.
  - Rebricking of the entire exterior completed.
  - Insulation and roof membrane was replaced, including all flashings.
- Screen & Degrit: A new air scrubber system has been installed and upgrades to the existing ventilation system have been completed.
- Gas Systems: New flare stack, base and controls have been installed (not yet tied into the gas system).
- Remote Pumping Stations: Thomas Street and J.G. Broome Pumping Stations have had all electrical upgrades, including control panels, transfer switches, level sensing devices and alarm systems.

**FEBRUARY 1, 2011  
REPORT TO FINANCE, ADMINISTRATION, OPERATIONS COMMITTEE –  
FEBRUARY 15, 2011**

**2011-016-02**

**2010 ANNUAL WATER QUALITY REPORT  
BROCKVILLE DRINKING WATER SYSTEM**

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

**RECOMMENDATION**

THAT the 2010 Annual Water Quality Report on the Brockville Drinking Water System, Attachment 1 to Report 2011-016-02, be received; and

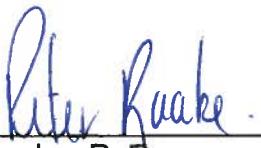
THAT the Director of Environmental Services be designated to sign the 2010 Annual Water Quality Report on the Brockville Drinking Water System.

**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 31<sup>st</sup>. This report covers the period from January 1, 2010 through December 31, 2010.

**ANALYSIS**

Provided is a complete annual water quality report summarizing the plant description and design, flow data and water quality parameters. The 2010 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



## **BROCKVILLE DRINKING WATER SYSTEM**

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### **2010 ANNUAL WATER QUALITY REPORT**

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

*DATE: February 9, 2011*

## EXECUTIVE SUMMARY

The City of Brockville's Water Systems Division is pleased to provide the 2010 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 communications, 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 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.

- ✓ MOE inspection on January 27<sup>th</sup>, 2010 for the Brockville Water Treatment Plant and Distribution System – inspection found no findings of non-compliance with regulatory requirements and achieved an inspection rating of 100%.
- ✓ MOE inspection on May 25<sup>th</sup>, 2010 for the Elizabethtown-Kitley Water Distribution System - inspection found no findings of non-compliance with regulatory requirements and achieved an inspection rating of 100%.

This Annual Drinking Water Quality Report is prepared in accordance with the Certificate of Approval (C of A) for the City of Brockville's Water Treatment Plant (WTP) 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.

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Peter Raabe, P. Eng.  
Director of Environmental Services

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Don Richards  
Supervisor – Water Systems

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## List of Acronyms & Definitions

AWQI	Adverse Water Quality Incidents
	Examples of adverse water results:
	<ul style="list-style-type: none"><li>▪ An analytical result that exceeds a health-based water quality standards</li><li>▪ Any evidence that disinfection may not have been effective</li><li>▪ Low chlorine residuals</li></ul>
C of A	Certificate of Approval
CFU	colony forming units
GUDI	groundwater under the direct influence of surface water
L/s	litres per second
m <sup>3</sup> /d	cubic metres per day
mg/L	milligrams per litre
mL	milliliter
ML/d	Mega (million) litres per day
MOE	Ministry of the Environment (Ontario)
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

## 1. INTRODUCTION

This Annual Water Quality Report is for the period from January 1<sup>st</sup> to December 31<sup>st</sup>, 2010 and includes reporting for both of the municipal drinking-water treatment/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 under O.Reg 387/04.

This annual report is available to the public at no charge on the City of Brockville's website: <http://city.brockville.on.ca/> or by calling the City of Brockville's Water Systems Division at 613-342-7819 ext 221.

Users of this drinking water system have been notified that this annual report is available by placing a notice on the website. The 2010 Annual Water Quality Report is also available at the following locations:

- City of Brockville's website - <http://city.brockville.on.ca/>
- City of Brockville – Public Library
- City of Brockville – Water Billing Notice and hard copy at the Revenue Office, City Hall
- City of Brockville – Water Treatment Plant 20 Rivers Ave.

## 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 31<sup>st</sup> 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 Certificate of Approval (C of A).

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. The table below provides a summary of the more relevant provincial legislation.

#### Safe Drinking Water Act, 2002

In the Part Two Report of the Walkerton Inquiry, Commissioner Dennis 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 Commissioner 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.

As recommended by Commissioner O'Connor, the government has passed a *Safe Drinking Water Act, 2002* which expands on existing policy and practice and introduces new features to protect drinking water in Ontario. The act's purpose is to protect human health through the control and regulation of drinking-water systems and drinking-water testing. The act also provides legislative authority to implement 50 of the 93 recommendations made in Commissioner O'Connor's Part Two Report.

#### Summary of Provincial Legislation Significant to Water Operations

ACT	O. Reg.
<b>SAFE DRINKING WATER ACT, 2002</b>	
➤ <b>Drinking Water Systems Regulation</b>	O.Reg. 170/03
➤ <b>Certification of Drinking-Water System Operators and Water Quality Analysts</b>	O.Reg. 128/04
➤ <b>Drinking Water Testing Services - relating to laboratory licensing</b>	O.Reg. 248/03
➤ <b>Schools, private schools and day nurseries</b>	O.Reg. 243/07
➤ <b>Compliance and Enforcement Regulation</b>	O.Reg. 242/05
➤ <b>Ontario Drinking Water Quality Standards</b>	O.Reg. 169/03
➤ <b>Definitions of Words and Expressions Used in the Act</b>	O.Reg. 171/03
➤ <b>Definition of Deficiency and Municipal Drinking Water System</b>	O.Reg. 172/03
➤ <b>Licensing Of Municipal Drinking-Water Systems</b>	O.Reg. 188/07
➤ <b>Service of Documents</b>	O.Reg. 229/07

<b>ONTARIO WATER RESOURCES ACT</b>	
➤ <b>Licensing of Sewage Works Operators</b>	O.Reg. 129/04
➤ <b>Approval Exemption</b>	O.Reg. 525/98
➤ <b>Wells</b>	R.R.O. 1990, Reg. 903
➤ <b>Revoking Ontario Regulation 459/00</b>	O.Reg. 175/03
➤ <b>Revoking Ontario Regulation 505/01</b>	O.Reg. 176/03
➤ <b>Water Taking</b>	O.Reg 387/04
<b>ENVIRONMENTAL PROTECTION ACT</b>	
➤ <b>Certificate of Approval Exemptions - Air</b>	O.Reg. 524/98
<b>ENVIRONMENTAL BILL OF RIGHTS ACT</b>	
➤ <b>prescribing the Safe Drinking Water Act, 2002</b>	O.Reg. 257/03

### **3. ANNUAL WATER QUALITY SUMMARY FOR 2010**

The City of Brockville's Water Systems Division is responsible for the Brockville Drinking Water System under O. Reg. 170/03 including the trunk water distribution system (elevated storage, reservoirs, water booster stations). Staff's primary responsibility is water production and treatment in compliance with all applicable legislation and system approvals. 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 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 system approvals. 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 Water Plant operations and the Water Distribution Systems operations, 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.

**Operational Testing:**

The following table is a summary of the operational testing completed in 2010 (as per O. Reg. 170/03, Schedules 6 and 7).

PARAMETER TESTED:	# of Grab Samples	RANGE OF RESULTS:	
		Minimum	Maximum
Turbidity – Raw (NTU)	8760	0.10	5.000
Turbidity – Filter 1 (NTU)	8760	0.022	0.291
Turbidity – Filter 2 (NTU)	8760	0.011	0.138
Turbidity – Treated (NTU)	8760	0.021	0.972
Chlorine – Pre Filter (mg/l)	8760	0.06	2.37
Chlorine – Reservoir (Main Plant) (mg/l)	8760	1.14	1.94
Chlorine – Plant Effluent (mg/l)	8760	0.42	2.28
Chlorine - Distribution System Parkedale (mg/l)	8760	0.45	2.5
Chlorine – Elizabethtown-Kitley Water Distribution System (mg/l)	236	0.56	1.21
Fluoride (mg/l)	8760	0.04	2.89
UV Dosage (mJ/sq. cm.)	8760	0	3277
UV Intensity (microW/sq cm)	8760	0	60
UV Transmittance (%)	8760	95	99.6

**Additional Testing as Required by the Certificate of Approval, Order or Other Legal Instrument for 2010:**

TYPE OF LEGAL INSTRUMENT:	PARAMETER
C of A No. 3458-649R3T Section 5.6	TSS Residue – Monthly
Residue Management System – Composite Sample	7 mg/L (annual average)

**Microbiological Testing:**

Microbiological testing done under the Schedule 10, 11 or 12 of Regulation 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	10	60	10	2170	52	<10	680
Treated	52	0	0	0	0	52	<10	20
Distribution	553	0	0	0	0	347	<10	1380

### **Chemical Testing:**

The following Tables are a summary of the chemical testing completed in 2010 (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. 2/10	0.0001	mg/l	No	No
Arsenic	Jan. 2/10	0.0009	mg/l	No	No
Barium	Jan. 2/10	0.018	mg/l	No	No
Boron	Jan. 2/10	0.014	mg/l	No	No
Cadmium	Jan. 2/10	<0.00002	mg/l	No	No
Chromium	Jan. 2/10	<0.002	mg/l	No	No
Mercury	Jan. 2/10	<0.00002	mg/l	No	No
Selenium	Jan. 2/10	<0.001	mg/l	No	No
Sodium	Jan. – Dec. (41 samples)	12.4*	mg/l	No	n/a
Uranium	Jan. 2/10	0.00026	mg/l	No	No
Nitrite	Quarterly (4 samples)	<0.01*	mg/l	No	No
Nitrate	Quarterly (4 samples)	0.35*	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. 5/10	<0.3	ug/l	No	No
Aldicarb	Jan. 5/10	<3	ug/l	No	No
Aldrin + Dieldrin	Jan. 5/10	<0.02	ug/l	No	No
Atrazine + N-dealkylated metabolites	Jan. 5/10	<0.5	ug/l	No	No
Azinphos-methyl	Jan. 5/10	<1	ug/l	No	No
Bendiocarb	Jan. 5/10	<3	ug/l	No	No
Benzene	Jan. 5/10	<0.5	ug/l	No	No
Benzo(a)pyrene	Jan. 5/10	<0.005	ug/l	No	No
Bromoxynil	Jan. 5/10	<0.3	ug/l	No	No
Carbaryl	Jan. 5/10	<3	ug/l	No	No
Carbofuran	Jan. 5/10	<1	ug/l	No	No
Carbon Tetrachloride	Jan. 5/10	<0.2	ug/l	No	No
Chlordane (Total)	Jan. 5/10	<0.04	ug/l	No	No
Chlorpyrifos	Jan. 5/10	<0.5	ug/l	No	No
Cyanazine	Jan. 5/10	<0.5	ug/l	No	No
Diazinon	Jan. 5/10	<1	ug/l	No	No
Dicamba	Jan. 5/10	<5	ug/l	No	No
1,2-Dichlorobenzene	Jan. 5/10	<0.1	ug/l	No	No

<b>1,4-Dichlorobenzene</b>	Jan. 5/10	<0.2	ug/l	No	No
<b>Dichlorodiphenyltrichloroethane (DDT) + metabolites</b>	Jan. 5/10	<0.1	ug/l	No	No
<b>1,2-Dichloroethane</b>	Jan. 5/10	<0.1	ug/l	No	No
<b>1,1-Dichloroethylene (vinylidene chloride)</b>	Jan. 5/10	<0.1	ug/l	No	No
<b>Dichloromethane</b>	Jan. 5/10	<0.3	ug/l	No	No
<b>2-4 Dichlorophenol</b>	Jan. 5/10	<0.1	ug/l	No	No
<b>2,4-Dichlorophenoxy acetic acid (2,4-D)</b>	Jan. 5/10	<5	ug/l	No	No
<b>Diclofop-methyl</b>	Jan. 5/10	<0.5	ug/l	No	No
<b>Dimethoate</b>	Jan. 5/10	<1	ug/l	No	No
<b>Dinoseb</b>	Jan. 5/10	<0.5	ug/l	No	No
<b>Diquat</b>	Jan. 5/10	<5	ug/l	No	No
<b>Diuron</b>	Jan. 5/10	<5	ug/l	No	No
<b>Glyphosate</b>	Jan. 5/10	<25	ug/l	No	No
<b>Heptachlor + Heptachlor Epoxide</b>	Jan. 5/10	<0.1	ug/l	No	No
<b>Lindane (Total)</b>	Jan. 5/10	<0.1	ug/l	No	No
<b>Malathion</b>	Jan. 5/10	<5	ug/l	No	No
<b>Methoxychlor</b>	Jan. 5/10	<0.1	ug/l	No	No
<b>Metolachlor</b>	Jan. 5/10	<3	ug/l	No	No
<b>Metribuzin</b>	Jan. 5/10	<3	ug/l	No	No
<b>Monochlorobenzene</b>	Jan. 5/10	<0.2	ug/l	No	No
<b>Paraquat</b>	Jan. 5/10	<1	ug/l	No	No
<b>Parathion</b>	Jan. 5/10	<3	ug/l	No	No
<b>Pentachlorophenol</b>	Jan. 5/10	<0.1	ug/l	No	No
<b>Phorate</b>	Jan. 5/10	<0.3	ug/l	No	No
<b>Picloram</b>	Jan. 5/10	<5	ug/l	No	No
<b>Polychlorinated Biphenyls(PCB)</b>	Jan. 5/10	<0.05	ug/l	No	No
<b>Prometryne</b>	Jan. 5/10	<0.1	ug/l	No	No
<b>Simazine</b>	Jan. 5/10	<0.5	ug/l	No	No
<b>THM (NOTE: show latest annual average)</b>	Quarterly (4 samples)	0.043	ug/l	No	No
<b>Temephos</b>	Jan. 5/10	<10	ug/l	No	No
<b>Terbufos</b>	Jan. 5/10	<0.3	ug/l	No	No
<b>Tetrachloroethylene</b>	Jan. 5/10	<0.2	ug/l	No	No
<b>2,3,4,6-Tetrachlorophenol</b>	Jan. 5/10	<0.1	ug/l	No	No
<b>Triallate</b>	Jan. 5/10	<10	ug/l	No	No
<b>Trichloroethylene</b>	Jan. 5/10	<0.1	ug/l	No	No
<b>2,4,6-Trichlorophenol</b>	Jan. 5/10	<0.1	ug/l	No	No
<b>2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)</b>	Jan. 5/10	<10	ug/l	No	No
<b>Trifluralin</b>	Jan. 5/10	<0.5	ug/l	No	No
<b>Vinyl Chloride</b>	Jan. 5/10	<0.2	ug/l	No	No

#### **LEAD SAMPLING:**

Based on the 2009 results, Section 15 of Ontario Regulation 170/03, the Lead sampling program qualifies for the reduced lead sampling schedule therefore no lead sampling was required to be conducted in 2010. Lead sampling program will commence in 2012.

## 4. BROCKVILLE DRINKING WATER SYSTEM

### 4.1 Water System Description

Drinking-Water System Number:	20001263
Drinking-Water System Name:	Brockville Drinking Water System
Drinking-Water System Owner:	City of Brockville
Drinking Water System Operating Authority:	City of Brockville
Certificate of Approval:	7894-78ZK8P (Appendix E)
Permit To Take Water:	8577-5ZCP45 (Appendix F)
Drinking-Water System Category:	Large Municipal Class 3
Design Capacity:	36.4 ML/D
Filtration:	Direct Filtration
Source Water:	St Lawrence River
Population Served:	24,000

### 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
Drinking Water System Operating Authority:	City of Brockville
Certificate of Approval:	7-0495-99-006 (Appendix G)
Drinking-Water System Category:	Large Municipal Class 1
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 24,000), 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

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 (Fluoride)	Plant Effluent	Brenntag Canada
Sodium Hypochlorite (Secondary Distribution System Disinfection)	Parkedale Reservoir	Brenntag Canda

#### 4.1.3 Water Distribution System – Trunk and Local Systems Application

The City of Brockville's Distribution system composes 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 400 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 connection and 830 fire hydrants. 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 m<sup>3</sup> 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 m<sup>3</sup> overhead storage tank located on Perth St. It is a single cell, steel, non-baffled treated water 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 2010 Flow Summary

In 2010, the maximum or peak daily raw water flow was 19,576 L/min which occurred on Oct. 15<sup>th</sup>, and was within the permitted maximum amount of 25,278 L/min, or 77% of the Permit as indicated in the table below. In addition, the annual average daily raw water flow to the WTP was 11,977,000 L/day or 33% of its maximum approved treatment capacity of 36,400,000 L/day. A copy of the Certificate of Approval is provided in **Appendix E** and a copy of the Permit to Take Water is provided in **Appendix F**.

#### Maximum Permitted Water Taking – WTP

Condition:	Maximum Permitted Water Taking
Maximum Amount of Water Taken per Minute	25,278.00 (L/min)
Maximum Amount of Water Taken per Day	36,400,000 (L/day)

The C of A specifies the maximum flow into individual treatment systems as indicated below.

#### Maximum Flow to Treatment System – WTP

Treatment System/Stage:	Maximum Flow Rate (m <sup>3</sup> /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 2010 calendar year is provided in **Appendix D**, and includes 2010 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 2010 is 4.7% less than the total annual plant effluent flow from 2009. 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.

Analysis of the flow summary data indicates that during 2010, the maximum flow rate into the treatment system was not greater than the value specified in the C of A. The review also indicates that the system did not pump flows in contravention of the permitted taking.

#### 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 Spills Action Centre (SAC) and the Medical Officer of Health (MOH). In 2010 there were a total of four reports filed with SAC as summarized below.

### Adverse Test Results – Brockville Water System

Incident Date	Parameter	Result	Corrective Action	Corrective Action Date
March 10, 2010 AWQI 93830	Total Coliform Brockville Distribution	>200 CFU/100mL	Flushed and re-sampled	March 15, 2010
April 24, 2010 AWQI 94467	Fluoride Residual Plant Effluent	>2.89 mg/l	Flushed and re-sampled	April 24, 2010
Sept 30, 2010 AWQI 98389	Free Chlorine Residual	<0.05 mg/l	Flush and resample	Oct 5, 2010
October 25, 2010	Low system pressure	<20 PSI	Fire Department instructed not to test and flush hydrants.	October 25, 2010
October 28, 2010	Low system pressure	<20 PSI	Fire Department instructed not to test and flush hydrants.	October 28, 2010

#### 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 Operational and Capital Projects

The operational highlights for 2010 can be found in **Appendix B**, and the 2010 Capital Project Highlights for 2010 can be found in **Appendix C** of this Report. All works are subject to the annual budget process and approval by Council. A 10 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 1) west of the City. This is facilitated through a 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. A continuous flushing station at Ackerman Rd. is required to maintain a 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".

## 5.2 Certificate of Approval

The water distribution system has a number of Certificates of Approval for the different segments of the WDS. The plans and specifications prepared by Ainley Graham and Associates Limited, Consulting Engineers was used as a reference document during the construction and operation phases of this project. The Operations and Maintenance Manual is available for reference at the WTP. A copy of the Certificate of Approval is provided in Appendix G.

### Certificates of Approval – Township of Elizabethtown-Kitley

C of A Number	Date
7-0495-99-006	July 5, 1999
7-0323-98-006 (4 pages)	May 15, 1998
7-0323-98-006 (replaced – 2 pages)	June 10, 1998
7-0323-98-006 (replaced – 2 pages)	July 28, 1998
7-0323-98-006 (replaced – 2 pages)	September 17, 1998
7-0457-98-006	June 23, 1998

The Certificate of Approval is shown in the attached Appendix G. The only mention of flow in this document is under the Lily Bay Booster Station where the pump rated capacity is 14.5 L/s at a TDH of 12 m. However, the Lily Bay Booster Station is not operated on a continuous basis – the station is operated on a daily basis to exercise the pumps.

## 5.3 Permit to Take Water

There is no PTTW for the Township's WDS as it is only a distribution system. The raw water supply is covered under the Permit to Take Water for the City of Brockville's system.

## 5.4 Adverse Test Results

There were no adverse water quality incidents reported to SAC in 2010 for the Elizabethtown-Kitley WDS.

## 5.5 Historical Flow Results

The following flow data gives the historical total annual flow for the Township of Elizabethtown-Kitley from 2004. It is only since 2006 that we have been able to track the flows in our data management system, when we enabled the meter to communicate to the SCADA system. A summary of the volume of water taken daily and the flows of the water supplied during the 2010 calendar year is provided in Appendix D.

Elizabethtown-Kitley Historical Flow Data

YEAR	TOTAL FLOW (m <sup>3</sup> )
2004	81,913
2005	101,402
2006	99,254
2007	113,068
2008	128,460
2009	98,782
2010	95,876

## 5.6 Microbiological Testing

Microbiological testing done under the Schedule 10, 11 or 12 of Regulation 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.
EZK Distribution	120	0	0	0	0	86	<10	50

## 5.7 Lead Sampling

Based on the 2009 results, Section 15 of Ontario Regulation 170/03, the Lead sampling program qualifies for the reduced lead sampling schedule therefore no lead sampling was required to be conducted in 2010. The Lead sampling program will commence in 2012.

## 5.8 Operational Testing

The following table is a summary of the operational testing completed in 2010 (as per O. Reg. 170/03, Schedules 6 and 7).

PARAMETER TESTED:	# of Grab Samples	RANGE OF RESULTS:	
		Minimum	Maximum
Chlorine Residual Distribution Ackerman Rd (Mg/L)	236	0.56	1.21

## 6. CONCLUSION

The City of Brockville serves approximately 24,000 residents and about 350 residents in the Township of Elizabethtown-Kitley. One of the City's most important responsibilities is to provide 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 MOE.

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 1<sup>st</sup> to December 31<sup>st</sup> 2010. As required under this same regulation, the report is prepared prior to March 31<sup>st</sup> and is filed for review by municipal council through the Operations Committee and then to the whole of Council. Copies of the report are also on hand at the Public Library, at the Revenue Office at City Hall, and at the Water Treatment Plant at 20 Rivers Avenue, Brockville.

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 2010. 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.

Overall, the 2010 calendar year marked excellent performance of the Brockville Drinking Water System and the Elizabethtown-Kitley Water Distribution System. Compliance with regulatory requirements, the Certificates of Approvals and Permit to Take Water continues to be monitored through the SCADA system with alarms, professional operations staff and regular reporting mechanisms.

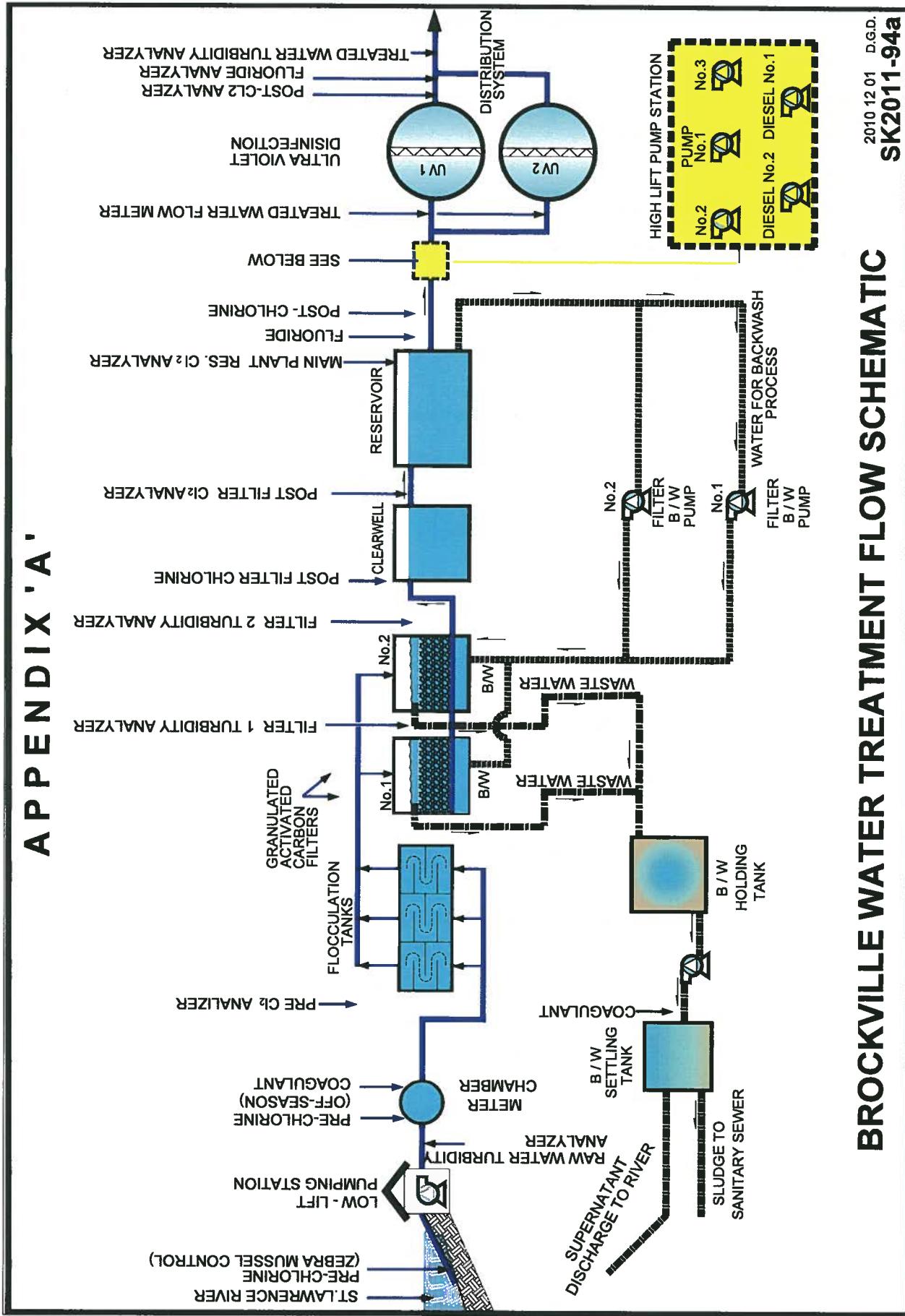
## 7. KEY CONTACTS

Don Richards  
Supervisor Water Systems  
Phone: 613-342-7819 ext 221  
Fax: 613-345-6163  
Email: [drichards@brockville.com](mailto:drichards@brockville.com)

Jason Barlow  
Chief Operator Water Systems  
Phone: 613-342-7819 ext 223  
Fax: 613-345-6163  
Email: [jbarlow@brockville.com](mailto:jbarlow@brockville.com)

Peter Raabe, P. Eng.  
Director of Environmental Services  
Phone: 613-342-8772 ext 8357  
Fax: 613-345-7589  
Email: [praabe@brockville.com](mailto:praabe@brockville.com)

## APPENDIX 'A'



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## **BROCKVILLE DRINKING WATER SYSTEM OPERATIONAL HIGHLIGHTS**

### **1<sup>st</sup> Quarter (January, February, March 2010)**

The City continues to be in compliance with the Water Treatment Plant's Certificate of Approval (C of A), in addition to the Ontario Safe Drinking Water Act and Regulations.

The 2009 WTP Annual Reports (Section 11 and Schedule 22) for both the WTP City of Brockville Drinking-Water System and for the Township of Elizabethtown-Kitley Water Distribution System were prepared as per O. Reg. 170/03.

**Adverse Water Quality Incidents:** There was one adverse water quality incident in the month of March. On March 10<sup>th</sup>, 2010 there was an adverse water quality incident related to test results from Hydrant #162 on Convay Crescent. The Water Distribution crew flushed the water mains in the areas and re-sampling confirmed that no additional corrective action was required. Adverse water quality reports were filed with the Ministry of Health and Spills Action Centre.

#### **Items of Note:**

##### **1. Main Plant**

- Annual servicing completed on all diesel engine equipment. Main plant diesel engines #1 & #2 required turbo unit replacement. TSSA fuel and appliance inspection completed by Tandet Industrial on all diesel engine and standby generators. Inspection report indicated fuel tanks and supply lines for main plant, low lift and Parkedale diesel engines require upgrades to comply with TSSA standard. Approximate cost of upgrades is \$20,000.00. Upgrades will be budgeted in the 2011 capital budget.
- Main control panel for Low Lift pumps and flocc tank valves were upgraded due to the age of equipment. Contractor designed, fabricated and installed new control panel.
- Annual maintenance completed on gas chlorination disinfection equipment.
- Vibration analysis inspections completed on all motors and pumps.
- New sample pumps installed for flocc water, clear well, reservoir chlorine residual analyzers.
- Annual load testing completed on main plant 100KW generator and 200 KW portable generator.

##### **2. Parkedale Booster Station & Reservoir:**

- Vibration analysis inspections completed on all motors and pumps.

##### **3. Filters:**

- Surface wash supply piping disassembled and new Victaulic clamps installed.
- Core sampling conducted to inspect filter media uniformity.
- Annual maintenance completed on filter surface wash agitators.

##### **4. Overhead Tank:**

- No new updates

##### **5. Elizabethtown-Kitley Distribution System:**

- Vibration analysis inspections completed on Lily Bay booster station motors and pumps.

##### **6. Low Lift Pump Station:**

- Vibration analysis inspections completed on all motors and pumps. Inspection revealed major problem with low lift electric motor #1. Motor removed from service, new 100 HP motor purchased and installed.

## **BROCKVILLE DRINKING WATER SYSTEM OPERATIONAL HIGHLIGHTS**

7. **Drinking Water Quality Management System:**
  - Prepared draft amendments to the DWQMS Operation Plan to reflect organizational restructuring.
8. **MOE Inspections:**
  - Dan White (DW Inspector – MOE) conducted the Annual Inspection for the City of Brockville's Drinking Water System (Water Treatment and Distribution) on January 27<sup>th</sup> & 28<sup>th</sup>, 2010.
9. **Sampling**
  - All regulatory annual sampling for schedule 23 & 24 complete.
  - All regulatory weekly bacti sampling for Brockville and Elizabethtown complete.
  - All regulatory quarterly sampling for THM's Nitrate, Nitrite for Brockville and Elizabethtown complete.
  - MOE DWSP sampling complete.

### **2<sup>nd</sup> Quarter (April, May, June 2010)**

The City continues to be in compliance with the Water Treatment Plant's Certificate of Approval (C of A), in addition to the Ontario Safe Drinking Water Act and Regulations.

**Adverse Water Quality Incidents:** On April 24<sup>th</sup> 2010 there was a plant effluent fluoride residual exceedance. An air lock in the fluoride chemical feed pump caused the residual to spike to exceed the MAC 1.50 mg/L. The trunk feeder main was flushed, sampled and chemical feed system restored to proper operation. A report was submitted to MOE Spills Action Centre and Medical Officer of Health.

#### **Items of Note:**

1. **Main Treatment Plant:**
  - High lift discharge valve actuator connection completed and main plant PLC programmed to operate valves automatically.
  - Annual maintenance completed on all chemical feed equipment.
  - Renovation contract for lunchroom/locker room awarded to Chevron Construction. Renovations commenced on June 16<sup>th</sup>, completion is expected by the end of July.
  - Main plant pump #2 new suction pipe was fabricated and installed. The new pipe resolved the cavitation problems extending the life expectancy of the pump.
  - New main plant discharge pipe and check valve support brackets fabricated and installed.
  - UV Reactors shutdown for season.
  - Longwatch remote security video surveillance system failure.
2. **Booster Stations & Parkedale Reservoir:**
  - Sunset Booster Station pump failure, electrical power outage caused pump failure – pumps repaired and back in service. Continued problems with remote communications with station, ISI Controls and Bell trying to resolve the problem.
3. **Filters:**
  - Spring algae is causing increased head loss in the filters. Operators are manually raking filters to remove algae - increased backwashing required after hours.
4. **Overhead Tank:**
  - No items to report.

## **BROCKVILLE DRINKING WATER SYSTEM OPERATIONAL HIGHLIGHTS**

5. **Low Lift Pump Station:**
  - Intake crib and pipe inspected by M. C. Marine – no issues to report.
  - Intake well drained, cleaned and inspected.
  - Low lift pump #2 replacement selection completed – new pump to be installed is RuhRPumpen from ASL Roteq.
  - Zebra mussel control system in operation for the season.
6. **Drinking Water Quality Management System:**
  - Standard Operational Procedures updated to reflect amalgamation of water distribution and water treatment staff.
7. **MOE Inspections:**
  - Received Letter of Addendum concerning 2009-10 Inspection Report Number 1-7H95R.
8. **Regulatory Sampling:**
  - All regulatory weekly bacti-sampling for Brockville and Elizabethtown-Kitley completed.
  - All regulatory quarterly sampling for THM's Nitrate, Nitrite for Brockville and Elizabethtown-Kitley completed.
9. **Trunk Water Distribution:**
  - Valve chambers inspected – Team Solutions contracted for chamber cleaning.
10. **Elizabethtown-Kitley Distribution:**
  - MOE Inspection completed on May 25<sup>th</sup> & 26<sup>th</sup> – still waiting on report.
11. **Local Water Distribution:**
  - **Water Main Breaks:**  
No main breaks to report for April, May or June 2010.
  - **Flushing Program:**
    - Dead end flushing completed plate #1.
    - Unidirectional flushing completed in First Avenue areas.
  - **Service Repairs/Replacement:**
    - Lead service line replaced from the curb stop to the 4" water main 104 & 106 Bethune Street.
    - Lead service line replaced from the curb stop to the 4" water main 46 Wall Street.
  - **Leak Detection:**
    - No leak detection scheduled at this time.
  - **Valve/Hydrant Inspections:**
    - Valve inspections completed on plate #4 – no problems to report.
    - Hydrant inspections for private hydrants completed, 99 hydrants inspected.
    - Hydrant flow testing conducted in the First Ave. area.
  - **Main Repairs/Replacement:**
    - New isolation gate valves installed on Jessie and Ann Streets to prepare for full reconstruction project. Water supply back feed system installed to residents in the area during full reconstruction.
    - New hydrant installed 542 King Street West, 10" main disinfected and placed back in service.

## **BROCKVILLE DRINKING WATER SYSTEM OPERATIONAL HIGHLIGHTS**

### **3<sup>rd</sup> Quarter (July, August, September 2010)**

The City continues to be in compliance with the Water Treatment Plant's Certificate of Approval (C of A), in addition to the Ontario Safe Drinking Water Act and Regulations.

**Adverse Water Quality Incidents:** One adverse water quality incident occurred on September 30<sup>th</sup>, 2010. Low chlorine residual in Ormond Street and Glengarry Road area. Reconstruction of the watermain on Ormond Street created a dead end in the system causing the chlorine residual to dissipate. The area was flushed and resampling conducted, all reports to SAC, MOH and MOE were submitted. Continuous flush station installed to maintain chlorine residual.

#### **Items of Note:**

##### **1. Main Treatment Plant**

- Pilot using PAX-XL 1900 (ACH) coagulant. New coagulant lowers aluminum residuals with the DWQO. (ACH) Coagulant requires less chemical dosage – therefore it is anticipated to lower the annual chemical cost by approximately \$5,000.
- Renovation for lunchroom/locker room completed.
- UV Reactors annual servicing completed.
- Annual calibration of flow meters and pressure transmitters completed.
- Annual backflow inspection completed.

##### **2. Booster Stations & Parkedale Reservoir:**

- Emergency power connection for Parkedale Reservoir 2010 Capital Project commenced.
- Communications with First Avenue Booster Station is still a problem. PLC requires replacement; replacement is projected to be completed by the end of October 2010.

##### **3. Filters:**

- Problem with Filter #2 drain gate and actuator. Temporary repairs were made. Replacement of actuators has been included in the 2011 Capital Budget.

##### **4. Overhead Tank:**

- Tank cleaned and disinfected.
- Tank inspected by Landmark Municipal Services. Inspection report indicated safety upgrade required as per Ministry of Labour Regulations. Projected cost for the safety upgrade is \$50,000.00 which is included in the 2011 Capital Budget.

##### **5. Low Lift Pump Station:**

- Low Lift Pump #2 replacement selection completed – new pump to be installed is RuhRPumpen from ASL Roteq. Pump installation is expected to be completed by the end of January 2011.
- New variable frequency drives installation completed for Pumps #1 & #2.
- Emergency power connection completed for Pump #1.

##### **6. Drinking Water Quality Management System:**

- Some Standard Operational Procedures updated to conform with DWQMS.
- Received draft Drinking Water Works Permit and Water Works Licence from MOE. Draft reviewed and comments resubmitted to MOE for approval.

##### **7. MOE Inspections:**

- No MOE inspections scheduled at this time.

##### **8. Regulatory Sampling**

- All regulatory weekly bacti sampling for Brockville and Elizabethtown-Kitley completed.
- All regulatory quarterly sampling for THM's Nitrate, Nitrite for Brockville and Elizabethtown-Kitley completed.

## **BROCKVILLE DRINKING WATER SYSTEM OPERATIONAL HIGHLIGHTS**

9. **Trunk Water Distribution:**
  - Valve chambers inspected – Team Solutions contracted for chamber cleaning.
  
10. **Elizabethtown-Kitley Distribution:**
  - MOE Inspection report received.
  - Hydrant inspections completed for Elizabethtown-Kitley.
  - Annual flushing of system completed.
  - Annual calibration of flow meter and pressure transmitters completed.

MOE approved the operation of the Elizabethtown-Kitley system as an extension of the Brockville Drinking Water System which could result in operational savings.
  
11. **Local Water Distribution:**
  - **Water Main Breaks:**
    - July 2010 - Fairknowe Crescent 6"
    - August 2010 – Stewart Boulevard. 6"
    - September 2010 – Broadway 6" CI shear, Stanley & Bartholomew 6" CI shear, Elizabethtown-Kitley Lambton Lane 6" PVC saddle connection required replacement.
  
  - **Service Repairs / Replacement:**
    - 124 James Street East service repaired.
  
  - **Valve / Hydrant Inspection:**
    - Fire Dept. conducting hydrant inspections throughout City.
    - Hydrant painting throughout City.
    - Annual backflow inspections completed on all hydrant service connections.
  
  - **Capital Projects:**
    - Jessie Street reconstruction still underway – projected completion date end of October 2010.
    - George Street watermain installation – backfeed installed for all service connections, construction commenced September 13<sup>th</sup>, 2010.
    - Ormond Street watermain installation – backfeed installed for all service connections, construction commenced September 27<sup>th</sup>, 2010.

### **4<sup>th</sup> Quarter (October, November, December 2010)**

The City continues to be in compliance with the Water Treatment Plant's Certificate of Approval (C of A), in addition to the Ontario Safe Drinking Water Act and Regulations.

#### **Adverse Water Quality Incidents:**

October 25, 2010 AWQI 98831 – low system pressure due to fire hydrant inspection/flushing program.

October 28, 2010 AWQI 98870 – low system pressure due to fire hydrant inspection/flushing program.

#### **Items of Note:**

1. **Main Treatment Plant**
  - New brochure for the City of Brockville Drinking Water System has been printed for plant tours and customers requesting additional information on the treatment system. A copy has also been posted on the City website.
  - Office renovation for Water Systems Chief Operator completed.
  - Main plant diesel engines annual servicing completed.
  - Main plant standby generator annual servicing completed.
  - Portable standby generator annual servicing completed.
  - UV reactors placed in service for winter operation.

## **BROCKVILLE DRINKING WATER SYSTEM OPERATIONAL HIGHLIGHTS**

- Zebra Mussel control system shutdown and drained for winter operation.
  - Electrical preventative maintenance completed - Infrared and ultrasonic thermography on the electrical distribution system.
  - Chlorine chemical feed system failure. Problem with west chlorine cylinder bank vacuum regulator and pre-chlorinator. Vacuum regulator repaired and back in service, pre-chlorinator scheduled for repair first week of January 2011.
  - Hydro power failure caused High Lift PLC program failure. ISI Controls reprogrammed High Lift PLC.
2. **Booster Stations & Parkedale Reservoir:**
- Emergency power connection using portable generator at Parkedale Reservoir completed.
  - Electrical wiring and PLC connection completed for new mixer at Parkedale Reservoir. Mixer will be scheduled for installation once C of A is amended or new Drinking Water Licence from MOE is received.
  - Communications with First Ave Booster station restored.
  - Electrical preventative maintenance completed - Infrared and ultrasonic thermography on the electrical distribution system.
3. **Filters:**
- No items to report
4. **Overhead Tank:**
- No items to report
5. **Low Lift Pump Station:**
- Low Lift Pump #1 & #2 VFD installation complete – units commissioned and placed in service.
  - Standby power connection using portable generator for Low Lift Pump #1 completed – unit commissioned and placed in service.
  - Electrical preventative maintenance completed - Infrared and ultrasonic thermography on the electrical distribution system. Problem with incoming electrical power line coming into Low Lift MCC - repairs to line connection will be scheduled first week of January.
6. **Drinking Water Quality Management System:**
- Standard Operational Procedures and Emergency Procedure Manual updated to conform with DWQMS Operational Plan.
  - DWQMS Operational Plan revised due to reorganizational restructuring.
  - Annual internal DWQMS audit completed.
  - Annual review of Elements 7 & 8 Risk Assessment completed.
  - Some Standard Operational Procedures updated to conform with DWQMS.
  - Received draft Drinking Water Works Permit and Water Works Licence from MOE. Draft reviewed and comments resubmitted to MOE for approval.
7. **MOE Inspections:**
- No MOE inspections scheduled at this time.
8. **Regulatory Sampling**
- All regulatory weekly bacti sampling for Brockville and Elizabethtown-Kitley completed.
  - All regulatory quarterly sampling for THM's Nitrate, Nitrite for Brockville and Elizabethtown-Kitley completed.
9. **Trunk Water Distribution:**
- No items to report.
10. **Elizabethtown-Kitley Distribution:**
- Removal of seasonal meters completed.
  - New heater installed at County Club meter chamber electrical panel.

## **BROCKVILLE DRINKING WATER SYSTEM OPERATIONAL HIGHLIGHTS**

**11. Local Water Distribution:**

- **Water Main Breaks:**
  - November 2010 – Brock Street 6" Cl pipe (hole), Upper Brookview 6" Cl pipe (shear), Water Street 12" (shear).
  - December 2010 – Windsor Drive (broken service line connected to main), Flanders Road 6" (shear).
- **Flushing Program:**
  - Flushing completed in Manor Drive area.
- **Service Repairs / Replacement:**
  - Lead service lines replaced Water Street (Hydro One project).
- **Valve / Hydrant Inspection:**
  - Water System Staff conducted fire hydrant inspection on all red coloured hydrants throughout City.
  - Valve and hydrant service cards completed for Jessie Street, Ormond Street, and George Street projects.
  - Fire Dept. instructed (as per request from MOH & MOE) to not conduct hydrant inspections until further notice due to Adverse Water Quality Incidents in the distribution system.
  - Non-draining hydrants pumped out.
  - Repaired or replaced hydrants as per hydrant inspection reports.
  - ¼" bleeder valves activated throughout City.
  - First Ave. PRV repaired and adjusted to allow proper flow from Zone 2 to Zone 1.
  - Water System and Engineering staff working on proper location for valve and hydrant on distribution drawings.
  - Hydrant markers installed for winter.
- **Capital Projects:**
  - Jessie Street reconstruction completed.
  - George Street watermain completed.
  - Ormond Street watermain completed.
  - Watermain decommissioned on Water Street (Hydro One project).

**Brockville Drinking Water System Water Treatment Plant / Trunk Water Distribution**

**Operational Funds Required to:**

**Treat Water and Install, Repair or Replace Equipment Water Treatment Plant / Trunk Water Distribution:**

PROJECT:	Approximate Expenditures
Treatment Chemicals	\$80,800
Lab Analysis	\$35,100
Electricity	\$268,048
Machine Equipment Maintenance	\$72,300
<b>TOTAL EXPENDITURES:</b>	<b>\$456,248</b>

**BROCKVILLE DRINKING WATER SYSTEM OPERATIONAL HIGHLIGHTS****Brockville Drinking Water System Local Distribution**

**Operational Funds Required to;  
Repair or Replace Water Mains, Hydrants, Service Connections:**

PROJECT:	Approximate Expenditures
Water Main Repairs/Replacement	\$56,368
Service Repairs/Replacement	\$20,753
Hydrant Maintenance	\$37,498
Surface Repairs	\$12,457
<b>TOTAL EXPENDITURES:</b>	<b>\$127,076</b>

**Elizabethtown-Kitley Water Distribution System**

**Operational Funds Required to;  
Install, Repair or Replace Equipment Elizabethtown-Kitley Water Distribution System:**

PROJECT:	Approximate Expenditures
Water Distribution System Repairs and Replacements	\$1,178
SCADA Communication Lines	\$1,519
Electricity	\$4,400
<b>TOTAL EXPENDITURES:</b>	<b>\$7,097</b>

The 2010 Capital projects of the Brockville Drinking Water System are summarized as follows:

- 2010 Capital Projects Water Treatment:
  - Building renovations completed to accommodate water distribution staff transferring to the Water Treatment Plant. Renovations included lunchroom and washroom/locker areas.
  - Electrical connection of main plant pump discharge valves actuators and PLC programming completed within budget. Electrical actuators provide better flow control during main plant pump starting and stopping therefore preventing water hammer in the distribution system.
  - Trojan UV reactor overhaul was conducted and completed within budget. Overhaul included the replacement of ballasts, intensity probes, wiper assembly, and lamps. The UV system is operated seasonally as a backup for disinfection during cold water temperatures to meet the Procedure for Disinfection requirements.
  - Pipe modifications to main plant pump #2 completed within budget. As recommended in the September 2009 Engineer's Technical Memorandum from CH2MHILL – increasing the suction pipe diameter has resulted in the reduction of pump cavitation and extending the pump life cycle.
  - Installation of VFD (Variable Frequency Drive) controls for low lift pumps #1 & #2 completed within budget. VFD installation extends life cycle of pump impellers and reduces energy consumption.
  - Low lift pump #2 replacements completed within budget. New pump replaces original 1958 Allis Chalmers pump.
  - Emergency standby power connection at low lift station completed within budget. New connection allows the connection of the 200 KW portable standby generator to operate low lift pump #1 in the event of a power failure.
  - Pressure relief valve replacement Parkedale Reservoir (reservoir trunk feeder main) completed within budget. New Singer PRV valves on feeder main supplying 2 million gallon reservoir replaced original 1973 Golden Andersen PRV valves.
  - Emergency power connection at Parkedale Reservoir Zone 2 pumps completed within budget. New connection allows the connection of the 200 KW portable standby generator to operate Zone 2 pumps in the event of a long term power outage.
  - Parkedale Reservoir mixer purchase completed within budget. Installation of mixer will be completed once amended C of A is received from MOE. Installation of mixer will improve water quality in the reservoir by continuous mixing maintaining chlorine residual throughout reservoir and is also expected to reduce energy consumption by not having to operate Zone 1 pumps as often for water turnover.
  - Capital contingency fund is used for unpredictable equipment failures and capital project overruns.

**Capital Funds Required to;  
Install, Repair or Replace Equipment Water Treatment:**

PROJECTS:	Approximate Expenditures
Building Renovations	\$58,000
Electrical connection PLC programming main plant discharge valve actuators	\$25,000
UV reactors overhaul	\$20,000
Pipe modification main plant pump #2	\$5,000
VFD low lift pumps	\$35,000
Low lift pump #2 replacement	\$86,000
Emergency power connection low lift pump #1	\$30,000
PRV valves Parkdale Reservoir zone 1 feeder main	\$10,000
Emergency power connection Parkdale booster station zone 2	\$54,000
Mixer Parkdale Reservoir	\$45,000
Outstanding capital projects – 2008 feeder main valves (PRV Parkdale feeder main)	\$16,000
Contingency	\$25,000
<b>TOTAL EXPENDITURES:</b>	<b>\$409,000</b>

- 2010 Capital Projects Water Distribution:
  - Jessie Street; Water main from Ann Street to St Paul Street replaced – “1902” 150mm cast iron water main was replaced with 200mm PVC pipe.
  - George Street; Water main replaced from William Street to Buell Street replaced – “1892” 150mm cast iron water main was replaced with 200mm PVC pipe.
  - Ormond Street; Water main was replaced from Amy Street to Butler’s Creek Bridge – “1906” 100mm cast iron water main was replaced with 200mm PVC pipe.

**Capital Funds Required to;  
Replace Water Mains Water Distribution:**

PROJECTS:	Approximate Expenditures
Jessie Street – (Ann Street to St Paul Street)	\$274,000
George Street – (William Street to Buell)	\$98,000
Ormond Street - (Amy Street to Butlers' Creek Bridge)	\$203,000
<b>TOTAL EXPENDITURES:</b>	<b>\$575,000</b>

**(APPENDIX D) BROCKVILLE DRINKING WATER SYSTEM 2010 FLOW REPORT**

**BROCKVILLE WATER SYSTEMS ANNUAL FLOW REPORT 2010**

<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>WTP Treated Total Flow (m3)</u>
January February March April May June July August September October November December	12,068	15,118	13,343	374,105	11,445	14,177	355,109
	11,952	14,553	14,562	334,650	11,516	13,831	322,447
	11,248	13,116	14,248	348,678	10,713	12,541	332,096
	11,185	13,664	14,576	335,541	10,744	13,047	322,332
	12,029	16,327	14,208	372,885	11,448	15,607	354,895
	11,969	14,140	14,381	359,071	11,313	13,507	339,398
	12,426	15,337	14,784	385,194	12,059	14,472	373,817
	12,777	14,459	13,861	396,087	12,352	14,342	388,489
	11,983	14,473	13,604	359,479	11,770	14,319	353,088
	11,257	13,658	19,576	348,970	11,038	13,180	342,171
	10,809	12,564	13,305	324,260	10,678	12,232	320,327
	10,464	12,231	13,347	324,393	10,470	12,015	324,578
TOTAL				4,263,313			4,128,747

**BROCKVILLE WATER SYSTEMS HISTORICAL PUMPAGE REPORT**

<u>Pumpage Year</u>	<u>Imperial Gallons</u>	<u>Litres</u>
1963	1,202,844,000	5,468,128,824
1964	1,274,210,000	5,792,558,660
1965	1,545,555,000	7,026,093,030
1966	1,463,269,000	6,652,020,874
1967	1,436,808,000	6,531,729,168
1968	1,386,472,000	6,302,901,712
1969	1,358,121,000	6,174,018,066
1970	1,418,385,000	6,447,978,210
1971	1,373,982,000	6,246,122,172
1972	1,292,760,000	5,876,886,960
1973	1,359,383,000	6,179,755,118
1974	1,441,401,000	6,552,608,946
1975	1,550,775,000	7,049,823,150
1976	1,354,462,000	6,157,384,252
1977	1,289,516,000	5,862,139,736
1978	1,382,185,000	6,283,413,010
1979	1,394,657,000	6,340,110,722
1980	1,519,137,000	6,905,996,802
1981	1,391,333,000	6,324,999,818
1982	1,250,769,000	5,685,995,874
1983	1,346,238,000	6,119,997,948
1984	1,296,744,000	5,894,998,224
1985	1,199,296,000	5,451,999,616

**(APPENDIX D) BROCKVILLE DRINKING WATER SYSTEM 2010 FLOW REPORT**

1986	1,271,667,000	5,780,998,182
1987	1,213,374,000	5,515,998,204
1988	1,170,259,000	5,319,997,414
1989	1,327,421,000	6,034,455,866
1990	1,114,116,000	5,064,771,336
1991	1,165,221,000	5,297,094,666
1992	1,108,227,000	5,037,999,942
1993	1,102,732,000	5,013,019,672
1994	1,220,470,000	5,548,256,620
1995	1,202,596,000	5,467,001,416
1996	1,132,499,000	5,148,340,454
1997	1,253,514,000	5,698,474,644
1998	1,214,069,000	5,519,157,674
1999	1,238,721,000	5,631,225,666
2000	1,224,331,000	5,565,808,726
2001	1,259,659,041	5,726,410,000
2002	1,107,017,100	5,032,500,000
2003	1,125,767,700	5,117,740,000
2004	1,152,263,500	5,238,190,000
2005	1,237,542,657	5,625,869,000
2006	1,167,795,848	5,308,800,000
2007	1,141,625,800	5,189,831,000
2008	1,037,200,800	4,715,116,000
2009	952,948,086	4,332,102,000
2010	908,215,350	4,128,747,000

**EILZIBETHTOWN-KITLEY WATER DISTRIBUTION ANNUAL FLOW REPORT 2010**

**Month**

	<b>Avg Flow (m³)</b>	<b>Max Flow (l/min)</b>	<b>Total Flow (m³)</b>
January	282	1,070	8734
February	267	1,129	7487
March	309	1,085	9582
April	316	1,172	9474
May	317	1,099	9819
June	261	1,092	7826
July	290	3,034	8983
August	295	1,715	9134
September	257	3,030	7707
October	185	1,260	5739
November	179	993	5363
December	194	932	6029
<b>TOTAL</b>			<b>95,877</b>

**(APPENDIX D) BROCKVILLE DRINKING WATER SYSTEM 2010 FLOW REPORT**

January, 2010	01 SW 1 Raw Water Main Intake			10 TW 1 Treated Water Discharge			Elizabethtown-Kitley Meter Chamber	
	10 Raw H2O TOTAL Flow (MLD)	11 Raw H2O AVG Flow (MLD)	11 Raw H2O PEAK Flow (MLD)	05 Treated H2O AVG flow (MLD)	05 Treated H2O PEAK flow (MLD)	05 Treated H2O Total flow (MLD)	Max Flow (L/min)	Total Daily Flow (MLD)
1	9.554	10.09	20.39	9.93	12.32	9.182	451	0.258
2	9.874	10.24	19.22	10.21	12.3	9.556	538	0.246
3	9.881	10.25	17.36	10.29	12.4	9.606	405	0.258
4	10.713	11.14	20.46	10.86	11.98	10.263	456	0.243
5	12.665	13.08	20.38	12.86	17.9	12.079	1,056	0.469
6	13.485	13.68	20.38	13.21	17.54	12.599	463	0.246
7	12.047	12.19	17.07	11.3	17.32	11.328	400	0.244
8	12.207	12.5	19.19	12.01	17.47	11.44	473	0.233
9	11.263	11.54	16.79	11.43	17.19	10.812	446	0.242
10	10.816	11.06	16.53	11.1	17.34	10.505	388	0.264
11	14.021	14.41	19.41	13.88	17.92	13.166	381	0.244
12	12.778	13.05	19.51	12.86	17.95	12.301	742	0.3
13	11.927	12.12	20.06	12.06	17.75	11.483	502	0.672
14	15.118	15.64	20.03	15.09	18.1	14.177	367	0.24
15	12.052	12.01	19.42	11.75	17.67	11.477	369	0.242
16	13.999	14.18	19.38	14.01	17.83	13.448	441	0.246
17	10.589	11.31	18.99	11	17.37	10.07	476	0.249
18	12.825	13.26	19.52	12.37	12.01	12.309	398	0.244
19	10.955	11.08	18.77	10.92	17.3	10.505	1,002	0.417
20	13.786	14.15	20.37	13.83	18.16	12.992	346	0.245
21	11.547	11.77	20.18	10.98	17.68	10.406	655	0.249
22	13.132	13.29	17.89	12.56	17.74	12.053	423	0.239
23	11.673	12.06	15.6	11.81	12.44	11.177	386	0.251
24	13.438	13.89	20	13.33	17.94	12.478	792	0.26
25	10.431	10.94	19.97	10.62	17.23	9.829	363	0.235
26	13.057	13.96	20.17	13.54	17.9	12.419	1,070	0.424
27	13.582	13.16	20.34	12.3	18.15	12.351	456	0.261
28	11.187	11.53	18.73	11.3	17.76	10.753	596	0.238
29	12.4	12.57	19.64	12.23	17.65	11.898	427	0.248
30	11.335	11.64	20.07	11.59	17.66	10.913	490	0.258
31	11.768	12.22	19.81	12.38	18.31	11.534	718	0.269

Average	12.068	12.387	19.214	12.052	16.654	11.455	531.484	0.282
Minimum	9.554	10.09	15.6	9.93	11.98	9.182	346	0.233
Maximum	15.118	15.64	20.46	15.09	18.31	14.177	1070	0.672
Count	31	31	31	31	31	31	31	31
Total	374.105	384.01	595.63	373.61	516.28	355.109	16476	8.734
95 Percentile								
Exceedences	0	0	0	0	0	0	0	0

**(APPENDIX D) BROCKVILLE DRINKING WATER SYSTEM 2010 FLOW REPORT**

	01 SW 1 Raw Water Main Intake			10 TW 1 Treated Water Discharge			Elizabethtown-Kitley Meter Chamber	
	10 Raw H2O TOTAL Flow (MLD)	11 Raw H2O AVG Flow (MLD)	11 Raw H2O PEAK Flow (MLD)	05 Treated H2O AVG flow (MLD)	05 Treated H2O PEAK flow (MLD)	05 Treated H2O Total flow (MLD)	Max Flow (L/min)	Total Daily Flow (MLD)
February, 2010								
1	11.725	12.04	19.7	11.81	17.63	11.205	382	0.245
2	13.831	14.22	20.29	14.03	18.22	13.281	1,129	0.481
3	13.301	13.58	18.12	13.39	18.18	12.722	422	0.256
4	11.459	11.77	19.69	11.61	17.88	11.061	382	0.241
5	12.428	12.51	18.82	12.09	17.83	11.806	385	0.245
6	11.949	12.3	19.49	12.14	17.45	11.487	761	0.255
7	12.576	13.17	19.85	13.02	18.14	12.127	360	0.264
8	12.339	12.63	19.74	12.34	17.7	11.711	575	0.253
9	14.553	14.85	20.97	14.38	18.16	13.831	705.77	0.316
10	11.728	12.14	19.65	11.64	12.52	11.025	364	0.245
11	13.939	14	20	14	18.19	13.373	392	0.244
12	12.165	12.44	19.96	12.01	17.43	11.997	432	0.236
13	10.958	11.28	18.53	11.16	12.49	10.599	382	0.245
14	10.654	10.88	16.64	10.79	12.5	10.408	429	0.26
15	10.559	10.93	17.41	10.56	17.65	9.965	442	0.259
16	13.02	13.28	20.13	13.31	18.19	12.712	819	0.335
17	9.9	10.28	20.68	10.58	17.5	9.869	396	0.236
18	12.376	12.72	20.08	12.4	17.95	11.753	403	0.24
19	11.78	11.79	20.06	11.54	17.46	11.231	448	0.243
20	10.342	10.71	17.89	10.72	17.05	10.004	411	0.25
21	10.354	10.72	16.62	10.84	12.51	10.204	426	0.262
22	13.214	13.52	20.12	13.35	18.22	12.712	475	0.243
23	11.832	12.18	19.89	12.23	18.09	11.515	1,043	0.421
24	12.348	12.43	19.76	12.25	18.02	11.937	398	0.245
25	11.798	12.21	20.13	11.99	17.75	11.334	378	0.231
26	11.994	12.23	19.85	11.92	12.52	11.451	361	0.233
27	10.247	10.43	19.86	10.42	12.4	10.012	402	0.245
28	11.281	11.85	19.99	11.95	18.2	11.115	422	0.258

Average	11.952	12.253	19.426	12.088	16.708	11.516	497.313	0.267
Minimum	9.9	10.28	16.62	10.42	12.4	9.869	360	0.231
Maximum	14.553	14.85	20.97	14.38	18.22	13.831	1129	0.481
Count	28	28	28	28	28	28	28	28
Total	334.65	343.09	543.92	338.47	467.83	322.447	13924.77	7.487
95 Percentile Exceedences	0	0	0	0	0	0	0	0

**(APPENDIX D) BROCKVILLE DRINKING WATER SYSTEM 2010 FLOW REPORT**

March, 2010	01 SW 1 Raw Water Main Intake			10 TW 1 Treated Water Discharge			Elizabethtown-Kitley Meter Chamber	
	10 Raw H2O TOTAL Flow (MLD)	11 Raw H2O AVG Flow (MLD)	11 Raw H2O PEAK Flow (MLD)	05 Treated H2O AVG flow (MLD)	05 Treated H2O PEAK flow (MLD)	05 Treated H2O Total flow (MLD)	Max Flow (L/min)	Total Daily Flow (MLD)
1	10.536	10.84	18.75	10.64	12.58	10.112	326	0.244
2	11.348	11.74	17.64	10.91	12.43	10.497	1,060	0.459
3	12.87	13.21	17.76	13.13	17.99	12.459	460	0.281
4	12.026	12.18	20.57	11.83	12.29	11.2	345	0.284
5	11.554	11.91	17.29	11.53	11.93	10.891	479	0.275
6	11.178	11.39	12.63	11.04	11.9	10.416	370	0.287
7	10.92	11.27	13.15	11.14	11.97	10.465	444	0.289
8	10.305	10.45	12.5	9.77	16.86	10.074	479	0.282
9	12.368	12.68	18.64	12.83	18.14	12.128	827	0.415
10	11.084	11.55	16.91	11.41	14.72	10.674	398	0.274
11	11.884	12.13	19.64	11.66	17.48	11.212	458	0.279
12	11.901	12.13	19.24	11.82	12.41	11.945	367	0.272
13	10.832	11.46	14.61	11.46	12.2	9.841	366	0.282
14	11.405	11.87	17.62	11.47	12.31	10.718	406	0.284
15	10.226	10.56	19.95	10.54	12.33	9.914	489	0.283
16	10.707	10.95	19.62	10.65	12.52	10.213	1,080	0.477
17	10.726	11.04	16.38	10.8	12.24	10.163	407	0.282
18	11.105	11.36	20.15	11.35	11.95	10.54	376	0.292
19	11.887	12.12	19.95	11.78	17.41	11.253	421	0.29
20	11.412	11.5	19.04	11.17	11.92	10.782	476	0.285
21	10.026	10.58	18.29	10.31	12.41	9.491	435	0.28
22	13.116	13.45	19.92	13.16	17.75	12.541	449	0.288
23	12.043	12.44	19.53	12.14	17.89	11.54	1,011	0.471
24	10.294	10.38	20.12	10.09	17.38	9.714	382	0.284
25	10.914	11.37	20.28	11.15	11.89	10.406	398	0.272
26	10.734	10.86	20	10.63	11.91	10.228	390	0.281
27	10.59	10.75	19.82	10.63	12.37	10.225	482	0.292
28	11.679	12.27	19.78	12.17	17.85	11.357	543	0.292
29	10.645	10.95	17.4	10.6	12.29	10.102	367	0.28
30	10.804	11.04	16.05	10.71	12.16	10.086	1,085	0.454
31	11.559	11.91	18.48	11.47	12.03	10.909	534	0.272

Average	11.248	11.559	18.120	11.290	13.855	10.713	519.677	0.309
Minimum	10.026	10.38	12.5	9.77	11.89	9.491	326	0.244
Maximum	13.116	13.45	20.57	13.16	18.14	12.541	1085	0.477
Count	31	31	31	31	31	31	31	31
Total	348.678	358.34	561.71	349.99	429.51	332.096	16110	9.582
95 Percentile								
Exceedences	0	0	0	0	0	0	0	0

**(APPENDIX D) BROCKVILLE DRINKING WATER SYSTEM 2010 FLOW REPORT**

April, 2010	01 SW 1 Raw Water Main Intake			10 TW 1 Treated Water Discharge			Elizabethtown-Kitley Meter Chamber	
	10 Raw H2O TOTAL Flow (MLD)	11 Raw H2O AVG Flow (MLD)	11 Raw H2O PEAK Flow (MLD)	05 Treated H2O AVG flow (MLD)	05 Treated H2O PEAK flow (MLD)	05 Treated H2O Total flow (MLD)	Max Flow (L/min)	Total Daily Flow (MLD)
1	11.939	12.21	17.46	11.76	17.43	11.281	397	0.288
2	10.118	10.33	13.38	10.38	12.1	9.736	454	0.299
3	10.077	10.32	17.49	10.24	17.25	9.683	527	0.29
4	10.379	10.84	13.17	10.92	12.37	10.014	574	0.286
5	10.063	10.37	17.24	10.12	17.14	13.047	1,006	0.445
6	10.433	10.63	20.04	10.57	12.27	10.062	421	0.283
7	11.193	11.43	20.03	11.48	17.45	10.963	423	0.271
8	11.902	12.11	19.89	11.36	17.45	10.905	417	0.285
9	12.096	12.18	20.18	11.73	16.03	11.222	714	0.276
10	10.382	10.91	20.16	10.75	14.81	9.897	405	0.286
11	10.461	10.74	19.65	10.63	11.96	9.976	405	0.273
12	10.711	11	20	9.76	11.92	10.258	377	0.283
13	10.829	11.28	20.24	10.99	17.57	10.31	1,019	0.443
14	11.912	11.63	20.23	11.27	15.06	10.711	329	0.264
15	11.815	11.92	20.29	11.66	17.4	11.234	436	0.28
16	11.081	11.22	20.13	11.08	17.46	10.612	604	0.302
17	10.405	10.66	19.82	10.48	12.47	10.037	541	0.379
18	10.458	11.01	20.23	10.85	12.37	10.123	590	0.396
19	10.966	11.25	19.81	11.06	17.36	10.528	623	0.363
20	12.299	12.96	19.89	12.92	17.84	11.966	1,172	0.521
21	13.059	13.07	19.78	12.36	17.94	12.131	499	0.292
22	10.934	11.14	20.1	11.01	17.14	10.275	418	0.267
23	10.683	11	19.78	10.88	12.09	10.257	422	0.265
24	10.82	10.91	19.6	10.77	12.44	10.407	553	0.279
25	10.462	11.08	20.08	10.91	17.45	10.076	482	0.27
26	11.004	11.3	19.69	11.04	17.43	10.485	481	0.287
27	13.664	14.09	20.99	13.47	17.56	12.82	1,066	0.45
28	13.116	13.67	19.91	13.05	17.5	12.287	400	0.304
29	11.196	11.36	19.31	10.76	17.22	10.458	464	0.28
30	11.084	11.35	17.73	11.12	17.53	10.571	668	0.267

Average	11.185	11.466	19.210	11.179	15.667	10.744	562.900	0.316
Minimum	10.063	10.32	13.17	9.76	11.92	9.683	329	0.264
Maximum	13.664	14.09	20.99	13.47	17.94	13.047	1172	0.521
Count	30	30	30	30	30	30	30	30
Total	335.541	343.97	576.3	335.38	470.01	322.332	16887	9.474
95 Percentile								
Exceedences	0	0	0	0	0	0	0	0

**(APPENDIX D) BROCKVILLE DRINKING WATER SYSTEM 2010 FLOW REPORT**

May, 2010	01 SW 1 Raw Water Main Intake			10 TW 1 Treated Water Discharge			Elizabethtown-Kitley Meter Chamber	
	10 Raw H2O TOTAL Flow (MLD)	11 Raw H2O AVG Flow (MLD)	11 Raw H2O PEAK Flow (MLD)	05 Treated H2O AVG flow (MLD)	05 Treated H2O PEAK flow (MLD)	05 Treated H2O Total flow (MLD)	Max Flow (L/min)	Total Daily Flow (MLD)
1	10.448	10.77	19.04	10.67	11.91	9.954	650	0.29
2	10.976	11.18	19.89	11	12.45	10.459	530	0.282
3	10.897	11.09	20.14	10.99	17.87	10.46	567	0.308
4	11.585	11.83	20.13	11.62	17.97	11.085	1,032.83	0.349
5	13.396	13.64	19.89	13.46	17.77	12.884	573.96	0.265
6	11.308	11.76	20.16	11.49	17.68	10.743	525.22	0.255
7	10.28	10.49	15.06	10.42	12.43	9.923	560	0.281
8	10.86	11.21	20	11.01	12.34	10.397	595	0.262
9	11.599	11.8	16.46	11.72	12.45	10.782	533.15	0.267
10	11.317	11.65	20.05	11.38	17.07	10.733	472.67	0.257
11	11.694	12.04	19.9	11.88	17.29	11.107	1,060	0.465
12	12.783	13.01	20.05	13.03	17.76	12.333	628.27	0.262
13	12.059	12.36	20.04	11.54	13.01	11.061	464	0.263
14	11.014	11.42	20.37	11.3	16.94	10.565	558	0.252
15	10.979	11.02	19.98	10.88	16.86	10.537	539	0.288
16	11.276	11.75	20.46	11.58	17.48	10.825	544	0.264
17	11.843	12.38	20.36	12.09	17.6	11.312	577	0.281
18	13.376	13.84	20.14	13.77	18.02	12.978	1,068	0.456
19	10.983	11.23	19.97	10.98	17.64	10.396	517	0.301
20	11.829	12.11	20.14	11.74	12.3	11.223	499	0.272
21	12.599	12.86	20.18	12.52	17.7	12.002	647	0.326
22	11.337	11.55	20.23	11.01	17.47	10.927	710	0.337
23	11.654	12.08	20.19	11.9	17.36	11.15	499	0.346
24	12.891	13.33	20.1	13	17.87	12.232	525	0.384
25	12.988	13.34	20.26	12.81	22.03	12.176	1,099	0.54
26	16.327	16.47	20.14	16.03	17.91	15.607	463.86	0.327
27	12.235	12.65	20.07	12.23	17.71	11.43	543	0.329
28	12.516	13.07	20.09	12.66	17.27	11.878	422	0.305
29	12.278	12.5	19.14	12.15	17.49	11.53	428	0.334
30	12.177	12.33	20.06	12.06	17.33	11.671	484.71	0.314
31	15.381	15.55	20.16	15.36	17.78	14.535	551	0.357

Average	12.029	12.333	19.769	12.074	16.541	11.448	608.602	0.317
Minimum	10.28	10.49	15.06	10.42	11.91	9.923	422	0.252
Maximum	16.327	16.47	20.46	16.03	22.03	15.607	1099	0.54
Count	31	31	31	31	31	31	31	31
Total	372.885	382.31	612.85	374.28	512.76	354.895	18866.67	9.819
95 Percentile Exceedences	0	0	0	0	0	0	0	0

**(APPENDIX D) BROCKVILLE DRINKING WATER SYSTEM 2010 FLOW REPORT**

June, 2010	01 SW 1 Raw Water Main Intake			10 TW 1 Treated Water Discharge			Elizabethtown-Kitley Meter Chamber	
	10 Raw H2O TOTAL Flow (MLD)	11 Raw H2O AVG Flow (MLD)	11 Raw H2O PEAK Flow (MLD)	05 Treated H2O AVG flow (MLD)	05 Treated H2O PEAK flow (MLD)	05 Treated H2O Total flow (MLD)	Max Flow (L/min)	Total Daily Flow (MLD)
1	12.144	12.57	20.71	12.28	17.18	11.584	941	0.423
2	11.674	12.05	20.71	11.64	17.39	10.984	423.35	0.279
3	12.165	12.45	20.2	12.14	17.47	11.531	500.27	0.282
4	12.158	12.36	20.34	12.14	17.31	11.58	406	0.278
5	11.422	12.02	20.16	11.69	12.29	10.76	363	0.284
6	11.869	12.07	19.58	11.72	12.21	11.104	392.52	0.287
7	11.773	12.04	19.9	11.85	17.64	11.154	822	0.298
8	12.005	12.4	19.89	10.09	17.49	11.289	1,092	0.471
9	11.874	12.09	19.86	11.78	11.84	11.063	463.86	0.288
10	12.12	12.27	20.31	11.9	17.44	11.4	405	0.297
11	11.057	11.37	17.42	11.11	12.24	10.701	403	0.281
12	10.496	10.78	20.07	10.63	16.86	9.927	502	0.263
13	10.15	10.65	20.02	10.67	12.27	9.824	437	0.277
14	12.053	12.43	20.23	11.96	17.62	11.385	422	0.214
15	14.14	14.4	20.13	14.13	18.27	13.507	961	0.296
16	11.444	11.78	19.73	11.36	17.43	10.781	519	0.101
17	11.837	12.16	20.2	11.73	12.35	11.093	437	0.133
18	11.776	12.08	20.38	11.7	12.39	10.99	442	0.139
19	12.061	12.11	19.85	11.74	12.44	11.229	555	0.243
20	11.945	12.61	19.87	12.51	18.01	11.519	577	0.23
21	12.471	12.63	20.2	12.1	17.5	11.738	399	0.196
22	11.786	12.23	20.1	11.71	12.28	11	1,078	0.293
23	13.529	13.91	19.73	13.53	17.92	12.861	402	0.190
24	13.621	14.04	20.32	13.8	20.17	12.943	344	0.210
25	11.962	12.11	19.87	11.65	17.11	11.153	540	0.171
26	11.312	11.65	18.72	11.33	11.95	10.616	403	0.251
27	10.549	10.66	20.17	10.6	12.4	10.221	437	0.29187
28	12.987	13.28	20.46	13.23	17.83	12.591	691	0.25713
29	12.105	12.62	19.83	12.23	17.05	11.033	935	0.353
30	12.586	12.67	20.63	12.27	19.03	11.837	611	0.249

Average	11.969	12.283	19.986	11.907	15.713	11.313	563.467	0.26087
Minimum	10.15	10.65	17.42	10.09	11.84	9.824	344	0.101
Maximum	14.14	14.4	20.71	14.13	20.17	13.507	1092	0.471
Count	30	30	30	30	30	30	30	30
Total	359.071	368.49	599.59	357.22	471.38	339.398	16904	7.826
95 Percentile								
Exceedences	0	0	0	0	0	0	0	0

**(APPENDIX D) BROCKVILLE DRINKING WATER SYSTEM 2010 FLOW REPORT**

July, 2010	01 SW 1 Raw Water Main Intake			10 TW 1 Treated Water Discharge			Elizabethtown-Kitley Meter Chamber	
	10 Raw H2O TOTAL Flow (MLD)	11 Raw H2O AVG Flow (MLD)	11 Raw H2O PEAK Flow (MLD)	05 Treated H2O AVG flow (MLD)	05 Treated H2O PEAK flow (MLD)	05 Treated H2O Total flow (MLD)	Max Flow (L/min)	Total Daily Flow (MLD)
1	10.79	11.3	20.25	11.96	16.99	10.211	492	0.265
2	11.74	11.79	20.11	11.57	17.31	11.231	344	0.255
3	10.877	11.41	20.27	11.2	17.34	10.366	553	0.251
4	11.46	11.66	20.02	11.45	16.64	11.024	400	0.321
5	14.83	15.23	19.92	14.8	18.05	13.991	445	0.291
6	15.213	15.6	19.85	15.09	18.15	14.368	1,118	0.514
7	15.337	15.66	20.75	15.2	18.28	14.472	506	0.314
8	15.109	15.85	20.28	15.19	18.3	14.139	450	0.299
9	14.573	14.62	21.29	14.18	18.23	13.813	634	0.243
10	11.093	11.37	20.15	11.19	12.42	10.725	450	0.245
11	13.198	13.6	20.12	13.45	17.86	12.683	476	0.27
12	14.345	14.7	18.16	12.1	18.1	13.999	349	0.244
13	13.55	13.93	19.91	13.88	17.88	13.25	1,040	0.444
14	13.775	14.19	20.02	14.17	18.13	13.317	493	0.279
15	11.586	11.9	19.8	11.92	17.77	11.284	438	0.245
16	11.484	11.39	19.36	11.39	16.62	11.192	357	0.244
17	10.988	11.25	19.78	11.32	12.43	10.797	426	0.281
18	11.41	12.12	19.69	12.38	18.02	11.276	449	0.276
19	12.16	12.51	19.39	12.4	17.22	11.783	415	0.233
20	14.067	14.29	19.63	14.29	17.96	13.728	1,019	0.445
21	11.113	11.49	20.79	11.64	17.2	11.045	454	0.251
22	13.532	13.85	17.22	14.29	17.83	13.479	480	0.261
23	11.449	11.66	16.79	11.79	17.03	11.23	346	0.242
24	11.242	11.54	16.34	11.77	12.39	11.017	460	0.261
25	11.333	11.58	18.38	11.69	12.33	11.177	455.05	0.289
26	11.397	11.67	19.55	11.81	17.34	11.492	3,034.48	0.307
27	14.139	14.36	20.22	14.31	17.86	13.529	1,148.21	0.442
28	10.859	11.12	19.72	11.31	16.69	10.777	446.54	0.271
29	11.258	11.63	19.6	11.92	17.39	11.197	493	0.1557
30	10.432	10.83	19.28	11.21	12.43	9.883	502	0.268154
31	10.855	11.07	16.56	11.27	17.14	11.342	457	0.275846

Average	12.426	12.747	19.458	12.650	16.753	12.059	617.106	0.289765
Minimum	10.432	10.83	16.34	11.19	12.33	9.883	344	0.1557
Maximum	15.337	15.85	21.29	15.2	18.3	14.472	3034.48	0.514
Count	31	31	31	31	31	31	31	31
Total	385.194	395.17	603.2	392.14	519.33	373.817	19130.28	8.9827
95 Percentile Exceedences	0	0	0	0	0	0	0	0

**(APPENDIX D) BROCKVILLE DRINKING WATER SYSTEM 2010 FLOW REPORT**

August, 2010	01 SW 1 Raw Water Main Intake			10 TW 1 Treated Water Discharge			Elizabethtown-Kitley Meter Chamber	
	10 Raw H2O TOTAL Flow (MLD)	11 Raw H2O AVG Flow (MLD)	11 Raw H2O PEAK Flow (MLD)	05 Treated H2O AVG flow (MLD)	06 Treated H2O PEAK flow (MLD)	05 Treated H2O Total flow (MLD)	Max Flow (L/min)	Total Daily Flow (MLD)
1	11.269	11.56	19.892	11.76	12.36	11.126	457	0.296
2	13.83	14.16	19.96	13.85	17.67	13.178	479.13	0.299
3	11.85	12.14	17.35	11.62	20	11.562	1,056.61	0.468
4	14.063	14.58	19.56	14.8	18.05	13.441	628.86	0.277
5	14.459	14.79	19.72	15.07	18.16	14.342	568	0.286
6	12.482	12.73	19.22	12.88	17.5	12.122	572	0.293
7	13.808	14.19	17.74	14.36	17.95	13.515	569	0.304
8	11.136	11.62	19.92	11.66	12.39	10.902	516	0.246
9	13.788	14.19	17.74	14.51	17.96	13.698	537	0.241
10	13.177	13.48	19.6	13.23	17.74	12.588	1,058	0.476
11	13.987	14.36	19.3	14.58	18.16	13.866	502	0.277
12	13.744	14.1	17.69	14.19	18.01	12.584	445.07	0.275
13	12.219	12.28	19.25	12.25	17.38	12.652	461	0.278
14	11.264	11.58	19.49	11.76	12.44	11.126	534	0.271
15	12.978	13.47	19.11	13.7	17.89	12.798	506.14	0.264
16	12.211	12.57	17.52	12.58	17.48	11.807	404	0.279
17	13.505	13.9	17.54	14.09	18.05	13.345	883	0.447
18	14.37	14.5	19.44	14.51	17.79	13.794	464	0.288
19	14.07	14.69	19.56	14.98	17.94	14.16	403	0.251
20	12.034	12.19	17.21	12.16	17.56	11.732	901	0.252
21	11.263	11.57	16.17	11.7	12.33	11.159	1,715	0.243
22	11.304	11.61	16.17	11.68	12.23	11.119	400.15	0.252
23	13.684	14.05	18.59	14.38	18.12	13.608	1,090	0.452
24	14.066	14.46	19.75	14.62	17.61	13.773	424	0.243
25	11.875	12.2	19.1	12.21	17.62	11.573	442	0.223
26	12.291	12.32	19.03	11.37	11.58	11.896	594.51	0.238
27	11.235	11.61	18.91	11.78	12.44	11.406	307.09	0.23
28	11.088	11.58	14.18	11.78	12.42	10.985	357	0.243
29	12.537	12.87	17.35	13.23	17.64	12.52	381.95	0.284
30	12.464	12.76	18.72	12.76	17.79	12.184	1,403.62	0.417
31	14.036	14.46	18.66	14.69	17.98	13.928	553.11	0.241

Average	12.777	13.115	18.498	13.185	16.459	12.532	632.685	0.295
Minimum	11.088	11.56	14.18	11.37	11.58	10.902	307.09	0.223
Maximum	14.459	14.79	19.96	15.07	20	14.342	1715	0.476
Count	31	31	31	31	31	31	31	31
Total	396.087	406.57	573.442	408.74	510.24	388.489	19613.24	9.134
95 Percentile								
Exceedences	0	0	0	0	0	0	0	0

**(APPENDIX D) BROCKVILLE DRINKING WATER SYSTEM 2010 FLOW REPORT**

September, 2010	01 SW 1 Raw Water Main Intake			10 TW 1 Treated Water Discharge			Elizabethtown- Kitley Meter Chamber	
	10 Raw H2O TOTAL Flow (MLD)	11 Raw H2O AVG Flow (MLD)	11 Raw H2O PEAK Flow (MLD)	05 Treated H2O AVG flow (MLD)	05 Treated H2O PEAK flow (MLD)	05 Treated H2O Total flow (MLD)	Max Flow (L/min)	Total Daily Flow (MLD)
1	12.861	13.1	19.31	13.25	17.63	12.508	437	0.247
2	14.4	14.78	18.67	15.14	18.76	14.319	443.02	0.242
3	12.598	12.57	18.42	12.62	17.69	12.314	378	0.286
4	11.21	11.56	18.14	11.77	12.52	11.104	329	0.242
5	12.896	13.17	19.14	13.37	17.81	12.729	401	0.25
6	10.495	11.02	16.55	11.14	15.19	10.504	547.24	0.253
7	11.887	12.27	17.11	12.42	17.67	11.712	1,071.87	0.432
8	13.888	14.19	19.55	14.17	17.9	13.529	472.96	0.234
9	11.889	12.12	19.45	12.18	17.44	11.608	345.84	0.244
10	11.373	11.45	19.59	11.67	17.72	11.29	178	0.235
11	11.306	11.61	19.21	11.71	12.47	11.146	422	0.227
12	10.439	10.82	18.75	11.38	16.6	10.731	374.91	0.241
13	11.235	11.58	15.32	11.94	18.8	11.283	348.48	0.219
14	12.931	13.2	17.96	13.59	19.83	12.921	1,032.24	0.302
15	13.419	13.78	19.58	11.03	18.34	12.942	504.08	0.219
16	10.018	10.34	19.3	10.76	15.42	10.188	383	0.214
17	13.91	14.28	19.22	14.23	17.26	13.576	343	0.216
18	11.702	12.08	17.29	11.72	16.57	11.106	385	0.231
19	11.275	11.64	16.86	11.82	11.83	11.166	400.74	0.245
20	13.156	13.47	18.7	13.62	17.64	13.018	362.87	0.227
21	11.996	12.29	19.36	12.06	17.59	11.708	788.27	0.259
22	11.633	11.97	18.97	11.41	17.32	11.467	475.61	0.222
23	11.646	11.92	18.34	12.04	17.56	11.504	440.96	0.221
24	11.907	11.89	18.87	11.8	12.54	11.479	536	0.188
25	11.39	11.8	18.67	11.74	12.27	11.067	3,030	0.679
26	9.821	9.99	18.82	12.62	17.39	12.025	374.61	0.237
27	8.605	9.12	19.1	9.16	17.16	8.72	536	0.206
28	14.473	14.54	19.49	12.3	17.94	11.948	520	0.278
29	12.694	13.33	19.43	13.1	17.58	12.123	390	0.209
30	12.426	12.71	17.9	11.96	12.52	11.353	509.07	0.202

Average	11.983	12.286	18.569	12.257	16.499	11.770	558.692	0.257
Minimum	8.605	9.12	15.32	9.16	11.83	8.72	178	0.188
Maximum	14.473	14.78	19.59	15.14	19.83	14.319	3030	0.679
Count	30	30	30	30	30	30	30	30
Total	359.479	368.59	557.07	367.72	494.96	353.088	16760.77	7.707
95 Percentile								
Exceedences	0	0	0	0	0	0	0	0

**(APPENDIX D) BROCKVILLE DRINKING WATER SYSTEM 2010 FLOW REPORT**

October, 2010	01 SW 1 Raw Water Main Intake			10 TW 1 Treated Water Discharge			Elizabethtown-Kitley Meter Chamber	
	10 Raw H2O TOTAL Flow (MLD)	11 Raw H2O AVG Flow (MLD)	11 Raw H2O PEAK Flow (MLD)	05 Treated H2O AVG flow (MLD)	05 Treated H2O PEAK flow (MLD)	05 Treated H2O Total flow (MLD)	Max Flow (L/min)	Total Daily Flow (MLD)
1	12.945	13.3	19.21	13.17	17.47	12.528	315.31	0.174
2	11.725	12.03	18.8	12.23	17.18	11.561	401.92	0.179
3	11.685	11.86	18.4	11.78	12.18	11.34	345	0.218
4	13.658	14.05	18.87	13.92	17.84	13.18	307	0.179
5	10.176	10.56	19.09	10.69	12.36	10.043	887	0.243
6	11.128	11.37	19	11.28	12.39	10.739	287	0.18
7	11.545	11.76	19.19	11.75	12.46	11.172	420	0.185
8	11.475	11.81	19.1	11.78	12.41	11.112	304	0.177
9	11.642	11.82	18.68	11.65	12.29	11.292	350	0.197
10	10.691	11.04	19.2	11.01	12.54	10.483	576	0.208
11	10.975	11.44	16.2	11.61	13.48	10.862	358	0.206
12	10.817	11.15	15.17	11.43	17.31	10.813	940	0.308
13	11.36	11.69	15.77	11.91	17.31	11.313	341	0.161
14	11.547	11.67	16.07	11.67	12.33	11.164	327	0.164
15	11.17	11.42	15.32	11.76	12.37	11.09	279	0.158
16	11.542	11.89	14.78	11.83	12.31	10.967	368	0.17
17	10.212	10.49	16.95	10.63	16.64	10.022	516.71	0.185
18	10.993	11.31	18.85	9.65	16.99	10.754	326.17	0.163
19	9.914	10.15	17.81	10.81	17.2	10.207	1,260.35	0.247
20	12.645	12.95	19.11	9.91	17.72	12.319	381.07	0.159
21	9.884	10.19	17.92	10.56	16.91	9.922	325.29	0.157
22	10.669	10.9	18.39	11.19	12.47	10.673	286.24	0.152
23	11.53	11.9	28.19	11.75	12.22	11.107	334.98	0.174
24	10.858	10.96	18.21	11.2	12.28	10.854	364	0.197
25	9.922	10.51	18.76	10.7	16.28	9.778	476	0.154
26	13.286	13.28	18.72	13.36	17.78	12.968	632	0.176
27	11.249	11.63	19.01	11.85	17.84	11.097	650	0.178
28	10.253	10.65	19.31	10.7	16.82	10.039	363	0.161
29	11.561	11.79	19.22	11.62	12.26	11.199	345	0.156
30	10.258	10.54	18.92	10.81	16.66	10.121	311	0.18
31	11.655	11.96	18.87	12.18	17.62	11.452	346	0.193

Average	11.257	11.551	18.422	11.496	14.901	11.038	442.711	0.185
Minimum	9.884	10.15	14.78	9.65	12.18	9.778	279	0.152
Maximum	13.658	14.05	28.19	13.92	17.84	13.18	1260.35	0.308
Count	31	31	31	31	31	31	31	31
Total	348.97	358.07	571.09	356.39	461.92	342.171	13724.04	5.739
95 Percentile								
Exceedences	0	0	0	0	0	0	0	0

**(APPENDIX D) BROCKVILLE DRINKING WATER SYSTEM 2010 FLOW REPORT**

November, 2010	01 SW 1 Raw Water Main Intake			10 TW 1 Treated Water Discharge			Elizabethtown-Kitley Meter Chamber	
	10 Raw H2O TOTAL Flow (MLD)	11 Raw H2O AVG Flow (MLD)	11 Raw H2O PEAK Flow (MLD)	05 Treated H2O AVG flow (MLD)	05 Treated H2O PEAK flow (MLD)	05 Treated H2O Total flow (MLD)	Max Flow (L/min)	Total Daily Flow (MLD)
1	10.345	10.66	18.98	10.46	18.61	10.348	381	0.168
2	10.466	10.74	18.77	10.78	16.81	10.23	517	0.224
3	10.076	10.13	18.8	10.43	14.22	10.07	476	0.203
4	10.907	11.27	18.77	11.24	12.44	10.675	285	0.155
5	11.31	11.68	18.9	11.68	16.82	10.951	325	0.143
6	11.396	11.2	19.13	11.22	12.4	11.076	317	0.178
7	10.013	10.4	19.02	10.69	12.45	9.98	335	0.184
8	11.574	11.8	17.21	11.86	12.39	11.266	351	0.162
9	12.564	12.83	18.73	12.84	18.72	12.232	725	0.228
10	11.312	11.76	17.7	11.76	17.18	10.911	400	0.152
11	11.133	11.33	14	11.54	12.45	11.022	292	0.156
12	9.336	9.55	11.94	10.2	16.33	9.532	422	0.148
13	11.093	11.31	13.1	11.53	12.75	10.812	361	0.174
14	10.072	10.35	11.97	10.69	16.67	10.146	563	0.184
15	12.334	12.41	17.81	12.41	17.81	12.218	369	0.166
16	10.032	10.53	18.64	10.73	17.62	9.94	832	0.202
17	10.533	10.74	18.98	10.86	16.36	10.383	532	0.157
18	9.826	10.21	19.16	10.55	12.49	9.823	579.24	0.151
19	10.712	11.27	17.78	11.27	12.58	10.38	364	0.157
20	11.223	10.82	16.7	11.19	16.96	11.331	417	0.164
21	9.972	10.26	13.11	10.81	16.55	9.837	467	0.175
22	11.159	11.79	18.75	8.59	12.11	11.094	993	0.325
23	11.67	11.87	18.26	11.86	12.52	11.27	823	0.212
24	10.738	11.14	16.09	11.42	12.45	10.619	304	0.153
25	10.573	10.85	14.06	11.17	17.1	10.616	582	0.147
26	10.355	10.56	16.35	10.74	16.51	10.214	495	0.146
27	10.167	10.47	12.4	10.85	13	10.228	345.25	0.172
28	10.435	10.51	18.45	10.81	12.36	10.431	418.94	0.194
29	12.021	12.43	18.46	12.67	18.08	11.869	497	0.158
30	10.913	11.18	18.72	11.38	17.78	10.823	787	0.225

Average	10.809	11.068	17.025	11.141	15.084	10.678	485.181	0.179
Minimum	9.336	9.55	11.94	8.59	12.11	9.532	285	0.143
Maximum	12.564	12.83	19.16	12.84	18.72	12.232	993	0.325
Count	30	30	30	30	30	30	30	30
Total	324.26	332.05	510.74	334.23	452.52	320.327	14555.43	5.363
95 Percentile	0			0			0	
Exceedences	0			0			0	

**(APPENDIX D) BROCKVILLE DRINKING WATER SYSTEM 2010 FLOW REPORT**

December, 2010	01 SW 1 Raw Water Main Intake			10 TW 1 Treated Water Discharge			Elizabethtown-Kitley Meter Chamber	
	10 Raw H2O TOTAL Flow (MLD)	11 Raw H2O AVG Flow (MLD)	11 Raw H2O PEAK Flow (MLD)	05 Treated H2O AVG flow (MLD)	05 Treated H2O PEAK flow (MLD)	05 Treated H2O Total flow (MLD)	Max Flow (L/min)	Total Daily Flow (MLD)
1	12.231	12.55	18.79	12.7	17.98	12.015	609	0.156
2	10.268	10.56	16.82	10.72	17.28	10.165	285	0.16
3	9.905	9.85	16.66	10.41	15.45	10.083	303	0.156
4	10.062	10.49	17.47	11	16.23	10.17	503	0.172
5	12.134	12.44	18.92	12.5	17.88	11.957	356	0.195
6	10.513	10.78	16.98	8.67	17.06	10.313	324	0.163
7	11.213	11.52	15.93	11.62	12.45	11.07	862.55	0.263
8	10.942	11.31	18.67	11.6	14.61	10.917	284	0.42
9	10.923	11.08	18.76	11.1	16.86	10.65	407	0.178
10	9.814	10.11	15.51	10.59	12.54	9.939	326	0.152
11	11.571	11.84	17.13	11.92	12.52	11.313	423	0.183
12	10.435	10.67	15.54	10.98	15.17	10.55	715.46	0.194
13	10.722	11.05	17.82	10.94	16.02	10.535999	440	0.156
14	11.655	12.03	18.35	12.21	17.65	11.503001	932.42	0.289
15	11.477	11.7	18.94	11.68	13.43	11.166	430.98	0.171
16	11.321	11.69	18.27	11.84	12.32	11.249	435.38	0.169
17	10.826	10.64	15.03	11.05	17.34	10.769	578	0.113631
18	9.912	10.12	13	10.67	12.37	10.101	555	0.236803
19	9.926	10.7	15.96	11.01	15.87	9.897	593.33	0.191566
20	9.948	10.24	18.75	9.74	16.68	10.096	536	0.168
21	11.257	9.92	19.22	10.67	16.89	10.016	887.21	0.283
22	11.257	11.54	18.9	11.81	12.6	11.215	686	0.174
23	9.125	9.43	14.61	10.3	16.26	9.645	608	0.17
24	9.697	9.91	13.12	10.85	17.26	10.362	612	0.181
25	8.846	9.08	13.03	10.27	16.71	9.69	624	0.185
26	8.994	9.1	17.06	10.13	16.61	9.671	614	0.189
27	9.187	9.35	15.8	10.12	16.69	9.582	518	0.192
28	9.109	9.51	18.92	10.24	16.83	8.992	619	0.2
29	9.932	10.12	18.59	9.93	16.7	9.902	522	0.187
30	10.571	10.93	15.88	10.98	12.36	10.383	770	0.174
31	10.62	10.69	14.06	11.01	12.37	10.661	373	0.207

Average	10.464	10.676	16.855	10.944	15.451	10.470258	539.753	0.194484
Minimum	8.846	9.08	13	8.67	12.32	8.992	284	0.113631
Maximum	12.231	12.55	19.22	12.7	17.98	12.015	932.42	0.42
Count	31	31	31	31	31	31	31	31
Total	324.393	330.95	522.49	339.26	478.99	324.578	16732.33	6.029
95 Percentile								
Exceedences	0	0	0	0	0	0	0	0

**(APPENDIX D) BROCKVILLE DRINKING WATER SYSTEM 2010 FLOW REPORT**

	01 SW 1 Raw Water Main Intake			10 TW 1 Treated Water Discharge			Elizabethtown-Kitley Meter Chamber	
Totals	10 Raw H2O TOTAL Flow (MLD)	11 Raw H2O AVG Flow (MLD)	11 Raw H2O PEAK Flow (MLD)	05 Treated H2O AVG flow (MLD)	05 Treated H2O PEAK flow (MLD)	05 Treated H2O Total flow (MLD)	Max Flow (L/min)	Total Daily Flow (MLD)
Average	11.680	11.977	18.707	11.856	15.851	11.311636	547.081	0.262676
Minimum	8.605	9.08	11.94	8.59	11.58	8.72	178	0.101
Maximum	16.327	16.47	28.19	16.03	22.03	15.607	3034.48	0.679
Count	365	365	365	365	365	365	365	365
Total	4263.313	4371.61	6828.032	4327.43	5785.73	4128.747	199684.5	95.8767
95 Percentile Exceedences	0	0	0	0	0	0	0	0



**Ministry  
of the  
Environment**      **Ministère  
de  
l'Environnement**

**AMENDED CERTIFICATE OF APPROVAL  
MUNICIPAL DRINKING WATER SYSTEMS  
NUMBER 7894-78ZK8P**  
*Issue Date: December 7, 2007*

The Corporation of the City of Brockville  
Post Office Box, No. 5000  
Brockville, Ontario  
K6V 7A5

**Site Location:** Brockville Water Treatment Plant  
20 Rivers Ave  
Brockville City, United Counties of Leeds and Grenville

*Pursuant to the Safe Drinking Water Act, 2002, S.O. 2002, c. 32, and the regulations made thereunder and subject to the limitations thereof, this approval is issued under Part V of the Safe Drinking Water Act, 2002, S.O. 2002, c. 32 to:*

The Corporation of the City of Brockville  
PO Box 5000  
Brockville, Ontario  
K6V 7A5

#### **PART 1 - DRINKING-WATER SYSTEM DESCRIPTION**

- 1.1 for a surface water drinking-water system serving the City of Brockville located at [NAD 27 Zone 18 444500.00 E 4936150.00 N] 20 Rivers Avenue, Brockville, rated as set out in Part 4, consisting of the following:

#### **Existing Water Works**

##### **Intake Structure**

consisting of an intake crib fitted with a chlorine diffuser, 294 m into the St. Lawrence River and connected through a 900mm pipe to the wet well at the Low Lift Pumping Station;

##### **Low Lift Pumping Station**

consisting of a screen chamber and a wet well equipped with three (3) raw water pumps as follows:

- two (2) pumps, each rated at  $18,200 \text{ m}^3/\text{d}$  at 23.2 m total dynamic head (TDH),

- one of the 18,200 m<sup>3</sup>/d pump equipped with a dual electric/diesel engine drive;
- one (1) pump rated at 22,700 m<sup>3</sup>/d at 23.2 m TDH;

#### Meter Chamber

housing a venturi meter, primary coagulant dosage point, chlorine injection point and discharge lines to the flocculation tanks.

#### Flocculation Tanks

three (3) two-cells-in-series spiral up-flow flocculation tanks with each cell 4.0m x 4.0m x 6.0 m side water depth equipped with baffles, flow control valves and a common overflow collection channel to the filtration units;

#### Filtration Units

two (2) dual media (granular activated carbon/sand) filters each having a capacity of 19,600 m<sup>3</sup>/d based on a filtration rate of 18 m/hr equipped with two (2) (one duty and one standby) backwash pumps each rated at 45,400 m<sup>3</sup>/d and a filter effluent conduit to the Clearwell;

#### Clearwell

a 300 m<sup>3</sup> well with an overflow structure and discharge line to the reservoir;

#### Reservoir

a 3,500 m<sup>3</sup> in-ground reservoir equipped with inlet baffles walls with a pipe connection to the wet well of the high lift pumping station;

#### High Lift Pumping Station

equipped with five (5) pumps with one (1) capable of delivering 6,800 m<sup>3</sup>/d at 54.9m TDH, one (1) capable of delivering 11,350 m<sup>3</sup>/d at 54.9m TDH, one (1) capable of delivering 15,900 m<sup>3</sup>/d at 54.9m TDH, two (2) diesel motor driven pumps each capable of delivering 18,200 m<sup>3</sup>/d at 70m TDH and a common discharge header to the distribution feeder main;

#### Chlorination

a chlorine gas system consisting of two units with each having up to six chlorine cylinders and a vacuum regulator for supplying chlorine solution as follows:

- Zebra Mussel Control : by means of two (2) 50mm feed lines to a diffuser at the Intake Structure,

- to an injection point at the Raw water Meter Chamber,
- to a post-filter injection point in the clearwell,
- to an injection point on the suction side of the High Lift Pumps,

a sodium hypochlorite system consisting of a 300 L storage tank, a chemical feeder pump capable of delivering 20 L/hr and injector at the existing Parkdale Avenue Reservoir;

#### UV Disinfection System

two (2) (one duty and one standby) ultraviolet disinfection units with rated design capacity of 40 mJ/cm<sup>2</sup> to apply a minimum UV dosage of 20 mJ/cm<sup>2</sup> at a design flow rate of 36,400 m<sup>3</sup>/d and with flow rate pacing and adjustable ultraviolet light intensity. The UV system is intended to be used as a backup for disinfection with chlorination, or continuously as a multi-barrier disinfection system;

UV system equipped with UV intensity sensors, automated cleaning system and portable UV transmittance measuring device;

#### Chemical Feed Systems

a primary coagulation feed system consisting of a 30,000 L solution tank, one day tank and two chemical feed pumps each capable of delivering 80 L/hr through solution feed lines to the Meter Chamber;

a hydrofluosilicic acid chemical feed system from 170 L drums, a chemical feed pump capable of delivering 20 L/hr and a feed line to an injection point on the suction side of the high lift pump suction;

#### Stand-by Power Facility

a 100 kW diesel engine stand-by power generator set and associated equipment;

#### Residue Management Facility

consisting of a 400 m<sup>3</sup> holding tank, two transfer pumps and a 84 m<sup>3</sup> settling tank with a supernatant overflow to the St. Lawrence River and settled sludge discharge to sanitary sewer using one (1) sludge transfer pump;

coagulant feed system including a 7 L/hr. chemical metering pump and 280 L day tank.

together with all associated piping, electrical and mechanical equipment, ventilation, monitoring, control, metering, and alarm systems, and instrumentation;

- .2 all in accordance with the applications and plans and other supporting documents listed in Schedule "A", and all other Schedules, which are attached to, and form part of this approval,

except as specified in the conditions contained herein.

**PART 2 - DEFINITIONS AND INFORMATION**

2.1 Words and phrases not defined in this approval shall be given the same meaning as those set out in the *Safe Drinking Water Act, 2002*, S.O. 2002, c. 32 and any regulations made in accordance with that act, unless the context requires otherwise.

2.2 In this approval

"adverse effect", "contaminant", "impairment" and "natural environment" shall have the same meanings as in the *Environmental Protection Act*, R.S.O.1990, c. E.19 and the *Ontario Water Resources Act*, R.S.O.1990, c. O.40;

"approval" means this entire approval document, issued in accordance with section 36 of the *SDWA*, and includes any schedules to it;

"Director" means a Director appointed pursuant to s. 6 of the *SDWA* for the purposes of Part V of the *SDWA* ;

"drinking-water system" includes the works set out in Part 1;

"operating authority" and "owner" mean, in addition to the respective meanings given in the Act, The Corporation of the City of Brockville;

"provincial officer" means a provincial officer appointed pursuant to s. 8 of the *SDWA* ;

"rated capacity" means the maximum flow rate of water which can be treated when operating the drinking-water system under design conditions;

"*SDWA*" means the *Safe Drinking Water Act, 2002*, S.O. 2002, c. 32, as amended.

**PART 3 - GENERAL**

**Compliance**

- 3.1 The owner and operating authority shall operate the drinking-water system in accordance with the *SDWA*, any applicable regulations made thereunder, and this approval.
- 3.2 Despite any condition of this approval to the contrary, the owner and operating authority set out in Part 2 are jointly and severally liable to comply with all conditions of this approval.
- 3.3 The owner and operating authority shall ensure that any person authorized to carry out work on or operate any aspect of the drinking-water system has been informed of the *SDWA*, all

applicable regulations made in accordance with that act, and this approval and shall take all reasonable measures to ensure any such person complies with the same.

- 3.4 A copy of this approval shall be kept in a conspicuous place so that it is available for reference by all persons responsible for all or part of the operation of the drinking-water system.

#### **Build, etc. in Accordance**

- 3.5 Except as otherwise provided by this approval, the drinking-water system shall be designed, developed, built, operated and maintained in accordance with Part 1 above and the documentation listed in Schedule "A".

#### **Interpretation**

- 3.6 Where there is a conflict between the provisions of this approval and any other document, the following hierarchy shall be used to determine the provision that takes precedence:

- i. The *SDWA* ;
- ii. a condition imposed in this approval in accordance with s. 38 of the *SDWA* ;
- iii. any regulation made under the *SDWA* ;
- iv. this approval;
- v. any application documents listed in Schedule "A" from most recent to earliest; and
- vi. all other documents listed in Schedule "A" from most recent to earliest.

- 3.7 The requirements of this approval are severable. If any requirement of this approval, or the application of any requirement of this approval to any circumstance, is held invalid or unenforceable, the application of such requirement to other circumstances and the remainder of this approval shall not be affected thereby.

- 3.8 Nothing in this approval shall be read to provide relief from the need for strict compliance with the *Environmental Assessment Act*, R.S.O. 1990, c E.18.

#### **Other Legal Obligations**

- 3.9 The issuance of, and compliance with the conditions of, this approval does not:

- i. relieve any person of any obligation to comply with any provision of any applicable statute, regulation or other legal requirement; or
- ii. limit in any way the authority of the Ministry to require certain steps be taken or to

require the owner to furnish any further information related to compliance with this approval.

- 3.10 For greater clarity, nothing in this approval shall be read to provide relief from regulatory requirements in accordance with section 38 of the *SDWA*, except as provided in Part 9.

#### **Adverse Effects**

- 3.11 Nothing in this approval shall be read as to permit: i) the discharge of a contaminant into the natural environment that causes or is likely to cause an adverse effect; or ii) the discharge of any material of any kind into or in any waters or on any shore or bank thereof or into or in any place that may impair the quality of the water of any waters.
- 3.12 All reasonable steps shall be taken to minimize and ameliorate any adverse effect on the natural environment or impairment of the quality of water of any waters resulting from the operation of the drinking-water system including such accelerated or additional monitoring as may be necessary to determine the nature and extent of the effect or impairment.
- 3.13 Fulfillment of one or more conditions imposed by this approval does not eliminate the requirement to fulfill any other condition of this approval or the requirements of any applicable statute, regulation, or other legal requirement resulting from any act or omission that causes or is likely to cause an adverse effect on the natural environment or the impairment of water quality.

#### **Change of Owner**

- 3.14 The owner or the operating authority, as the case may be, shall notify the Director, in writing, of any of the following changes within 30 days of the change occurring
- i. change of owner or operating authority;
  - ii. change of address;
  - iii. change of partners where the owner is or at any time becomes a partnership, and a copy of the most recent declaration filed under the Business Names Act, R.S.O. 1990, c. B17; or
  - iv. change of name of the corporation where the owner or operating authority is or at any time becomes a corporation, and a copy of the most current information filed under the Corporations Information Act, R.S.O. 1990, c. C.39.
- 3.15 In the event of any change in ownership of the drinking-water system, other than change to a successor municipality, the owner shall notify the successor and provide the successor with a copy of this approval, and the owner shall provide a copy of the notification to the district manager of the local office of the Ministry and the Director.

#### **Inspections**

- 3.16 No person shall hinder or obstruct a provincial officer in the performance of his or her duties, including any and all inspections authorized by the *SDWA*.

### **Information**

- 3.17 Any information requested, by the Ministry, concerning the drinking-water system and its operation under this approval, including but not limited to any records required to be kept by this approval shall be provided to the Ministry, upon request.
- 3.18 Records required by or created in accordance with this approval, unless specifically referenced in s. 12 of O. Reg. 170/03, shall be retained for at least 5 years in a location where a provincial officer who is inspecting the treatment system can conveniently view them.

## **PART 4 - PERFORMANCE**

### **Rated Capacity**

- 4.1 The drinking-water system shall not be operated to exceed the rated capacity for the maximum flow rate into the distribution system of 36,400 m<sup>3</sup>/d.

### **Increase to Rated Capacity**

- 4.2 Despite condition 4.1, the drinking water system may be operated at a rate above the rated capacity set out in condition 4.1 where necessary for:
- fighting a large fire; or
  - the maintenance of the drinking-water system.
- 4.3 Condition 4.2 shall not be construed to allow drinking-water to be supplied that does not meet all other applicable standards and legal requirements.

### **Management of Residue**

- 4.4 The annual average concentration of suspended solids in the effluent discharged from the backwash wastewater facilities to the St. Lawrence River shall not exceed 25 mg/L.

### **Performance of UV Disinfection Equipment (when operational)**

- 4.5 The UV disinfection equipment shall be installed and operated such that a continuous pass-through dose of at least 20 mJ/cm<sup>2</sup> is maintained throughout the life time of the UV lamps.

**PART 5 - MONITORING AND RECORDING****Flow measuring devices**

- 5.1 Install a sufficient number of flow-measuring devices within the drinking-water system to permit continuous measurement and recording of:
- i. the flow rate and daily volume of water conveyed into the treatment system; and
  - ii. the flow rate and daily volume of water conveyed from the treatment system to the distribution system.
- 5.2 Records shall be maintained that set out the parameters recorded in accordance with condition 5.1, and where a measured flow rate into the distribution system exceeds the maximum flow rate set out for that treatment system, in Part 4, the amount & date, of the exceedence shall also be recorded.

**Calibration of flow measuring devices**

- 5.3 All flow measuring devices must be checked and calibrated in accordance with the manufacturer's instructions.
- 5.4 If the manufacturer's instructions do not indicate how often to check and calibrate the flow measuring devices, the equipment must be checked and calibrated at least once every year during which the drinking-water system is in operation.

**UV monitoring (when operational)**

- 5.5 In addition of any other sampling, analysis and recording that may be required, continuous monitoring and recording with a minimum testing/reading and recording frequency of every four (4) hours, unless otherwise specified, shall be carried out for the following parameters related to the performance of UV disinfection equipment:
- i. UV intensity
  - ii. Calculated UV dose
  - iii. Flow rate
  - iv. lamp status
  - v. UV transmittance (monitoring and recording frequency daily using a portable device)

**Additional Sampling - Management of Residue**

- 5.6 In addition to any other sampling and analysis that may be required, sampling and analysis shall be undertaken for the parameters listed in **Table 5.1** at the listed frequencies and locations.

**Table 5.1 Management of Residue Sampling**

<u>Item</u>	<u>Parameter</u>	<u>Frequency</u>	<u>Location</u>
1.	Suspended Solids (composite)	Monthly	Point of discharge

- 5.7 For the purposes of **Table 5.1**, composite means the mean of three samples taken during the discharge event, with at least one sample taken immediately following the commencement of the discharge, one sample taken approximately at the mid-point of the discharge event and one sample taken immediately before the discharge ceases.

## **PART 6 - OPERATIONS AND MAINTENANCE**

### **Chemical standards**

- 6.1 All chemicals and materials used in the operation of the drinking-water system that come into contact with water within the system shall meet 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.
- 6.2 The most current chemical and material product registration documentation from a testing institution accredited by either the Standards Council of Canada or by the American National Standards Institution shall be available at all times for each chemical and material used in the operation of the drinking-water system that comes into contact with water within the system.
- 6.3 Condition 6.2 does not apply in the context of any particular chemical or material where the Owner has written documentation signed by the Director that indicates that the Ministry is satisfied that the chemical or material is acceptable for use within the drinking-water system and that chemical or material is only used as permitted by the documentation.

### **Operations manual**

- 6.4 An up-to-date operations manual shall be maintained and available for reference by all persons responsible for all or part of the operation of the drinking-water system.
- 6.5 The operations manual shall include at a minimum:
- the requirements of this approval and associated procedures;
  - the operation and maintenance recommendations from the most recent engineers' report;
  - procedures for the monitoring and recording of in-process parameters necessary for the control of the treatment system and assessing the performance of the drinking-water system;

- iv. procedures for the operation and maintenance of monitoring equipment;
  - v. contingency plans and procedures for the provision of adequate equipment and material to deal with emergencies, upset and equipment breakdown;
  - vi. procedures for the dealing with complaints related to the drinking-water system, including the recording of the nature of the complaint and any investigation and corrective action taken in respect of the complaint;
- 6.6 Procedures necessary to the operation of any physical alterations of the drinking-water system shall be incorporated into the operations manual prior to the alterations coming into operation.

### **Drawings**

- 6.7 Up-to-date Process Flow Diagrams (PFD) and Process and Instrumentation Diagrams (P&ID) for the treatment system shall be kept on site at the drinking water system.
- 6.8 All drawings and diagrams in the possession of the owner or operating authority that show the treatment system as constructed shall be retained.
- 6.9 An alteration to the treatment system shall be incorporated into Process Flow Diagrams (PFD), Process and Instrumentation Diagrams (P&ID), and record drawings and diagrams within one year of the substantial completion of the alteration and shall be retained and shall be made readily available for inspection by Ministry staff.

## **PART 7 - FUTURE ALTERATIONS**

### **Approved future alterations**

- 7.1 *Not Applicable*

### **Certificate of compliance**

- 7.2 *Not Applicable*

## **PART 8 - STUDIES AND UPGRADES REQUIRED**

- 8.1 *Not applicable*

### **Requirement not an approval**

8.2 *Not applicable* .

**PART 9 - RELIEF FROM REGULATORY REQUIREMENTS**

**Relief from regulatory requirements**

9.1 *Not Applicable*

**Conditions in exchange for relief from regulatory requirements**

9.2 *Not Applicable*

**SCHEDULE - A**

The following supporting documents form part of this approval.

1. Application for Approval dated August 24, 2007
  - Correspondence dated August 21, 2007 from The City of Brockville
  - Email dated November 28 & December 4, 2007 from Peter Raabe of the City of Brockville.
2. Application for Air Approval (Air) dated May 13, 2005
  - Correspondence dated May 13, 2005 from The City of Brockville
  - Dispersion Modelling Report prepared by Simcoe Engineering dated April 2005
3. Application for Approval dated April 26, 2004
  - Correspondence from CH2MHILL to MOE dated April 29, 2004 and August 6, 2004
4. Application for Approval dated January 29, 2003
  - Final Plans and Specifications prepared by CH2MHILL.
5. The original applications for approval, including design calculations, engineering drawings and reports, and other supporting documents prepared in support of any previous certificate(s) of approval issued for any works now approved and replaced by this approval, unless this approval states otherwise.

**This Certificate of Approval revokes and replaces Certificate(s) of Approval No. 2787-6E7LUJ issued on July 20, 2005**

*All or part of this decision may be reviewable in accordance with the provisions of Part X of the SDWA. In accordance with Section 129(1) of the Safe Drinking Water Act, Chapter 32 Statutes of Ontario, 2002, as*

APPENDIX E

*amended, you may by written notice served upon me and the Environmental Review Tribunal within 15 days after receipt of this notice, require a hearing by the Tribunal. Section 129(2) sets out a procedure upon which the 15 days may be extended by the Tribunal. Section 129(3) of the Safe Drinking Water Act, Chapter 32 Statutes of Ontario, 2002, provides that the Notice requiring the hearing shall state:*

1. The aspect of the decision, including the portion of the permit, licence, approval, order or notice of administrative penalty in respect of which the hearing is required; and
2. The grounds for review to be relied on by the person at the hearing

Except with leave of the Tribunal, a person requiring a hearing in relation to a reviewable decision is not entitled to,  
(a) a review of an aspect of the decision other than that stated in the notice requiring the hearing or  
(b) a review of the decision other than on the grounds stated in the notice

*The Notice should also include:*

3. The name of the appellant;
4. The address of the appellant;
5. The Certificate of Approval number;
6. The date of the Certificate of Approval;
7. The name of the Director;
8. The municipality within which the works are located;

*And the Notice should be signed and dated by the appellant.*

*This Notice must be served upon:*

The Secretary\*  
Environmental Review Tribunal  
2300 Yonge St., Suite 1700  
P.O. Box 2382  
Toronto, Ontario  
M4P 1E4

AND

The Director  
Part V, *Safe Drinking Water Act, 2002*  
Ministry of the Environment  
2 St. Clair Avenue West, Floor 12A  
Toronto, Ontario  
M4V 1L5

\* Further information on the Environmental Review Tribunal's requirements for an appeal can be obtained directly from the Tribunal at: Tel: (416) 314-4600, Fax: (416) 314-4506 or [www.ert.gov.on.ca](http://www.ert.gov.on.ca)

*The above noted water works are approved under Part V of the Safe Drinking Water Act.*

DATED AT TORONTO this 7th day of December, 2007



Aziz Ahmed, P.Eng.

APPENDIX E

Director  
Part V *of the Safe Drinking Water Act,*  
2002

NS/

c: District Manager, MOE Kingston - District  
Drinking Water Supervisor, MOE, Kingston  
Peter Raabe, The Corporation of the City of Brockville



FROM :

APPENDIX F  
PHONE NO.: 6133456163

003/009

Jul. 19 2004 12:42PM P2

Ministry of the Environment  
Eastern Region  
Technical Support Section  
Water Resources  
133 Dalton Ave  
Kingston ON K7L 4X6  
Fax: (613)548-6908  
Telephone: (613) 549-4000 Ext. 2624

Ministère de l'Environnement  
Direction régionale de l'Est  
Section du Soutien Technique  
Ressources en eau  
133 av Dalton  
Kingston ON K7L 4X6  
Télécopieur: (613)548-6908  
Téléphone : (613) 549-4000 Ext. 2624



Ontario

June 10, 2004

The Corporation of the City of Brockville  
1 King Street West, P. O. Box 5000  
Leeds and the Thousand Islands, ON K6V 7A5  
Canada

GJC/CZ  
MLH. MUN - Cpy  
DR - Cpy

RECEIVED  
JUN 16 2004  
RECORDED  
CLERK

RE: Permit To Take Water No. 8577-SZCP45  
City of Brockville Water Treatment Plant  
20 Rivers Avenue, Brockville, Ontario K6V 5R9  
Reference Number 1318-SVFQQ8

Dear Sir/Madam:

Please find attached a Permit to Take Water issued to the City of Brockville, which authorizes the withdrawal of water in accordance with the application for Permit to Take Water from the St. Lawrence River to supply the municipal waterworks system.

This permit expires on June 10, 2014 and shall be kept available at all times for inspection by Ontario Ministry of Environment staff.

Take notice that in issuing this Permit to Take Water, terms and conditions pertaining to the taking of water and to the results of the taking have been imposed. The terms and conditions have been designed to allow for the development of water resources, while providing reasonable protection to existing water uses and users.

Please note that it is the responsibility of the Permit Holder to ensure that all other approvals required by law are obtained for this project.

Yours truly,

Clyde Hammond

Clyde Hammond  
Director, Section 34, OWRA  
Eastern Region

File Storage Number: SI

FROM :

PHONE NO. : APPENDIX E  
6133456163

004/009

Jul. 19 2004 12:43PM P3



Ministry of the  
Environment  
Ministère de  
l'Environnement  
Ontario

AMENDED PERMIT TO TAKE WATER  
Surface Water  
NUMBER 8577-5ZCP45

Pursuant to Section 34 of the Ontario Water Resources Act, R.S.O. 1990 this Permit To Take Water is hereby issued to:

The Corporation of the City of Brockville  
1 King Street West, P. O. Box 5000  
Leeds and the Thousand Islands, Ontario, K6V 7AS  
Canada

For the water taking from: The St. Lawrence River

Located at: 20 Rivers Avenue  
Brockville, United Counties of Leeds and Grenville

For the purposes of this Permit, and the terms and conditions specified below, the following definitions apply:

DEFINITIONS

- (a) "Director" means any person appointed in writing as a Director pursuant to section 5 of the OWRA for the purposes of section 34, OWRA.
- (b) "Provincial Officer" means any person designated in writing by the Minister as a Provincial Officer pursuant to section 5 of the OWRA.
- (c) "Ministry" means Ontario Ministry of the Environment.
- (d) "District Office" means the Kingston District Office.
- (e) "Permit" means this Permit to Take Water No. 8577-5ZCP45 including its Schedules, if any, issued in accordance with Section 34 of the OWRA.
- (f) "Permit Holder" means The Corporation of the City of Brockville.
- (g) "OWRA" means the *Ontario Water Resources Act, R.S.O. 1990, c. O. 40*, as amended.

FROM :

PHONE NO. : APPENDIX F  
6133456163

005/009

Jul. 19 2004 12:43PM P4

*You are hereby notified that this Permit is issued subject to the terms and conditions outlined below:*

## TERMS AND CONDITIONS

### 1. Compliance with Permit

- 1.1 Except where modified by this Permit, the water taking shall be in accordance with the application for this Permit To Take Water, dated January 9, 2004 and signed by Peter Raabe, and all Schedules included in this Permit.
- 1.2 The Permit Holder shall ensure that any person authorized by the Permit Holder to take water under this Permit is provided with a copy of this Permit and shall take all reasonable measures to ensure that any such person complies with the conditions of this Permit.
- 1.3 Any person authorized by the Permit Holder to take water under this Permit shall comply with the conditions of this Permit.
- 1.4 This Permit is not transferable to another person.
- 1.5 This Permit provides the Permit Holder with permission to take water in accordance with the conditions of this Permit, up to the date of the expiry of this Permit. This Permit does not constitute a legal right, vested or otherwise, to a water allocation, and the issuance of this Permit does not guarantee that, upon its expiry, it will be renewed.
- 1.6 The Permit Holder shall keep this Permit available at all times at or near the site of the taking, and shall produce this Permit immediately for inspection by a Provincial Officer upon his or her request.
- 1.7 The Permit Holder shall report any changes of address to the Director within thirty days of any such change. The Permit Holder shall report any change of ownership of the property for which this Permit is issued within thirty days of any such change. A change in ownership in the property shall cause this Permit to be cancelled.

### 2. General Conditions and Interpretation

#### 2.1 Inspections

The Permit Holder must forthwith, upon presentation of credentials, permit a Provincial Officer to carry out any and all inspections authorized by the OWRA, the *Environmental Protection Act*, R.S.O. 1990, the *Pesticides Act*, R.S.O. 1990, or the *Safe Drinking Water Act*, S.O. 2002.

FROM :

PHONE NO. APPENDIX F 6133456163

006/009

Jul. 19 2004 12:44PM PS

## 2.2 Other Approvals

The issuance of, and compliance with this Permit, does not:

- (a) relieve the Permit Holder or any other person from any obligation to comply with any other applicable legal requirements, including the provisions of the *Ontario Water Resources Act*, and the *Environmental Protection Act*, and any regulations made thereunder; or
- (b) limit in any way the authority of the Director or a Provincial Officer to require certain steps be taken or to require the Permit Holder to furnish any further information related to this Permit.

## 2.3 Information

The receipt of any information by the Ministry, the failure of the Ministry to take any action or require any person to take any action in relation to the information, or the failure of a Provincial Officer to prosecute any person in relation to the information, shall not be construed as:

- (a) an approval, waiver or justification by the Ministry of any act or omission of any person that contravenes this Permit or other legal requirement; or
- (b) acceptance by the Ministry of the information's completeness or accuracy.

## 2.4 Rights of Action

The issuance of, and compliance with this Permit shall not be construed as precluding or limiting any legal claims or rights of action that any person, including the Crown in right of Ontario or any agency thereof, has or may have against the Permit Holder, its officers, employees, agents, and contractors.

## 2.5 Severability

The requirements of this Permit are severable. If any requirements of this Permit, or the application of any requirements of this Permit to any circumstance, is held invalid or unenforceable, the application of such requirements to other circumstances and the remainder of this Permit shall not be affected thereby.

## 2.6 Conflicts

Where there is a conflict between a provision of any submitted document referred to in this Permit, including its Schedules, and the conditions of this Permit, the conditions in this Permit shall take precedence.

## 3. Water Takings Authorized by This Permit

### 3.1 Expiry

This Permit expires on June 10, 2014. No water shall be taken under authority of this Permit after the expiry date.

### 3.2 Amounts of Taking Permitted

The Permit Holder shall only take water from the source, during the periods and at the rates and amounts of taking specified in Table A. Water takings are authorized only for the purposes specified in Table A.

Table A

Source Name (Area/Location)	Sources (Category)	Max. Num. of Days Taken	Max. Num. of Days Taken	Max. Taken per Day (litres)	Max. Num. of Days Taken	Max. Num. of Days Taken	Zone/ Easting/ Northing
1. St. Lawrence River	Municipal	Water Supply: 25278.00	24.00	36400000.00	365.00	18	444663 4936276
		Total Taking:		36400000.00			

### 4. Monitoring

- 4.1 The Permit Holder shall maintain a record of all water takings. This record shall include the dates and times of water takings, and the total measured amounts of water pumped per day for each day that water is taken under the authorization of this Permit. A separate record shall be maintained for each source. The Permit Holder shall keep all required records up to date and available at or near the site of the taking and shall produce the records immediately for inspection by a Provincial Officer upon his or her request.

### 5. Impacts of the Water Taking

#### 5.1 Notification

The Permit Holder shall immediately notify the local District Office of any complaint arising from the taking of water authorized under this Permit and shall report any action which has been taken or is proposed with regard to such complaint. The Permit Holder shall immediately notify the local District Office if the taking of water is observed to have any significant impact on the surrounding waters. After hours, calls shall be directed to the Ministry's Spills Action Centre at 1-800-268-6060.

#### 5.2 For Surface-Water Takings

The taking of water (including the taking of water into storage and the subsequent or simultaneous withdrawal from storage) shall be carried out in such a manner that streamflow is not stopped and is not reduced to a rate that will cause interference with downstream uses of water or with the natural functions of the stream.

### 6. Director May Amend Permit

The Director may amend this Permit by letter requiring the Permit Holder to suspend or reduce the taking to an amount or threshold specified by the Director. NO NUMBER SUSPENSION OR

FROM :

PHONE NO. APPENDIX F 6133456163

44000/009

Jul. 19 2004 12:45PM P7

reduction in taking shall be effective immediately and may be revoked at any time upon notification by the Director. This condition does not affect your right to appeal the suspension or reduction in taking to the Environmental Review Tribunal under the *Ontario Water Resources Act*, Section 100 (3).

*The reasons for the imposition of these terms and conditions are as follows:*

1. Condition 1 is included to ensure that the conditions in this Permit are complied with and can be enforced.
2. Condition 2 is included to clarify the legal interpretation of aspects of this Permit.
3. Conditions 3 through 6 are included to protect the quality of the natural environment so as to safeguard the ecosystem and human health and foster efficient use and conservation of waters. These conditions allow for the beneficial use of waters while ensuring the fair sharing, conservation and sustainable use of the waters of Ontario. The conditions also specify the water takings that are authorized by this Permit and the scope of this Permit.

FROM :

PHONE NO. APPENDIX E 8433456163

009/009

JUL. 19 2004 12:46PM PB

In accordance with Section 100 of the Ontario Water Resources Act, R.S.O. 1990, you may by written notice served upon me, the Environmental Review Tribunal and the Environmental Commissioner, Environmental Bill of Rights, R.S.O. 1993, Chapter 28, within 15 days after receipt of this Notice, require a hearing by the Tribunal. The Environmental Commissioner will place notice of your appeal on the Environmental Registry. Section 101 of the Ontario Water Resources Act, as amended provides that the Notice requiring a hearing shall state:

1. The portions of the Permit or each term or condition in the Permit in respect of which the hearing is required, and;
2. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

In addition to these legal requirements, the Notice should also include:

3. The name of the appellant;
4. The address of the appellant;
5. The Permit to Take Water number;
6. The date of the Permit to Take Water;
7. The name of the Director;
8. The municipality within which the works are located;

And the Notice should be signed and dated by the appellant.

This notice must be served upon:

The Secretary  
Environmental Review Tribunal  
2300 Yonge Street, 12th Floor  
Toronto, Ontario M4P 1E4

AND

The Environmental Commissioner  
1075 Bay Street  
6th Floor, Suite 605  
Toronto, Ontario M5S 2W5

AND

The Director, Section 34  
Ontario Water Resources Act,  
RSO 1990,  
Ministry of Environment  
133 Dalton Ave  
Kingston ON K7L 4X6  
Fax: (613)548-6908

Further information on the Environmental Review Tribunal's requirements for an appeal can be obtained directly from the Tribunal:

by telephone at (416) 314-4600

by fax at (416) 314-4506

by e-mail at [www.erl.gov.on.ca](http://www.erl.gov.on.ca)

This instrument is subject to Section 38 of the Environmental Bill of Rights that allows residents of Ontario to seek leave to appeal the decision on this instrument. Residents of Ontario may seek to appeal for 15 days from the date this decision is placed on the Environmental Registry. By accessing the Environmental Registry, you can determine when the leave to appeal period ends.

This Permit cancels and replaces Permit Number 94-P-4033, issued on 1994/06/30.

Dated at Kingston this 10th day of June, 2004.



Clyde Hammond  
Director, Section 34  
Ontario Water Resources Act, R.S.O. 1990

Page 6 - NUMBER 8577-5ZCP45

Page 64 of 80

Page 101 of 159



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APPENDIX G 1999

**CERTIFICATE OF APPROVAL**

WATER

NUMBER 7-0495-99-006

Township of Elizabethtown  
6544 New Dublin Road, R. R. No. 2  
Addison, Ontario  
K0E 1A0

*You have applied in accordance with Section 52 of the Ontario Water Resources Act for approval of:  
watermains to be constructed in the Township of Elizabethtown as follows:*

<u>STREET</u>	<u>FROM</u>	<u>TO</u>
Lily Bay Drive North (east leg)	County Road No. 2	approx. 140 m N. of County Road No. 2
Paul Road	County Road No. 2	approx. 190 m S.W. of County Road No. 2

all in accordance with the final plans and specifications prepared by  
Ainley Graham and Associates Limited, Consulting Engineers.

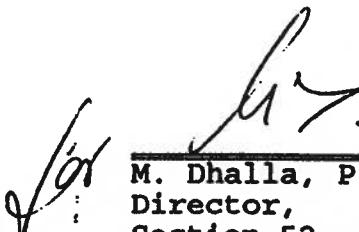
*The above noted water works are approved under Section 52 of the Ontario Water Resources Act.*

DATED AT TORONTO this 5th day of July, 1999.

THIS IS A TRUE COPY OF THE  
ORIGINAL NOTICE MAILED

ON July 5/99

SIGNED

  
\_\_\_\_\_  
M. Dhallal, P.Eng.,  
Director,  
Section 52,  
Ontario Water Resources Act.

HV/gp

Attn -Mr. S. McDonald, Clerk-Treasurer, Township of Elizabethtown  
cc: -District Manager, MOE Kingston District Office  
-Ainley Graham and Associates Limited ✓



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APPENDIX G

**AMENDMENT TO CERTIFICATE OF APPROVAL**

**WATER**

**NUMBER 7-0323-98-006**

**Page 1 of 3**

**NOTICE**

Township of Elizabethtown  
R.R. # 2  
6544 New Dublin Road  
Addison, Ontario  
K0E 1A0

*You are hereby notified that the approval issued under Certificate of Approval No. 7-0323-98-006 dated, May 15, 1998 , for approval for watermains, watermeter chamber and water booster pumping station and associated appurtenances to be constructed in the Township of Elizabethtown, is amended as follows:*

**Amendments**

Condition No. 1 on Certificate of Approval No. 7-0323-98-006 dated May 15, 1998, is satisfied for construction of the following watermains, water booster pumping station and appurtenances:

**WATERMAINS**

<b>STREET</b>	<b>FROM</b>	<b>TO</b>
Halleck's Road	County Road No. 2	Eleanor Fulford Crescent
Fulford Point Road	County Road No. 2	Approx. 90 m south of County Road No. 2
Eleanor Fulford Crescent	Halleck's Road	Approx. 200 m West and North of Halleck's Road
McKenzie Lane	Butternut Bay Road	Brockmere Cliffs Drive
Butternut Bay Road	McKenzie Lane	Approx. 160 m east of McKenzie Lane
Easement	Butternut Bay Road (Approx. 160 m east of McKenzie Lane)	Approx. 50 m north of Butternut Bay Road
Fraser Lane	Butternut Bay Road	Approx. 120 m southerly
County Road No. 2	West of Highway No. 401 interchange	East Boundary Limit of Township of Front of Yonge



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APPENDIX G

**AMENDMENT TO CERTIFICATE OF APPROVAL**

**WATER**

**NUMBER 7-0323-98-006**

**Page 2 of 3**

**WATER BOOSTER PUMPING STATION**

installation of an inground water booster pumping station to be constructed on the North side of County Road No. 2 approx. 65 m west of Lily Bay Drive North (easterly leg), housing two (2) inline centrifugal water booster pumps each having a rated capacity of 14.5 L/s at a TDH of approx. 12 m (one duty, one standby), internal and external piping and valves, pressure gauges, bypass piping and valves (including pressure reducing valve), sump pit and pump, safety ladder, vandalproof and watertight access hatchways, forced air venting, heating, together with an adjacent above ground vandalproof and weatherproof control panel enclosure;

all in accordance with the plans and specifications prepared by Ainley Graham and Associates Limited, Consulting Engineers.

This Notice shall constitute part of the approval issued under Certificate of Approval No. 7-0323-98-006 dated May 15, 1998.

*In accordance with Section 100 of the Ontario Water Resources Act, R.S.O. 1990, Chapter O, as amended, you may by written notice served upon me and the Environmental Appeal Board within 15 days after receipt of this Notice, require a hearing by the Board. Section 101 of the Ontario Water Resources Act, provides that the Notice requiring the hearing shall state:*

1. The portions of the approval or each term or condition in the approval in respect of which the hearing is required, and;
2. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

*The Notice should also include:*

3. The name of the appellant;
4. The address of the appellant;
5. The Certificate of Approval number;
6. The date of the Certificate of Approval;
7. The name of the Director;
8. The municipality within which the water works are located;

*And the Notice should be signed and dated by the appellant.*



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APPENDIX G

AMENDMENT TO CERTIFICATE OF APPROVAL

WATER

NUMBER 7-0323-98-006

Page 3 of 3

*This Notice must be served upon:*

The Secretary,  
Environmental Appeal Board,  
2300 Yonge Street, 12th Floor,  
P.O. Box 2382,  
Toronto, Ontario.  
M4P 1E4

AND

The Director,  
Section 52, Ontario Water Resources Act,  
Ministry of the Environment,  
250 Davisville Avenue, 3rd Floor,  
Toronto, Ontario.  
M4S 1H2

*The above noted water works are approved under Section 52 of the Ontario Water Resources Act.*

DATED AT TORONTO this 17th day of September, 1998.

THIS IS A TRUE COPY OF THE  
ORIGINAL CERTIFICATE MAILED

ON ..... Sept. 17 '98 .....

(Signed)

M. Dhallal, P. Eng.,  
Director,  
Section 52,  
Ontario Water Resources Act.

JC/ld

Attn.: -Stephen McDonald, Clerk, Township of Elizabethtown  
cc: ✓John D. Krug, P. Eng., Ainley Graham and Associates Limited  
-District Manager, MOE Kingston District.



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APPENDIX G

**AMENDMENT TO CERTIFICATE OF APPROVAL**

**WATER**

**NUMBER 7-0323-98-006**

**Page 1 of 2**

98001.1

**NOTICE**

Township of Elizabethtown  
6544 New Dublin Road, R.R. #2  
Addison, Ontario  
K0E 1A0

*You are hereby notified that the approval issued under Certificate of Approval No. 7-0323-98-006 dated May 15, 1998 for approval for watermains, watermeter chamber and water booster pumping station and associated appurtenances to be constructed in the Township of Elizabethtown, is hereby amended to include the following:*

**Amendments**

Condition No. 1 on Certificate of Approval No. 7-0323-98-006 dated May 15, 1998, is satisfied for construction of the following watermains and appurtenances:

**NET**

**Watermains**

	<u>FROM</u>	<u>TO</u>
McDonald Road	County Road No. 2	County Road No. 2
Brockmere Cliffs Drive	County Road No. 2	Approx. 200 m E. of Butternut Bay Road
Easement and Highway, 401 crossing	Brockmere Cliffs Drive	County Road No. 2
Long Beach Drive	County Road No. 2	Approx. 210 m W. of County Road No. 2
Lilly Bay Drive	County Road No. 2	Lambton Lane
Lambton Lane	Lilly Bay Drive	Approx. 130 m W. of Lilly Bay Drive
Hudson Point Road	Approx. 180 m S. of County Road No. 2	Approx. 110 m N. of County Road No. 2

all in accordance with the plans and specifications prepared by Ainley Graham and Associates Limited, Consulting Engineers.

This Notice shall constitute part of the approval issued under Certificate of Approval No. 7-0323-98-006 dated May 15, 1998.



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APPENDIX G

AMENDMENT TO CERTIFICATE OF APPROVAL

WATER

NUMBER 7-0323-98-006

Page 2 of 2

In accordance with Section 100 of the Ontario Water Resources Act, R.S.O. 1990, Chapter 0.40, as amended, you may by written notice served upon me and the Environmental Appeal Board within 15 days after receipt of this Notice, require a hearing by the Board. Section 101 of the Ontario Water Resources Act, provides that the Notice requiring the hearing shall state:

1. The portions of the approval or each term or condition in the approval in respect of which the hearing is required, and;
2. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

The Notice should also include:

3. The name of the appellant;
4. The address of the appellant;
5. The Certificate of Approval number;
6. The date of the Certificate of Approval;
7. The name of the Director;
8. The municipality within which the water works are located;

And the Notice should be signed and dated by the appellant.

This Notice must be served upon:

The Secretary,  
Environmental Appeal Board,  
2300 Yonge Street, 12th Floor,  
P.O. Box 2382,  
Toronto, Ontario.  
M4P 1E4

AND

The Director,  
Section 52, Ontario Water Resources Act,  
Ministry of the Environment,  
250 Davisville Avenue, 3rd Floor,  
Toronto, Ontario.  
M4S 1H2

The above noted water works are approved under Section 52 of the Ontario Water Resources Act.

DATED AT TORONTO this 28th day of July, 1998.

THIS IS A TRUE COPY OF THE  
ORIGINAL NOTICE, MAILED

CN

*July 29/98*

M. Dhillon, P.Eng.,  
Director,  
Section 52,  
Ontario Water Resources Act.

JM/ba

Acct: -Mr. S. McDonald, Clerk-Treasurer, Township of Elizabethtown  
cc: -District Manager, MOE Kingston District Office  
-Ainley Graham and Associates Limited



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APPENDIX G

**AMENDMENT TO CERTIFICATE OF APPROVAL**

**WATER**

**NUMBER 7-0323-98-006**

**Page 1 of 2**

**NOTICE**

Township of Elizabethtown  
6544 New Dublin Road, R.R. # 2,  
Addison, Ontario  
K0E 1A0

*You are hereby notified that the approval issued under Certificate of Approval No. 7-0323-98-006, dated May 15, 1998, for approval for watermains, watermeter chamber and water booster pumping station and associated appurtenances to be constructed in the Township of Elizabethtown, is hereby amended to include the following:*

**Amendments**

Condition No. 1 on Certificate of Approval No. 7-0323-98-006 dated May 15, 1998, is satisfied for construction of the following watermains and appurtenances:

**FROM**

**FROM**

**TO**

**Watermains**

County Road No. 2

West Boundary Limit  
of City of Brockville  
(Country Club Estates Place)

Brockmere Cliffs Drive

including inground watermeter chamber on County Road No. 2 at the West Boundary Limit of the City of Brockville;

all in accordance with the plans and specifications prepared by Ainley Graham and Associates Limited, Consulting Engineers.

This Notice shall constitute part of the approval issued under Certificate of Approval No. 7-0323-98-006 dated May 15, 1998.

*In accordance with Section 100 of the Ontario Water Resources Act, R.S.O. 1990, Chapter O.40, as amended, you may by written notice served upon me and the Environmental Appeal Board within 15 days after receipt of this Notice, require a hearing by the Board. Section 101 of the Ontario Water Resources Act provides that the Notice requiring the hearing shall state:*

1. The portions of the approval or each term or condition in the approval in respect of which the hearing is required, and;



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APPENDIX G

**AMENDMENT TO CERTIFICATE OF APPROVAL**

**WATER**

**NUMBER 7-0323-98-006**

**Page 2 of 2**

2. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

*The Notice should also include:*

3. The name of the appellant;
4. The address of the appellant;
5. The Certificate of Approval number;
6. The date of the Certificate of Approval;
7. The name of the Director;
8. The municipality within which the water works are located;

*And the Notice should be signed and dated by the appellant.*

*This Notice must be served upon:*

The Secretary,  
Environmental Appeal Board,  
2300 Yonge Street, 12th Floor,  
P.O. Box 2382,  
Toronto, Ontario.  
M4P 1E4

AND

The Director,  
Section 52, Ontario Water Resources Act,  
Ministry of the Environment,  
250 Davisville Avenue, 3rd Floor,  
Toronto, Ontario.  
M4S 1H2

*The above noted water works are approved under Section 52 of the Ontario Water Resources Act.*

**DATED AT TORONTO this 10th day of June, 1998.**

THIS IS A TRUE COPY OF THE  
ORIGINAL NOTICE MAILED

ON June 11/98

SIGNED

M. Dhailla, P.Eng.,  
Director,  
Section 52,  
Ontario Water Resources Act.

JMC/ba

Attn: -Mr. S. McDonald, Clerk-Treasurer, Township of Elizabethtown  
cc: -District Manager, MOE Kingston District Office  
-Ainley Graham and Associates Limited ✓



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APPENDIX G

**CERTIFICATE OF APPROVAL**

**WATER**

**NUMBER 7-0323-98-006**

**Page 1 of 4**

**Township of Elizabethtown  
6544 New Dublin Road, R.R. # 2,  
Addison, Ontario  
K0E 1A0**

*You have applied in accordance with Section 52 of the Ontario Water Resources Act for approval of:  
watermains, watermeter chamber and water booster pumping station and associated appurtenances to be  
constructed in the Township of Elizabethtown, as follows:*

<u>STREET</u>	<u>FROM</u>	<u>TO</u>
County Road No. 2	West Boundary Limit of City of Brockville	East Boundary Limit of Township of Front of Yonge
Brockmere Cliffs Drive	County Road No. 2	Butternut Bay Road
Easement across Hwy. 401	Brockmere Cliffs Drive	County Road No. 2
Long Beach Drive	County Road No. 2	Cul De Sac
Hudson's Point Road	Approx. 250 m North of County Road No. 2	Approx. 350 m South of County Road No. 2
Eleanor Fulford Crescent	County Road No. 2	Approx. 500 m North of of County Road No. 2
Lambian Lane (all)	County Road No. 2	County Road No. 2
Lilly Bay Drive	Approx. 250 m North of County Road No. 2	Approx. 250 m South of County Road No. 2
McDonald Road	County Road No. 2	County Road No. 2
Butternut Bay Road	Brockmere Cliffs Drive	End of Road
Zoie Lane	Butternut Bay Road	End of Lane
Fraser Lane	Butternut Bay Road	End of Lane



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APPENDIX G

**CERTIFICATE OF APPROVAL**

**WATER**

**NUMBER 7-0323-98-006**

**Page 2 of 4**

**STREET**

**FROM**

**TO**

Block 38

Butternut Bay Road

End of Lane

Highway 401

Brockmere Cliffs Drive

County Road No. 2

**WATERMETER CHAMBER**

installation of an inground watermeter chamber to be constructed on County Road No. 2 at the West Boundary Limit of the City of Brockville, equipped with a watermeter and strainer, spool piece, piping and valves (including inlet check valve), bypass piping and valves, sump pit, safety ladder, vandalproof and watertight access hatchway and gravity venting;

**WATER BOOSTER PUMPING STATION**

installation of an inground water booster pumping station to be constructed on the North side of County Road [REDACTED] approx. 250 m west of Hudson's Point Road, housing two (2) inline water booster pumps each having a capacity of 14.5 L/s at a TDH of approx. 12 m (one duty, one standby), internal and external piping and valves, pressure gauges, bypass piping and valves (including pressure reducing valve), sump pit, safety ladder, vandalproof and watertight access hatchways, forced air venting, heating, together with an adjacent above ground vandalproof and weatherproof control panel enclosure;

including stub watermains, service pipes, fire hydrants and fire hydrant leads from the distribution main to the street line, all in accordance with the design brief and enclosed plans prepared by Ainley Graham and Associates Limited, Consulting Engineers and BFC Utilities and the Class Environmental Assessment report prepared by The Thompson Rosemount Group, and all additional stub watermains, service pipes, fire hydrants and fire hydrant leads from the distribution main to the street line not included in the above final plans as may be approved by the operating authority in the future.

*You are hereby notified that this approval is issued subject to the following terms and conditions outlined below:*

**TERMS AND CONDITIONS**

1. The Owner shall not construct, or allow the construction of any portion of the works until the detailed design drawings, specifications and an engineer's report containing detailed design calculations for that portion of the works have been submitted to and approved by the Director.



2. The operating authority shall not approve any additional stub watermains, service pipes, fire hydrants, and fire hydrant leads to the distribution main not included in the final plans referred to above unless it has reviewed the hydraulic capacity of the water distribution system and the water supply/treatment works and has concluded that the additional stub watermains, service pipes, fire hydrants and fire hydrant leads, together with all existing and previously approved stub watermains, service pipes; fire hydrants and fire hydrant leads will not overload either the water distribution system or the water supply/treatment works and has recorded its review and conclusion in writing. This record shall be maintained by the operating authority and shall be summarized in a yearly report.

*The reasons for the imposition of these terms and conditions are as follows:*

1. Condition no. 1 is included due to the provisional nature of the supporting documentation submitted by the Owner with the application ofr approval. The Director has only approved the works in principle, and this condition will ensure that, in accordance with the provisions of the Ontario Water Resources act, prior to the commencement of the construction of any part of the works, the Director will have the opportunity to review detailed design drawings, specifications and an engineer's report containing detailed design calculations for that portion of the works, in order to determine the proposed works' capability to comply with the Ministry's requirements stipulated in the terms and conditions of the certificate.

- Condition no. 2 is being imposed to ensure that all proposed watermain connections, including future connections, will be serviced adequately by the water distribution system and will be within the capacity of the water supply/treatment works to supply water of sufficient quantity, pressure and potability both in terms of public health and aesthetic criteria.

*In accordance with Section 100 of the Ontario Water Resources Act, R.S.O. 1990, Chapter O.40, as amended, you may by written notice served upon me and the Environmental Appeal Board within 15 days after receipt of this Notice, require a hearing by the Board. Section 101 of the Ontario Water Resources Act, provides that the Notice requiring the hearing shall state:*

1. The portions of the approval or each term or condition in the approval in respect of which the hearing is required, and;
2. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

*The Notice should also include:*

3. The name of the appellant;
4. The address of the appellant;
5. The Certificate of Approval number;
6. The date of the Certificate of Approval;
7. The name of the Director;
8. The municipality within which the water works are located;



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CERTIFICATE OF APPROVAL  
WATER  
NUMBER 7-0323-98-006  
Page 4 of 4

*And the Notice should be signed and dated by the appellant.*

*This Notice must be served upon:*

The Secretary,  
Environmental Appeal Board,  
2300 Yonge Street, 12th Floor,  
P.O. Box 2382,  
Toronto, Ontario,  
M4P 1E4

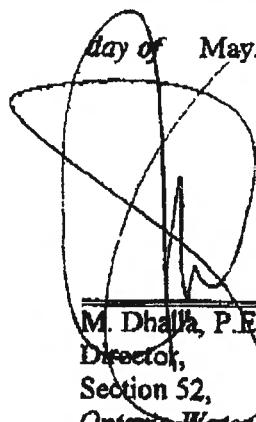
AND

The Director,  
Section 52, Ontario Water Resources Act,  
Ministry of the Environment,  
250 Davisville Avenue, 3rd Floor,  
Toronto, Ontario.  
M4S 1H2

*The above noted water works are approved under Section 52 of the Ontario Water Resources Act.*

DATED AT TORONTO this 15th

Day of May, 1998.



M. Dhallia, P. Eng.,  
Director,  
Section 52,  
Ontario Water Resources Act.

JC/ld

Attn.: -Mr. S. McDonald, Clerk, Township of Elizabethtown  
cc: -Mr. J.D. Krug, P. Eng., Ainley Graham and Associates Limited  
-The Thompson Rosemount Group  
✓-District Manager, MOE Kingston District Office



Brockville Public Utilities Commission  
25 Front Avenue West  
Brockville, Ontario  
K6V 4J2

*You have applied in accordance with Section 52 of the Ontario Water Resources Act for approval of:*

A watermain and appurtenances to be constructed in the City of Brockville, as follows:

<u>STREET</u>	<u>FROM</u>	<u>TO</u>
King Street West	Country Club Estates Place	River Avenue

including stub watermains, fire hydrants, fire hydrant leads and service pipes from the distribution main to the street line, all in accordance with final plans and specifications prepared by Ainley Graham and Associates Limited, Consulting Engineers, and all additional stub watermains, fire hydrants, fire hydrant leads and service pipes from the distribution main to the street line not included in the above final plans and specifications as may be approved by the operating authority in the future.

*You are hereby notified that this approval is issued subject to the terms and conditions outlined below:*

#### TERMS AND CONDITIONS

1. The operating authority shall not approve any additional stub watermains, fire hydrants, fire hydrant leads and service pipes to the distribution main not included in the documents referred to above unless it has reviewed the hydraulic capacity of the water distribution system and the water supply works and has concluded that the additional stub watermains, fire hydrants, fire hydrant leads and service pipes together with all existing and previously approved stub watermains, fire hydrants, fire hydrant leads and service pipes will not overload either the water distribution system or the water supply/treatment works and has recorded its review and conclusion in writing. This record shall be maintained by the operating authority and shall be summarized in a yearly report.

*The reasons for the imposition of these terms and conditions are as follows:*

1. This condition is being imposed to ensure that all proposed watermain connections, including future connections, will be serviced adequately by the water distribution system and will be within the capacity of the water supply/treatment works to supply water of sufficient quantity, pressure and potability both in terms of public health and aesthetic criteria.

*In accordance with Section 100 of the Ontario Water Resources Act, R.S.O. 1990, Chapter  
as amended, you may by written notice served upon me and the Environmental Appeal Board within 15  
after receipt of this Notice, require a hearing by the Board. Section 101 of the Ontario Water Resources*  
*Act, provides that the Notice requiring the hearing shall state:*



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**CERTIFICATE OF APPROVAL**  
**WATER**  
**NUMBER 7-0457-98-006**  
**Page 2 of 2**

1. The portions of the approval or each term or condition in the approval in respect of which the hearing is required, and;
2. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

*The Notice should also include:*

3. The name of the appellant;
4. The address of the appellant;
5. The Certificate of Approval number;
6. The date of the Certificate of Approval;
7. The name of the Director;
8. The municipality within which the water works are located;

*And the Notice should be signed and dated by the appellant.*

*This Notice must be served upon:*

The Secretary,  
Environmental Appeal Board,  
0 Yonge Street, 12th Floor,  
P.O. Box 2382,  
Toronto, Ontario.  
M4P 1E4

AND

The Director,  
Section 52, Ontario Water Resources Act,  
Ministry of the Environment,  
250 Davisville Avenue, 3rd Floor,  
Toronto, Ontario.  
M4S 1H2

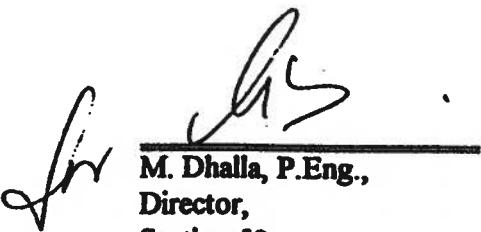
*The above noted water works are approved under Section 52 of the Ontario Water Resources Act.*

*DATED AT TORONTO this 23rd day of June, 1998.*

THIS IS A TRUE COPY OF THE  
ORIGINAL CERTIFICATE MAILED

ON ..... 23/98 .....

\_\_\_\_\_  
Signed

  
M. Dhalla, P.Eng.,  
Director,  
Section 52,  
Ontario Water Resources Act.

GL/d

cc: -Mr. G.A. Eamer, General Manager, Brockville Public Utilities Commission  
 -Mr. S. McDonald, Clerk, City of Brockville  
 Mr. J. Krug, P. Eng., Ainley Graham and Associates Limited,  
 -District Manager, MOE Kingston District Office



## 2010 LOSS WATER REPORT

	(m3)
Water Pumped from Water Treatment Plant	4,128,747
<b>Accounted for Water</b>	
Water sold to customers	
Residential	1,233,720
Industrial	1,964,310
Sales to Elizabethtown System (East)	105,841
Elizabethtown-Kitley West as per Totalizer	93,977
Total Billed Water	3,397,848
<b>Unaccounted for Water</b>	<b>730,899</b>
<b>Unmetered Accounted for Water</b>	
Watermain Breaks	41,507
Anti-Freeze Taps.	15,076
Fire Fighting and Training	25,356
Localized Flushing for Sampling and Complaints	6,441
Hydrant Fire Flow testing	20,400
Water flowed for lead testing	0
Flushing Stations	239,732
Parks and Recreation Water Use	8,081
<b>Total Unmetered accounted for water</b>	<b>356,593</b>
<b>Total Loss Water</b>	<b>374,306</b>
Percentage of Lost Water	9.07%

Steve Allen, C.E.T.  
February 3, 2011



*Township of Elizabethtown-Kitley*

**2010 LOSS WATER REPORT**

(m<sup>3</sup>)

Flow Through Totalizer meter	93,977
<b>Accounted for Water</b>	
Water sold to customers	
Residential (west)	46,939
Total Billed Water	46,939
<b>Unaccounted for Water</b>	
<b>Unmetered Accounted for Water</b>	
Watermain Breaks	0
Anti-Freeze Taps.	0
Fire Fighting and Training	0
Localized Flushing for Sampling and Complaints	0
Hydrant Fire Flow testing	0
Water flowed for lead testing	0
Flushing Stations	44,108
Parks and Recreation Water Use	0
<b>Total Unmetered accounted for water</b>	<b>44,108</b>
<b>Total Loss Water</b>	<b>2,930</b>
<b>Percentage of Loss Water</b>	
	3.12%

Steve Allen, C.E.T.  
February 3, 2011

**FEBRUARY 9, 2011**

**REPORT TO FINANCE & ADMINISTRATION & OPERATIONS – FEBRUARY 15, 2011**

**2011-018-02**

**2010 WORK PLAN  
FOURTH QUARTER REPORT**

**BOB CASSELMAN  
CITY MANAGER**

**RECOMMENDATION**

THAT report 2011-018-02 2010 Work Plan Quarterly Report, be received for information purposes.

**PURPOSE**

This report covers the fourth quarter of 2010. The purpose of the report is to keep Council and the public current with performance and operational challenges associated with the 2010 Work Plans.

**BACKGROUND**

This report will be submitted quarterly, details of which are outlined in Schedule 1.

**Analysis/Options**

There are a number of significant work plan initiatives that are currently underway including:

**1. Official Plan**

A final draft of the Official Plan has been developed based upon public input and Council direction. Further consideration of Official Plan deferred to first quarter of 2011 due to Election and Budget processes.

**2. Water Pollution Control Centre (WPCC)**

The \$46 Million WPCC Secondary Treatment capital project remains within budget and on schedule. The City has requested an expansion to the scope of work to include upgrades to the main pumping station and the twinning of our truck line from the main pumping station along King Street to the treatment facility.

Financing of \$4.4 Million has been secured through the Federation of Canadian Municipalities (FCM). Application for additional long term funding of \$4.6 Million has been made through FCM with a decision date of April, 2011.

3. Maritime Discovery Centre

An Agreement of Purchase and Sale was received December 2, 2010. Negotiations are ongoing with an anticipated completion date first quarter 2011.

Permits relating to the podium have been issued. Permits relating to the condominium tower are currently under review.

4. Waste Management Master Plan

A draft Waste Management Master Plan has been completed and issued for public comment in December 2010. The results of stakeholder input to be incorporated into a staff report with recommendations on future long-term waste management strategy in the first quarter of 2011.

5. Corporate Strategic Plan

The City of Brockville completed its first Strategic Plan in April, 2009. This document established corporate goals / objectives, strategic initiatives to achieve same and specific targets to achieve over a five (5) year period.

The Strategic Plan has been reviewed and endorsed by the 2010-14 Council and will form the basis of Departmental Work Plans during this time period. The Manager of Strategic Initiatives is in the process of completing an annual report outlining the progress to date relating to Strategic Plan targets.

## **FINANCIAL IMPLICATIONS**

None at this time.

## **CONCLUSION**

Quarterly reports with respect to status of Work Plans provides for both Performance Measurement and Staff Accountability.



B. Casselman, City Manager

2010 DEPARTMENT GOALS/OBJECTIVES					
ADMINISTRATION	1 <sup>ST</sup> QTR.	2 <sup>ND</sup> QTR.	3 <sup>RD</sup> QTR.	4 <sup>TH</sup> QTR.	COMMENTS/BARRIERS
<b>Corporate Strategic Plan</b>					
1. Assist Council in implementation of Corporate Strategic Plan	Integration of Strategic Plan goals/objectives into departmental work plans/2010 budget. Ongoing promotion of Strategic Plan throughout budget process/speaking engagements				
2. Communicate Strategic Plan to constituents and stakeholders	Integration of Strategic Plan goals/objectives into departmental work plans/2010 budget. Ongoing promotion of Strategic Plan throughout budget process/speaking engagements	Rotary Club speaking engagement	Ongoing presentations of Strategic Plan	Ongoing presentations of Strategic Plan	
3. Implement Strategic Plan Initiatives	Manager of Strategic Initiatives appointed Commencement May/2010	No Action	Bldg. & Energy Audit completed. Project Mgmt. of energy retrofits in several municipal facilities. Project Mgmt. of Project Encore, Municipal upgrades to Memorial Centre & Youth Arena.		
Carbon Baseline Energy Management Action Plan Develop Carbon Reduction Plan Building & Energy Audits	Council approval Jan. 19/2010. Implementation date April, 2010	- Transition date – April 12, 2010 - Staffing adjustments completed - GWC/NPC retrofits completed. Water Plants retrofit 3 <sup>rd</sup> Quarter			
4. Complete and Implement Corporate Reorganizational Review		Council presentation 3 <sup>rd</sup> Quarter	Council Presentation 4 <sup>th</sup> Quarter	Incomplete – Council presentation 1 <sup>st</sup> Quarter 2011	
5. Develop/Enhance Corporate Communications Strategy	Draft policy completed Council presentation 2 <sup>nd</sup> Quarter				

2010 DEPARTMENT GOALS/OBJECTIVES					
ADMINISTRATION	1 <sup>ST</sup> QTR.	2 <sup>ND</sup> QTR.	3 <sup>RD</sup> QTR.	4 <sup>TH</sup> QTR.	COMMENTS/BARRIERS
6. Service Delivery Reviews - Review of process/results, further action		Draft status report Completed.	Council Presentation 4 <sup>th</sup> Quarter	Council presentation Nov./2010	
7. Student Internship Program – oversee and monitor intern	Intern performance assessment completed. Departmental work assignments completed	Intern program completed			
8. Physician Recruitment Program – jointly administer Program	Ongoing	Ongoing	Ongoing	Annual report 1 <sup>st</sup> Qtr. 2011	
9. Renegotiate Elizabethtown/Kitley – Water/Wastewater Agreement	No Action	No Action	Draft W/S Agreement completed		
10. Review Joint Services Cost Sharing Formula - Follow up on previous work with separated municipalities - Develop recommendations with Mayor	Report recommendations submitted to Mayor	No further action required			
<u>Project Facilitation</u>	MOU approved by Council Jan. 12/2010	Ongoing attendance at MDC meeting BCF progress payments/ submissions Brownfield Agreement amendment approved by Council	- Site remediation compl. - RSC obtained - Bldg. permit submitted for approval - Brownfields Agreements Executed - Site plan approval o/s - Broad Street Parking Plan established	- Site remediation compl. - RSC obtained - Bldg. permit submitted for approval - Brownfields Agreements Executed - Site plan approval o/s - Broad Street Parking Plan established	
- Maritime Discovery Centre	Ongoing discussions Brownfields Agreement Remediation of Site	Draft Phase 1 Environmental Audit completed	- Brownfields Agreement Executed - Site plan finalized - RSC submitted to MOEE Acknowledgment pending	- RSC acknowledged by MOEE - Bldg. permit issued	
- Brockville Landings Inc.					

2010 DEPARTMENT GOALS/OBJECTIVES					
ADMINISTRATION	1 <sup>ST</sup> QTR.	2 <sup>ND</sup> QTR.	3 <sup>RD</sup> QTR.	4 <sup>TH</sup> QTR.	COMMENTS/BARRIERS
- Roof Top Solar Projects	FCM Financing confirmed Draft Hydro One agreement completed RFP completed	FIT Application approved Memorial Centre	Memorial Centre - Contract awarded - Hydro needs assessment Completed - approval Pending - FCM Funding modified	Gord Watts Centre - FIT application submitted - RFP completed - Contract awarded Conditional upon FIT Application approval	- Conditional Bldg. permit Approved  - Racking installation Commenced

ENVIRONMENTAL SERVICES DEPARTMENT		2010 DEPARTMENT GOALS/OBJECTIVES			COMMENTS/BARRIERS
		1 <sup>ST</sup> QTR.	2 <sup>ND</sup> QTR.	3 <sup>RD</sup> QTR.	4 <sup>TH</sup> QTR.
<u>Corporate Objectives</u>					
1. WPCC Secondary Treatment - Construction Project Management	Tender awarded Jan. 12, construction commenced Feb. 5, 2010.	Construction work is ongoing.	Construction ongoing, within budget and on schedule.	Construction ongoing, within budget and on schedule.	
2. Waste Water System Capacity - Ongoing completion of corrective actions pursuant to report 2007-144-08	Draft report for the landfill leachate system has been completed. MOE recirculation study is on-hold.	Draft report for the landfill leachate system has been completed. MOE recirculation study is on-hold.	Draft report for the landfill leachate system has been completed.	Draft report for the landfill leachate system has been completed.	MOE recirculation study is on-hold.  Infiltration and Inflow (II) study will commence in November.
3. 2010 Environmental Services Capital Projects	Capital budget approved March 23.	Construction on Jessie Street started in June and is ongoing.	Construction on Jessie Street is scheduled to be completed by early November.	Construction on Jessie Street is scheduled to be completed by early November.	The Jessie Street project has been completed.  The George Street project has been completed.
		The tender for George Street was advertised the first week of July. Construction is scheduled for later this year.  Design services for the repairs to the Kingston bridge are nearing completion.	Construction on George Street started in September and is scheduled to be completed by the end of November.  The tender for the Kingston bridge repairs was tendered in early September. No bids were received. The project will be retendered in the spring of 2011.	Construction on George Street started in September and is scheduled to be completed by the end of November.  The tender for the Kingston bridge repairs was tendered in early September. No bids were received. The project will be retendered in the spring of 2011.	The George Street project will be retendered in the Spring of 2011.  The Kingston bridge project will be retendered in the Spring of 2011.

ENVIRONMENTAL SERVICES DEPARTMENT	2010 DEPARTMENT GOALS/OBJECTIVES				COMMENTS/BARRIERS
	1 <sup>ST</sup> QTR.	2 <sup>ND</sup> QTR.	3 <sup>RD</sup> QTR.	4 <sup>TH</sup> QTR.	
	WPCC capital projects are at various stages and all are expected to be completed by the end of the year.	All WPCC capital projects have been completed or will be completed by the end of the year.	Most WPCC capital projects have been completed. Several projects are outstanding due to equipment delays. These projects are expected to be completed 1 <sup>st</sup> quarter of 2011.	Most WTP capital projects have been completed. Several projects are outstanding due to equipment delays and staffing work load. These projects are expected to be completed 1 <sup>st</sup> quarter of 2011.	
	WTP capital projects are at various stages and all are expected to be completed by the end of the year.	All WTP capital projects have been completed or will be completed by the end of the year.			
4. Implement Drinking Water Quality Management System and Water Financial Plan	Awaiting comments from MOE's accreditation audit.	Awaiting comments from MOE' accreditation audit.	Awaiting comments from MOE accreditation audit.	Currently updating Operation Plan to reflect reorganizational changes.	Awaiting comments from MOE accreditation audit. Operation Plan has been changed to reflect reorganization and an internal audit completed.
5. Complete/Implement Asset Inventory of PSAB/Asset Management Program in conjunction with Finance Department	Ongoing.	Asset inventory component has been completed and being incorporated into the financial system.	Asset inventory component has been completed and being incorporated into the financial system.		Completed and submitted to Finance Department for inclusion in financial system.
6. Assist with development and implementation of Sustainable Waste Management Plan for Waste Collection, Disposal and	On-going, scheduled to be completed by July 2010.	Initial community input has been completed including two open houses, the draft plan is being prepared for	Draft Plan to be released in November for Council and public comment.	The draft plan was released for public comment in December and is to be presented to	

ENVIRONMENTAL SERVICES DEPARTMENT		2010 DEPARTMENT GOALS/OBJECTIVES			COMMENTS/BARRIERS
		1 <sup>ST</sup> QTR.	2 <sup>ND</sup> QTR.	3 <sup>RD</sup> QTR.	4 <sup>TH</sup> QTR.
Recycling		Council/Public comment.			Council in the 1 <sup>st</sup> quarter of 2011 for Council's endorsement.
7. Complete Risk Assessment of Reynolds Park	Risk Assessment report has been submitted to MOE for their review and comment.	Risk Assessment report has been submitted to MOE for their review and comment.	Risk Assessment report has been submitted to MOE for their review and comment.	Risk Assessment report has been submitted to MOE for their review and comment.	A draft Risk Assessment report is to be received by staff in the 1 <sup>st</sup> quarter of 2011 for review and comment prior to final submission to MOE.
8. Facilitate/monitor Brownfields Remediation projects (TSI, JUNIC, Brockville Landings Inc., etc.)	On-going.	On-going.	On-going.	On-going.	On-going.
9. Participate in Official Plan review as a member of the Technical Steering Committee	On-going.	On-going.	On-going.	On-going.	On-going.
<b>Department Objectives</b>					
1. Assist City Manager in completion/implementation of:	On-going.	On-going.	On-going.	On-going.	On-going.

## 2010 DEPARTMENTAL GOALS/OBJECTIVES

		1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.	Comments/Barriers
<b>H.R.</b>						
1.	Negotiate Police Collective agreements (2) and arbitrate Fire agreement.	Ongoing Negotiations	Police ongoing Fire Arbitration scheduled 30/09/2010	Ongoing	Police complete Jan./11 Fire Award Pending	
2..	Market Employee Group Benefit Plan	Proposed for 2nd Quarter	LTD renewal @ 0% increase	Completed	Completed	
3.	Investigate financial viability of STD/LTD Plan for Non-Union staff	No Action	No Action	Complete	Investigating Plan Change	
4.	Propose annual communication process with employees	No Action	Working on Intranet	Continue work as time permits	2011 Priority	
5.	Continue efforts to reduce WSIB Schedule 2 costs (LOE)	Ongoing	Ongoing	Both claims converted spousal ones only	Awaiting Appeal Dates	
6.	Work with City Manager on succession planning and implementation of org. review	Org. Review apprv'd. by Council Jan. 19/2010	Completed Phase 1	Budget 2011	Working on Phase 2	Ongoing staff communications Job Posting Labour/Management Meetings Transition Date - 2nd week in April
7.	Assist with implementation of Corporate MIS Projects	Ongoing	Ongoing	Ongoing	Ongoing	

2010 DEPARTMENT GOALS/OBJECTIVES			
ECONOMIC DEVELOPMENT	1 <sup>ST</sup> QTR.	2 <sup>ND</sup> QTR.	3 <sup>RD</sup> QTR.
			4 <sup>TH</sup> QTR.

Corporate Objectives				COMMENTS/BARRIERS
1. To assist the City Manager with the implementation of a corporate strategic plan encompassing the priorities of Brockville City Council	Ongoing. Completed new template for tracking by key pillars of plan for economic development. Commenced research on the reorganization template	Completed meetings & debriefings associated with process of OP approval. Process to proceed till year end.	Awaiting ratification and final directions from new council	Still incomplete due to other priority task. Focus for first quarter of 2011 with targeted implementation by summer 2011
2. Implement the economic development strategy	Draft terms of reference on advisory committee commenced. Contacted representative for people attraction and have three meetings to date.	EDP/Council report approved for advisory team structure. Names to be presented in August EDP	Two meetings of new Economic Development Advisory Team. Three key initiatives being drafted. Presentation to new Council	Presentation to EDO on March 1 <sup>st</sup> for approval prior to execution. Other items of plan are included in 2011 budget proposal for review in February
3. As an Ex-Officio member of the Maritime Discovery Centre of the 1000 Islands steering committee, provide assistance & communications to the Executive Director on the necessary next steps towards the establishment of the attraction	No direct input at this time. Meeting with committee in April. Providing contacts and introductions to Exec Director as required.	Attended one meeting of MDC. No actions required at this time.	Provided supportive commentary at Art Centre Open House. Revolutionary input at request of Exec Director of MDC on issues.	Awaiting direction from MDC Committee. Insufficient work completed by Committee to engage on communications and fund raising at this time
4. Provide City representation to the Brockville Mental Health steering committee towards realizing stability & sustainability for this important institution	No action. Steve Clark taking on mantle of Bob Runciman. Ongoing meetings of influence with upper tier governments.	No activity of committee. Meeting with new MLA over summer.	Tentative presentation in November to Council from Steve Clark, Bob Runciman and Gord Brown on potential business plan initiative for alternate use.	Presentation made by Steve Clark at January Council meeting. Awaiting direction on Business plan
<b>Department Objectives</b>				
1. To work with City Manager on implementation of the Service Delivery Review recommendations for Economic Development & Tourism	Ongoing. Refining the execution planning and drafting names for consideration on action teams	Completed all major tasks of SDR	Continue to liaison with Art Centre, Museum and Library on restructuring. Peterborough delegation being coordinated for on site orientation with local boards	As noted above in #1

2010 DEPARTMENT GOALS/OBJECTIVES					
ECONOMIC DEVELOPMENT	1 <sup>ST</sup> QTR.	2 <sup>ND</sup> QTR.	3 <sup>RD</sup> QTR.	4 <sup>TH</sup> QTR.	COMMENTS/BARRIERS
2. To ensure a high standard on the operations of the Leeds & Grenville Small Business Enterprise Centre. Further, to achieve the annual performance targets identified in Schedule A and expand outreach programming on business retention	Exceeding targets on consultation. Completing planning on new programming	Ongoing. On schedule for target achievement. Secured additional \$15K for operations	Have exceeded our year to date targets in most of our KTI areas. Strong Summer Company participation. Used by province as best practice example of our initiatives	Completed in 3 <sup>rd</sup> quarter	
3. To update all relevant research/database information associated with Brockville's investment attraction	On target. Three reports completed and two under review.	Ongoing. Most of key reports near completion. New competitive analysis report introduced to Council & uploaded	New data sets completed at no cost by Conference Board of Canada and OMARFA on human capital and competitiveness	Completed	
4. To ensure that all marketing & communication materials are updated inclusive of the website <a href="http://www.brockville.com">www.brockville.com</a>	New graphics and messaging for 2010 plan completed. New highway 401 sign in the design stage. Negotiating another sign	Ongoing. New signage completed on highway. Website updating currently under development	Completed. Some refinements following election. New materials upon acceptance of new marketing plan.	Most completed with other revisions pending directives of EDAT	
5. To monitor & provide appropriate reporting on department revenues & budgets, making necessary adjustments & ensuring controls associated with fiscal responsibility on program delivery	Awaiting variance report to complete first analysis	Awaiting completion of financial systems by Treasury to complete variance. No major issue with expenditures. Secured CDC funds for supplementary programming & Athletic Field project	On target with little variance in most of cost centres. Variance noted on electricity for Art Centre.	Within Budget	

ECONOMIC DEVELOPMENT	2010 DEPARTMENT GOALS/OBJECTIVES			COMMENTS/BARRIERS
	1 <sup>ST</sup> QTR.	2 <sup>ND</sup> QTR.	3 <sup>RD</sup> QTR.	
6. To enhance execution of a Corporate Aftercare initiative to assist existing corporations on export readiness, expansion & retention needs & financial assistance programming & policy advocacy	One export workshop successful completed with 45 attendees	Three corporate aftercare calls completed. Grants secured for three industrial clients under EODF	Four new aftercare initiatives completed. Working closely with Abbott and 3M on issues and opportunities.	Ongoing
7. To assist City Manager in the development & implementation of the Corporate Organizational Plan	As required. Meetings scheduled to refine the execution on the arts/culture elements.	Meetings commenced with Art Centre. Scheduled meetings with Museum & Library over summer	Scheduled meetings in November	Ongoing
8. To implement an Immigration Settlement Plan for Brockville area & commence development of immigrant investment attraction plan	Ongoing. Completed the SWOT analysis and hosted four focus group sessions	On schedule for programming. Committees established. Additional grant funding request completed with CIC Federal Government. Immigration Portal launch & Conference Board Workshop in September	Exceeding our targets with programming ahead of schedule implementation. Two more grant applications completed for another 18 months of contracted services pending acceptance.	Completed in 3 <sup>RD</sup> quarter
9. To secure approval for solar projects at Memorial Centre	Awaiting FIT announcement. Contract completed	FIT application completed. Awaiting approval announcement	Targeted hook up by year end. Panel on the ship from China.	Completed with installation commenced in December
10. Renegotiate Tourism Contract	Summer 2010 target date. One meeting on process	Council approved June 25, 2010	Executed and commencing January 2011 for three years.	Completed
<b>Personal Development</b>				
1. To refine leadership capability through experience garnered from the progression of a four year Executive Board commitment towards attaining the President's portfolio of the Economic Development Association of Canada in 2011	Target implementation is September for transition to President portfolio	Assumed EDAC President position in September	No change	
2. To attend relevant workshops & seminars with key trade	Attending EDCO & IAMC in Spring	IAMC in October attended. Queens Discovery	Completed	

2010 DEPARTMENT GOALS/OBJECTIVES				
ECONOMIC DEVELOPMENT	1 <sup>ST</sup> QTR.	2 <sup>ND</sup> QTR.	3 <sup>RD</sup> QTR.	4 <sup>TH</sup> QTR.
associations who offer appropriate Economic Development & financial management training. (EDAC, FCM, EDCO, OEEFDC & IAMC)			workshop completed.	
3. To continue with the exposure to public speaking engagements through keynote address opportunities within the region & province		Three public addresses to date	Informal presentation during this quarter with MDC event most current	Completed previously

2010 DEPARTMENT GOALS/OBJECTIVES					
OPERATIONS	1 <sup>ST</sup> QTR.	2 <sup>ND</sup> QTR.	3 <sup>RD</sup> QTR.	4 <sup>TH</sup> QTR.	COMMENTS/BARRIERS
<b><u>Corporate Objectives</u></b>					
1. WPPCC Secondary Treatment – commencement/project management	Tender awarded Jan 12. Construction commenced Feb.5.	Construction ongoing.	Construction ongoing – within budget and on schedule.	Construction ongoing – within budget and on schedule.	
2. 2010 Operations Department Capital Projects	Capital Budget approved March 23.	Concrete sidewalks/curbing, roadway crack sealing projects complete. Asphalt milling and overlay contracts awarded, work scheduled for July. Arena upgrade projects ongoing in coordination with Manager of Strategic Initiatives.	Concrete sidewalks/curbing, roadway crack sealing, asphalt milling and overlay projects completed. Arena upgrade projects ongoing in coordination with Manager of Strategic Initiatives.	All 2010 projects completed, with the exception of RINC projects being carried over to 2011 at the Memorial Centre and Youth Arena	
3. RFP – Para Transit Contract	Contract awarded March 23.	New contract in effect May 3; evaluating impact of fixed number of buses	New contract in effect May 3; evaluating impact of fixed number of buses	New contract in effect May 3; evaluating impact of fixed number of buses	
4. Implement asset inventory of PSAB/Asset Management Program in conjunction with Finance Department	Ongoing.	Asset inventory complete and being incorporated into financial system.	Asset inventory complete and being incorporated into financial system.	Asset inventory complete and being incorporated into financial system.	
5. Develop long term Sustainable Management Plan for solid waste and transition of responsibility to Environmental Services	Ongoing – scheduled completion July 2010	Initial community input complete, including two open houses. Draft Plan being prepared for Council/public comment.	Draft Plan to be released in November for Council/public comment.	Draft Plan released in December for Council/public comment. Final plan to be brought to Council in March 2011.	
6. Participate in Official Plan review as a member of the Technical Steering Committee	Ongoing.	Ongoing	Ongoing	Ongoing	
7. Enhance existing community facilities (ie. harbour/waterfront, arenas, arts centre, athletic fields, parks, pathways and skatepark) in preparation of the	Ongoing.	Ongoing	Complete	Complete	

OPERATIONS		1 <sup>ST</sup> QTR.	2 <sup>ND</sup> QTR.	3 <sup>RD</sup> QTR.	4 <sup>TH</sup> QTR.	COMMENTS/BARRIERS
2010 55+ Senior Summer Games	Report to Operations Committee - May 2010.					
8. Continue investigation of a splash pad/artificial ice surface	May report to Splash Pad Committee – further information required to confirm project scope/location.	Further information required to confirm project scope/location.				Working with community group interested in Rotary Park as a potential location.
9. Implement goose control policy to ensure public enjoyment of waterfront parks	Presentation to Operations Committee - March	Goose control strategies implemented in May. Good success with Centeen Park, Blockhouse Island, Hardy Park. Improved success at St. Lawrence Park.	Continued success with Centeen Park, Blockhouse Island, Hardy Park. Improved success at St. Lawrence Park.		2010 season complete.	
10. Investigate Fisheries & Oceans' proposed divestiture of harbour	Preliminary meeting with Fisheries and Oceans - March	Ongoing	Ongoing			Deferred to Spring 2011
11. Continue energy retrofit to City facilities (with Manager – Strategic Initiatives)	Ongoing	Project tendering underway.	Projects to be completed in 3 <sup>rd</sup> /4 <sup>th</sup> Quarter			Final projects at arenas deferred to spring 2011.
12. Maintain a healthy tree population	Ongoing	Ongoing	Ongoing	Ongoing. Evaluating potential impact of emerald ash borer to City trees	Ongoing. Evaluating potential impact of emerald ash borer to City trees	
13. Installation of rooftop solar projects (with Manager – Strategic Initiatives)	Ongoing	Awaiting approval for Memorial Centre project. Preparing for GWMC project.	Awaiting approvals for Memorial Centre project. GWMC project awarded – approvals pending.	Awaiting approvals for Memorial Centre project. GWMC project awarded – approvals pending.	Awaiting approvals for Memorial Centre project. GWMC project awarded – approvals pending.	
14. Implement recommendations of the Environmental Audit for Brockville City Islands to preserve & protect for future generations	Public consultation complete.	Accepted by Council for consideration in Official Plan policies.	Accepted by Council for consideration in Official Plan policies.	Accepted by Council for consideration in Official Plan policies.	Accepted by Council for consideration in Official Plan policies.	
15. Tree Maintenance – one time allocation to pro-actively maintain the City's aging tree population to avoid complaints from residents & the occurrence of an emergency situation	Funding approved for 2010.	Implementation scheduled	Work completed.	Complete	Complete	

2010 DEPARTMENT GOALS/OBJECTIVES					
OPERATIONS	1 <sup>ST</sup> QTR.	2 <sup>ND</sup> QTR.	3 <sup>RD</sup> QTR.	4 <sup>TH</sup> QTR.	COMMENTS/BARRIERS
16. Project Management of Phase II Street Light Conversion Program	Tender preparation complete.	Tender awarded. Work to start in July.	Work underway.	Complete	
17. Street Light Conversion Program Phase III		Design/tenders to be developed for year-end completion	Options for post-top and decorative streetlights being sourced.	Tender document completed for release in January 2011	

2010 DEPARTMENT GOALS/OBJECTIVES					
FIRE DEPARTMENT	1 <sup>ST</sup> QTR.	2 <sup>ND</sup> QTR.	3 <sup>RD</sup> QTR.	4 <sup>TH</sup> QTR.	COMMENTS/BARRIERS
<b><u>Corporate Objectives</u></b>					
1. Acquisition testing & implementation of a new Fire Dispatch	On-going. Completion date changed to Sept. 30 <sup>th</sup> . Progress reports will be provided.	Final proposal has been rec'd from Motorola. A report to City Manager & Dir. Of Fin. is forthcoming in prep. Of contract signing.	Contract has been signed with Motorola for the new consoles in Fire Dispatch.	Contract has been signed with Clientel. Equipment has been shipped to Ottawa for staging & testing	
2. Participate in the implementation of PSAB/Asset Management Plan	On-going. No completion date established.	On-going	On-going	On-going	
3. Assist City Manager with implementation of Corporate Organizational Plan	Council approved January 19, 2010	Ongoing	On-going	On-going	
4. Assist City Manager with implementation of Service Delivery Review recommendations (Dispatch)	Communications study has not been commenced. Completion date?	Will require 3 <sup>rd</sup> party assistance to complete independent review	Beclin Associates have been hired to conduct independent review – Completion date – mid November	Draft report from Beclin Associates (St. Catherines) has been rec'd. Stakeholders comments have been requested to assist with final report.	
<b><u>Department Objectives</u></b>					
1. Maintain compliance with the Emergency Management & Civil Protection Act	Emergency plan has been upgraded. Training & exercise will be completed in fall.	Complete – Mandatory training & exercise was held on June 30	Completed	Complete	
2. The Fire Department's Establishing & Regulating By-Law to be upgraded to reflect the level of service that Council has deemed appropriate	Establishing & Regulating By-Law work continues	Work in progress. Anticipated completion 3 <sup>rd</sup> Quarter	Draft has been completed. By-law will be introduced to new Council during orientation.	Establishing & Regulating By-law is in draft form and will be presented to Council early in 2011.	
3. The Fireworks By-Law will be submitted to Council for discussion & approval	Fireworks By-law work continues	Staff have completed a review of Fireworks By-law & see no need to make any amendments	Complete. See 2 <sup>nd</sup> quarter.	Staff have completed a review of Fireworks By-law. There is no need to make amendments.	

2010 DEPARTMENT GOALS/OBJECTIVES					
FIRE DEPARTMENT	1 <sup>ST</sup> QTR.	2 <sup>ND</sup> QTR.	3 <sup>RD</sup> QTR.	4 <sup>TH</sup> QTR.	COMMENTS/BARRIERS
4. Continuation of the Company Officer's Training program through the Ontario Fire College	2010 training has commenced and continues.	On-going. Courses have been scheduled & continue throughout the year.	On-going		Company Officer Training Program is on-going. A total of 17 courses were attended by Firefighters, Acting Captains and Captains.
5. High Rise Training Program to be updated for emergency response crews in preparation for future developments in the City	The program has not been completed. Will be delivered to crews & will form part of annual training schedule.	Has been assigned to Training Officer. Work continues & program will be completed before year end.	Work is nearing completion and program will be provided to firefighting crews before year end.		In partnership with the Brockville Mental Health Centre, elevator training was upgraded & delivered to the firefighting crews. A high rise training program has been completed. Standard operating procedures have been developed. Training of suppression crews will be done on an annual basis commencing in 2011.
6. Update Municipal Fire Protection Information survey required by the Fire Protection & Prevention Act 1997	Completed and submitted to OFM for approval.	Completed	Completed		Municipal Fire Protection Information Survey required by the Fire Protection & Prevention Act (FPPA) was completed
7. Continuation of Home Inspection Program	Will commence (April)	Continued – work in progress	Continues – work in progress		Home Inspection Program is on-going. Over three hundred (300) homes were inspected during the 2010 Program. To date over 1,950 home inspections have been done.
8. Continuation of Smoke Alarm Battery Replacement Program for Seniors	On-going – perpetual program.	Work in progress. Note: Over 200 combination smoke/carbon monoxide detectors rec'd through Enbridge Gas & the Fire Marshal's Public Safety Council were received and are being distributed & installed (upon request) to	Work in progress – to date.		Smoke Alarm Battery Replacement Program for Seniors is a perennial program. Over two hundred (200) combination smoke alarms (provided by Enbridge Gas and the Fire Marshal's Office) were delivered and upon

2010 DEPARTMENT GOALS/OBJECTIVES					
FIRE DEPARTMENT	1 <sup>ST</sup> QTR.	2 <sup>ND</sup> QTR.	3 <sup>RD</sup> QTR.	4 <sup>TH</sup> QTR.	COMMENTS/BARRIERS
9. Continuation of the Hydrant Flushing Program	Crews are being trained & flushing program to be completed by end of Oct.	seniors living in their homes. Work in progress – Assigned & anticipated completion date – Oct. 31/10	Work continues. Program completion will be delayed.	request, installed.	Hydrant flushing and flow testing was performed on five hundred & twenty eight (528) hydrants. Time was lost due to scheduled water department maintenance programs and "dirty water" issues.
10. A Haz-mat Training Program update. The United Counties of Leeds & Grenville has accepted a donation from Invista of a vehicle to be used by any Fire Department in Leeds & Grenville for hazardous materials emergency response	Vehicle has not been put into service. Memorandum of agreements to be established & endorsed by Council.	On-going. Operating procedures & municipal agreements being developed by Committee of Leeds & Grenville Fire Chiefs prior to being put "in service".	Standard Operating Procedures have been written and will be reviewed in Dec. 2010 – next Chiefs Meeting.		Hazardous Materials Training (Hazmat) – The vehicle donated from Invista to the County for fire departments' use when responding to hazmat calls is not in service at this time. SOP's have been developed and circulated to the United Counties of Leeds and Grenville Fire Chiefs for comment and approval. The vehicle will be in service in early 2011.
11. Promote remote access to "CRYYSIS" computer	On-going	On going	On-going		The promotion of remote access to our computer aided dispatch program "Crisys" continues. Departments throughout UCLG have been slow to take advantage of this offer but efforts continue.

**2010 DEPARTMENTAL GOALS/OBJECTIVES**

<b>Finance Department</b>	<b>Corporate Objectives</b>	<b>1st Quarter</b>	<b>2nd Quarter</b>	<b>3rd Quarter</b>	<b>4th Quarter</b>	<b>Comments/Barriers</b>
1. Review of annual budget process including the phased incorporation of business plans.	* ongoing process - business plan development has been slow due to ERP, budget preparation and organizational review	* ongoing process		* ongoing process		
2. Development, implementation, monitoring of annual city budget.	* 2010 budget approved in principle by Council ; awaiting formal notification of JSC budget	* 2010 budget approved by Council * initial variance report delayed by 1 month to reslate budget in conjunction with organizational review		* 2010 budget approved by Council * ongoing process		* 2010 budget approved by Council * ongoing process
3. Complete implementation of new Financial System	* working on implementation of Vadim taxation module - LIVE date anticipated in April * next modules to be implemented are Cash Receipts and A/R	* Vadim taxation module has gone LIVE - Cash Receipts and A/R delayed due to HST implementation - Fixed Asset Accounting (FAA) module in WorkTech to be initiated in mid-July in conjunction with 2009 year end statements		* implementation delays due to unresolved issues within A/P module re: HST and integration between two systems - weekly discussions with Vadim to determine best plan forward * continue to work with FAA module in conjunction with PSAB	* delayed implementation of remaining modules until 2011 to allow staff some learning curve time on modules currently installed as well as to co-ordinate with necessary upgrade to City Enterprise * continue to have bi-weekly discussions with Vadim to determine best plan forward * continue to work with WT FAA module in conjunction with PSAB	* City-wide implementation of entire financial system has created major learning curve issues throughout all City departments - process impacted by limited staffing resources for on-going in-house training
4. Identification & development of Corporate Strategy relating to PSAB requirements.						PSAB inventory has been completed and included on the City's 2009 financial statements Due to the volume of assets the set up in the FAA module has continued into 2011.
5. Completion of annual year-end statements, MPMP, FIR, Annual Reports pursuant to the Municipal Act requirements.	* Staff is working with consultant to obtain information required to finalize asset list as well as values * anticipate input of data to WorkTech software in 2nd quarter	* finalized asset list, including values, has been forwarded to auditors * input of data to WorkTech software is scheduled for mid-July		* delays due to corrections required to asset list * continued training within WorkTech software in FAA module	* 2009 financial statements were presented to Council draft FIR sent to Ministry	* completion of 2009 FIR more complex task as a result of introduction of PSAB requirements regarding Tangible Capital Assets; full accrual accounting; elimination of fund accounting (Operating vs Capital) * Final 2009 FIR forwarded to Ministry in January 2011
6. Analysis and implementation of HST						
7. Establish water finance plan in compliance with City's Municipal Drinking Water License legislated requirements	* not yet commenced					
8. Ten year Capital Plan	* ongoing process					

**2010 DEPARTMENTAL GOALS/OBJECTIVES**

<b>Finance Department</b>	<b>1st Quarter</b>	<b>2nd Quarter</b>	<b>3rd Quarter</b>	<b>4th Quarter</b>	<b>Comments/Barriers</b>
9. Assist in the development of Community Improvement Plans including Brownfield Tax Incentives for environmental remediation	<ul style="list-style-type: none"> <li>• ongoing process with Planning department</li> <li>• have reviewed new agreements / expenses of 4 new projects</li> </ul>	<ul style="list-style-type: none"> <li>• ongoing process with Planning department</li> <li>• have reviewed new agreements / expenses</li> </ul>	<ul style="list-style-type: none"> <li>• ongoing process with Planning department</li> <li>• have reviewed new agreements / expenses</li> </ul>	<ul style="list-style-type: none"> <li>• ongoing process with Planning department</li> <li>• have reviewed new agreements / expenses</li> </ul>	<ul style="list-style-type: none"> <li>• ongoing process with Planning department</li> <li>• have reviewed new agreements / expenses</li> </ul>
10. Corporate Financial Policy Review of following: <ul style="list-style-type: none"> <li>(a) Investment Strategy</li> <li>(b) Cash Flow Analysis</li> </ul>	Municipal Management Intern has drafted a new Investment Policy to be reviewed in 2nd quarter	<ul style="list-style-type: none"> <li>• Investment Policy to go to Council in 3rd quarter</li> <li>• on-going analysis of cash flow due to issues surrounding loss of OMPF funds</li> </ul>	<ul style="list-style-type: none"> <li>• Investment Policy approved by Council</li> <li>• on-going analysis of cash flow due to issues surrounding loss of OMPF funds</li> </ul>	<ul style="list-style-type: none"> <li>• Investment Policy approved by Council in 3rd quarter</li> <li>• on-going analysis of cash flow due to issues surrounding loss of OMPF funds</li> </ul>	<ul style="list-style-type: none"> <li>• on-going process with Planning department</li> <li>• have reviewed new agreements / expenses</li> </ul>
11. Development Charges Study / By-Law	<ul style="list-style-type: none"> <li>• was to be reviewed by Council in March; is scheduled to go to meeting in April after staff have attended a Development Charge Seminar</li> </ul>	<ul style="list-style-type: none"> <li>• obtained Council approval to move forward with study</li> <li>• reviewing quotes which were received in mid June</li> <li>• anticipated report to Council late in 4th quarter</li> </ul>	<ul style="list-style-type: none"> <li>• obtained Council approval to move forward with study</li> <li>• reviewing quotes which were received in mid June</li> <li>• anticipated report to Council late in 4th quarter</li> </ul>	<ul style="list-style-type: none"> <li>• Council deferred the study until February 2011.</li> </ul>	<ul style="list-style-type: none"> <li>• Council deferred the study until February 2011.</li> </ul>
<b>Department Objectives</b>					
1. Assist City Manager in implementation of SDR/Organizational Review in Finance Department	<ul style="list-style-type: none"> <li>• continue to progress while incorporating planning strategies in conjunction with new ERP installation</li> </ul>	<ul style="list-style-type: none"> <li>• continue to progress while incorporating planning strategies in conjunction with new ERP installation</li> </ul>	<ul style="list-style-type: none"> <li>• continue to progress while incorporating planning strategies in conjunction with new ERP installation</li> </ul>	<ul style="list-style-type: none"> <li>• continue to progress while incorporating planning strategies in conjunction with new ERP installation</li> </ul>	<ul style="list-style-type: none"> <li>• continue to progress while incorporating planning strategies in conjunction with new ERP installation</li> </ul>
2. Assist City manager with development of capital MIS strategy.	<ul style="list-style-type: none"> <li>• partially tracking through ERP upgrade</li> </ul>	<ul style="list-style-type: none"> <li>• on-going process</li> </ul>	<ul style="list-style-type: none"> <li>• on-going process</li> </ul>	<ul style="list-style-type: none"> <li>• on-going process</li> </ul>	<ul style="list-style-type: none"> <li>• on-going process</li> </ul>
3. Assist City Manager with Joint Services Committee Sub Committee Review relative to cost sharing formulas, EMS, Social Services, Economic Development.	<ul style="list-style-type: none"> <li>• ongoing process</li> <li>• confirmed with Ministry of Finance that it is the Province's intention to move forward with update of ODSP / OW / Court Costs</li> </ul>	<ul style="list-style-type: none"> <li>• ongoing process</li> <li>• obtained information on Purchasing Cards</li> </ul>	<ul style="list-style-type: none"> <li>• Report and recommendations provided to Mayor - no further action required</li> </ul>	<ul style="list-style-type: none"> <li>• communication between members in conjunction with provincial standing agreements which expired and have been renewed with new vendors of record (stationery, courier)</li> </ul>	<ul style="list-style-type: none"> <li>• To be discussed with City Manager and Director of Human Resources</li> </ul>
4. Continued involvement in local MUSH sector Purchasing Group	<ul style="list-style-type: none"> <li>• no meetings yet in 2010</li> </ul>	<ul style="list-style-type: none"> <li>• met in April - introduced new Finance staff member to group</li> <li>• obtained information on Purchasing Cards</li> </ul>	<ul style="list-style-type: none"> <li>• no meetings during 3rd quarter</li> </ul>	<ul style="list-style-type: none"> <li>• communication between members on as needed basis</li> <li>• due to restructuring at St. Lawrence College have lost representation from that sector</li> </ul>	<ul style="list-style-type: none"> <li>• no meetings during 4th quarter</li> </ul>
5. Update of departmental job descriptions in conjunction with SDR / Organizational Review / new Financial System implementations.	<ul style="list-style-type: none"> <li>• anticipated to be completed in 3rd or 4th quarter</li> </ul>	<ul style="list-style-type: none"> <li>• anticipated to be completed in 3rd or 4th quarter</li> </ul>	<ul style="list-style-type: none"> <li>• anticipated to be completed in 4th quarter</li> </ul>	<ul style="list-style-type: none"> <li>• anticipated to be completed in 4th quarter</li> </ul>	<ul style="list-style-type: none"> <li>• implementation of new Financial System</li> </ul>

2010 DEPARTMENT GOALS/OBJECTIVES					
Clerk's Department	1 <sup>st</sup> Qtr.	2 <sup>nd</sup> Qtr.	3 <sup>rd</sup> Qtr.	4 <sup>th</sup> Qtr.	Comments/Barriers
<b>Corporate Objectives</b>					
1. Assist Governance Committee with procedural By-Law review/automation of Council procedures/activities	On-going	Draft released to Governance for review and comment		On-going	NOTE: 3 <sup>rd</sup> and 4 <sup>th</sup> Qtr focus was on municipal election.
2. Review & update corporate By-Laws	Consultation with PSB and HU (awaiting comments)	Drafting report and bylaw for July F&A	Awaiting comments of review by MAG		Comment received from MAG. By-laws to be redrafted and forwarded to Council
(a) Licensing					
(b) Parking	Awaiting comments of review by MAG				
(c) Animal Control					
3. Review & amend fines for the following By-Laws:	Final submission to MAG; waiting for Justice approval	Approval received COMPLETE			
(a) Signage					
(b) Care and use of streets					
(c) Traffic					

2010 DEPARTMENT GOALS/OBJECTIVES					
Clerk's Department	1 <sup>st</sup> Qtr.	2 <sup>nd</sup> Qtr.	3 <sup>rd</sup> Qtr.	4 <sup>th</sup> Qtr.	Comments/Barriers
4. Plan/coordinate 2010 Municipal Election	Alternative method of voting approved by council	Municipal Election Information session held; necessary by-laws enacted; internet/telephone policies & procedures complete; compliance audit committee report to F&A in June	Implementing procedures and processes for municipal election	Completed voting process. Electoral process still underway (to end of June 2011).	
5. Coordinate/plan AODA Standards Training	Customer Service Compliance Report submitted to Ministry; awaiting further standards	Training of students and new staff	COMPLETE		
<u>Department Objectives</u>					
1. Completion of Staff Performance Reviews	Reviews complete for one of two staff		On-going		
2. 2010 Budget monitoring	On-going	On-going	On-going	On-going	
3. 2011 Budget preparation				On-going	
4. Assist City Manager in Departmental Service Review	Parking Master Plan Committee underway	Parking Master Plan Committee underway; survey being developed for delivery in July	Parking Master Plan Committee meeting monthly	On-going	

Prepared by: S. Seale on February 7, 2011

Page 2 of 3

2010 DEPARTMENT GOALS/OBJECTIVES					
Clerk's Department	1 <sup>st</sup> Qtr.	2 <sup>nd</sup> Qtr.	3 <sup>rd</sup> Qtr.	4 <sup>th</sup> Qtr.	Comments/Barriers
5. Centralize records management	Waiting for implementation of new Sharepoint server prior to development of system/database	Draft database design complete; testing underway; on-hold waiting for potential impact with Sharepoint	Draft database design complete; testing underway; on-hold waiting for potential impact with Sharepoint	Draft database design complete; testing underway; on-hold waiting for potential impact with Sharepoint	Reviewing existing software to determine suitability.
(i) By-Laws/Minutes/Report/Leases/Agreements/City Owned Property					Reviewing existing software to determine suitability.
(ii) Complete data base for year-end					

2010 DEPARTMENT GOALS/OBJECTIVES					
PLANNING	1 <sup>ST</sup> QTR.	2 <sup>ND</sup> QTR.	3 <sup>RD</sup> QTR.	4 <sup>TH</sup> QTR.	COMMENTS/BARRIERS
<b>Corporate Objectives</b>					
1. Official Plan - Facilitate adoption of Economic Development Strategy - Provide guidance to consultants in preparation of draft text & schedule revisions - Review draft Official Plan with TSC & Council - Conduct public consultation on draft OP - Engage with consultants in considering input to draft OP - Review final draft with TSC & Council - Deliberate final changes, if any, with consultants, TSC & Council - Hold Statutory Public Meeting - Report to Council with recommendation to adopt new OP (June 2010)	Economic Development Strategy- Economic Development Strategy finalized and presented to Council. Adopted by Council 23 March 2010 Official Plan - Preconsultation event with MMAH and partner ministries held in January - Assistance given to consultants on first working draft of Official Plan. - Consultation with Council on first working draft and on public engagement through to adoption of new OP - First working draft prepared for release to Council, agencies, MMAH and the public by end of March - Established date and assisted with preparations for Open House #3 - Consideration given to path forward on completion of ICSP concurrent with OP	- Open House held April 7, 2010 to orient the public to the first working draft of the Official Plan and provide update on ICSP. - April 30, 2010 established as date for receipt of public submissions to the first working draft of the OP - Consultants attended Trade Show April 30 & May 1 at Memorial Centre to showcase the ICSP - Technical Steering Committee review and comments on first working draft submitted to consultants - Date for Council workshop to provide direction to complete final draft to be established for early Q3	- Public submissions reviewed by consultants. - Meeting held with MMAH and partner ministries to obtain clarity on issues of provincial interest. - Final draft of OP prepared for Council review - Authorization given by Council on Aug. 24/10 for release of final draft to public. - Statutory public meeting held on Sept. 15/10. - Public comment/issues matrix produced by consultants in preparation for Council workshop to provide direction on finalization of document.	- Meeting held 12 Oct 2010 with Council to discuss public comments and consultants' response thereto, as well as to obtain direction from Council on any further modifications to new Official Plan desired prior to adoption. - Implementation of Council directives under review by consultants and Technical Steering Committee. - Further consideration of final release of new Official Plan deferred until after the municipal election, orientation of new Council and 2011 budget deliberations.	
Community Improvement Plans (Downtown & Brownfields) - Finalize Agreement templates - Agreements prepared on case by case basis - Monitor effectiveness of					- Brownfields - Development Funding Agreement with owner of Rexall property, Pearl St. W. prepared for execution
					Agreements completed and executed: Brockville Landings (Development Agreement); 5 Home St. (TIERR Grant); 8A & 58B

2010 DEPARTMENT GOALS/OBJECTIVES					
PLANNING	1 <sup>ST</sup> QTR.	2 <sup>ND</sup> QTR.	3 <sup>RD</sup> QTR.	4 <sup>TH</sup> QTR.	COMMENTS/BARRIERS
CIP's, in particular, Downtown CIP by developing & distributing a survey to downtown property owners to elicit reasons for lack of uptake in current programs & limited investment in existing programs - In conjunction with Director of Economic Development, develop a marketing program to increase uptake of both CIP's	- Survey of downtown property owners being prepared - Promotional material preparation to be undertaken by Intern in Q2	- draft content of promotional material prepared by Intern for publication early in Q3	Buell St. (TIERR Grant). - All other eligible applications being processed for finalization of grant agreements. - Promotional material completed and ready for publication	- Monitoring of effectiveness of CIP programs underway, and survey to owners within Priority Areas being prepared, to assist Council in deliberations respecting potential for extension of or modifications to programs beyond current expiry date of 30 June 2011	
3. Prepare recommendation respecting delegation of authority for site plan control approval to the Chief Planning Officer	Completed Feb 2010	Completed Feb. 2010	Completed Feb. 2010	Completed Feb. 2010	Completed Feb. 2010
4. Planning Review / Approval - 48 Unit Townhouse project, Liston Avenue - Northern Cables - Junic Lands - Wall Street Village - CPHC	- 48 unit townhouse project on Liston withdrawn by applicant - Northern Cables application received - Discussions continue with owner regarding development concept and required approvals for development of Junic lands. Planning applications expected later this year for commencement of development in 2011 - Wall St. Village and CPHC awaiting funding approvals prior to submission of Site Plans for approval.	- Liston Ave. 8 unit townhouse project (Site Plan Approved) - Northern Cables (Site Plan approval for new entrance and parking area expansion) - Giant Tiger Warehouse Expansion (Site Plan Approved) - Brockville Landscape Depot (Site Plan Agreement finalized) - Discussions ongoing regarding Junic property with revised preliminary plan of subdivision submitted for review	- Liston Ave. preconsultation on preliminary plan of subdivision containing 20 townhouses and 30 apts./condos - Junic Official Plan/Zoning/Subdivision application preconsultation ongoing - Aspen Dr. subdivision file reactivated for resubmission in Oct./10 - Collonade Development proposal/rezoning for commercial building at 109-117 King St. W. - preconsultation on	- Application for rezoning of 107-119 King St. W. for new retail/office development received. Public meeting held 2 Nov. 2010. Applicant requested that consideration of staff	

2010 DEPARTMENT GOALS/OBJECTIVES				COMMENTS/BARRIERS
PLANNING	1 <sup>ST</sup> QTR.	2 <sup>ND</sup> QTR.	3 <sup>RD</sup> QTR.	4 <sup>TH</sup> QTR.
			<p>commercial development at Stewart/Parkdale/Windsor discussed with development interests – minor variances and consent applications filed for consideration of Committee of Adjustment in Oct/10</p>	<p>report be tabled.</p> <ul style="list-style-type: none"> <li>- Application for conversion to condominium of residential unit within 137 Pearl St. E. received and distributed for review.</li> <li>Public meeting held 7 Dec. 2010</li> <li>- Ongoing discussions and/or site plan approvals:</li> <ul style="list-style-type: none"> <li>• Hampton Inn</li> <li>• Michael's</li> <li>• Junic lands</li> <li>• Brockville Landings</li> <li>• TSL</li> </ul> </ul>

PLANNING		2010 DEPARTMENT GOALS/OBJECTIVES		1 <sup>ST</sup> QTR.	2 <sup>ND</sup> QTR.	3 <sup>RD</sup> QTR.	4 <sup>TH</sup> QTR.	COMMENTS/BARRIERS
<b>Department Objectives</b>								
1. Preparation of 2010 budget, bringing forth recommended increases in building fees to gradually increase towards 100% user pay while more closely aligning with the average building fees established in comparable municipalities.	2010 Budget approved. Funding for summer student eliminated.	New user fees for 2010 implemented, and user fee holiday for residential building permits ended June 23, 2010.	User fees in effect. Housing starts added under fee holiday June /09 – June /10: 37 Housing starts 2010 Q3: 9	User fees in effect. Housing starts added under fee holiday [June/09 – Jun/10]: 37 Housing starts 2010 Q3 + Q4: 11				User fees in effect. Housing starts added under fee holiday [June/09 – Jun/10]: 37 Housing starts 2010 Q3 + Q4: 11
2. Staff to be proactive with respect to By-Law Enforcement, especially in areas of historical concern (Property Standards and signage).	- Enforcement in Q1 on a complaint driven basis	- Sign By-law enforcement (portable signs) commenced in earnest. 72 signs found to be in violation and without permits, with 144 letters sent to property owners and businesses. Action resulted in 38 signs being removed and 28 permits being issued. - Property Standards enforcement proceeding on a complaint driven basis	- Reminder letters on outstanding violations sent out June 14/10 - Follow up letters sent out to applicants where sign permits had expired. - Application for by-law amendment by Somerville Farms considered by EDP and Council - Consultation with new sign company on contents of sign by-law and application/enforcement procedures.	- Application for sign by-law amendment for 3026 Parkdale Ave. approved by Council - Due to increasing construction activity, opportunities for proactive by-law enforcement was limited				
3. Continue training of CBO and Inspection Officer to ensure full compliance with Ontario Building Code Act.	- Training completed by Inspection Officer on Large Buildings	- No training through Q2	- CBO and Inspection Officer scheduled to attend training sessions in Q4	- Training opportunities in Q4 completed				
4. Investigate, along with MIS, the cost/benefit of the use of tablet technology by Inspectors.	- Discussions not yet commenced	- Discussions not yet commenced	Tablets provided to CBO and Inspection Officer	- Use of tablets is limited to-date. update of Planning Dept. application management software is				

2010 DEPARTMENT GOALS/OBJECTIVES					
PLANNING	1 <sup>ST</sup> QTR.	2 <sup>ND</sup> QTR.	3 <sup>RD</sup> QTR.	4 <sup>TH</sup> QTR.	COMMENTS/BARRIERS
5. Continue subdivision file closure and assumption.	- Initial work completed on many files; others ongoing	- Ongoing	- Ongoing		needed to increase effectiveness of tablet use
6. Short wording of by-laws to facilitate enforcement - Building By-Law - Sign By-Law (finalize)	- Short working of sign by-law before MAG and judge for approval - Building by-law to be reviewed in Q2 by Intern		- Approval of short wording of Sign By-Law received. Staff training on ticketing procedures completed - Building Code enforcement/ticketing to be provided through opportunities available through Building Code Act	- Completed	20 subdivision files reviewed for potential closure/assumption. All remain open at the end of Q4 due to variety of incomplete elements.
7. Implementation of Software upgrade – Planning/Building Application Management system (pending endorsement of recommendations in 2010 Budget).		- Partial funding of software upgrade endorsed through 2010 budget process	- Path forward being contemplated given partial funding made available through 2010 budget process		- Balance of funding required for acquisition of system upgrade to be included in 2011 Budget
8. Transfer of maintenance of map schedules to OP & Zoning By-Law to Planning with implementation of GIS (may be beyond 2010).	- GIS Committee to review as part of its mandate	- nearing completion by MIS Supervisor for review with GIS Committee	- draft GIS Strategic Plan	- consultation on GIS Strategic Plan with City Manager and senior managers to be scheduled for early Q4	- GIS Needs Assessment of each department is underway, to be completed in 2011 Q1
<b><u>Personal Development</u></b>					
1. Project Management Training	- No opportunities in Q1	- Not available in Q2	- Not available in Q3	- Not available in Q4	

2010 DEPARTMENT GOALS/OBJECTIVES					
PLANNING	1 <sup>ST</sup> QTR.	2 <sup>ND</sup> QTR.	3 <sup>RD</sup> QTR.	4 <sup>TH</sup> QTR.	COMMENTS/BARRIERS
2. Continuous Professional Learning (OPPI/CIP)	- No opportunities in Q1	- Eastern Ontario OPPI Workshop held in North Grenville attended by Planners	- No opportunities in Q3	- Director attended Canadian Institute of Planners Conference in Montreal Oct 2010	

**February 3, 2011**

**REPORT TO OPERATIONS COMMITTEE**

**2011-020-02  
WATER SYSTEM ALTERATIONS  
MEMORIAL CENTRE AND YOUTH ARENA**

**C.J. COSGROVE, .ENG.  
DIRECTOR OF OPERATIONS  
C. EARLE MOORE,  
ARENAS & FACILITIES  
SUPERVISOR  
L. WHITE, MANAGER OF  
STRATEGIC INITIATIVES**

**RECOMMENDATIONS**

THAT Council accept the Tender received from A.J.'s Water Treatment in the total amount of \$69,200 (plus HST), to complete the water system alterations as specified in Tender 2011-29; and

THAT this expenditure be charged to accounts 9701100 9097007 3010 (Youth Arena) and 97011 9097006 3010 (Memorial Centre).,

**ORIGIN**

This work is part of the upgrades to the Memorial Centre and Youth Arena under the RinC funding program.

**BACKGROUND**

**MEMORIAL CENTRE**

At present, there is no heat source connected to the water treatment system that was installed in the facility during 2010. In order to complete all aspects of "Ice Making and Resurfacing" the hot water must maintain a consistent operating temperature of 140° - 145°F. The installation is designed to improve the required water temperature and a recovery time of fifty (50) minutes. The installation includes the use of a gas fired hot water heater, storage tank and circulation pump. This is a typical installation used in arena facilities for the purpose of heating and storage of hot water and to have adequate hot water available for resurfacing procedure. (125 gallons of hot water per flood)

## **YOUTH ARENA**

The current hot water source cannot provide the necessary hot water, recovery time and water volume. This facility uses unconditioned water as there is no water treatment system at the Youth Arena. The installation of the hot water source will parallel the same installation as the Memorial Centre to produce adequate hot water and storage. In addition, the work at this facility includes a complete upgrade of the current water supply piping from the water meter to the hot water heat source and supply into the ice resurfacer room. The current system dates back to 1967 when the facility was constructed. Presently it takes twenty (20) minutes to fill the ice resurfacer and the water is only luke warm. Also, when the ice is installed, a 5/8" garden hose is used instead of the industry standard being ¾" to 1". The installation of the proper size piping for hot and cold water to the ice resurfacer room will correct this issue.

## **ANALYSIS**

Tenders were opened on January 17<sup>th</sup>, 2011. Three (3) bids were received, with one company not providing a complete project cost as per addendums issued. This resulted in the tender being rejected in accordance with the City's Purchasing By-Law.

The Tenders are summarized as follows:

Company	Youth Arena	Memorial Centre	Total
Houle Plumbing & Heating	Tender Rejected		
J.J. Jensen	\$61,770	\$15,900	\$77,670
A.J. Water Treatment	\$50,000	\$19,200	\$69,200 * Plus HST

The completion date for this project is June 30, 2011.

## **POLICY IMPLICATIONS**

The City's Purchasing By-Law (09-2005) requires Council approval for this Tender as less than three acceptable bids were received.

## **FINANCIAL CONSIDERATIONS**

These projects are to be charged to the accounts as follows:

Memorial Centre                    \$19,200                    Account #    9701100 9097007 3010

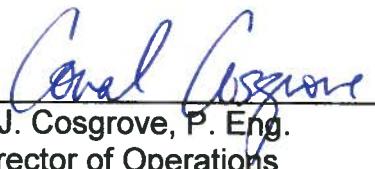
Youth Arena                        \$50,000                    Account #    9701100 9097006 3010

There are sufficient funds in these accounts for the related expenses.

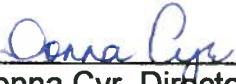
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B. Casselman, City Manager

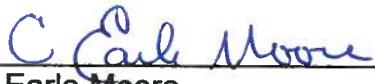
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C.J. Cosgrove, P. Eng.  
Director of Operations

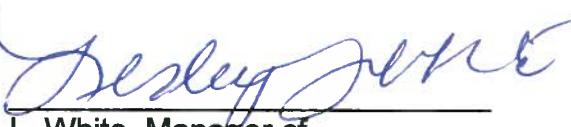
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Donna Cyr, Director of Finance

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C. Earle Moore,  
Arenas & Facilities Supervisor

---

  
L. White, Manager of  
Strategic Initiatives

**04FEB2011**

**REPORT TO FINANCE AND OPERATIONS COMMITTEE – FEBRUARY 15, 2011**

**2011-021-02**

**ADDITION OF A WASTE MANAGEMENT  
STEERING COMMITTEE TO THE  
JOINT SERVICES OPERATING  
AGREEMENT**

**C.J. COSGROVE, P.ENG.  
DIRECTOR OF OPERATIONS  
P.E. RAABE, P.ENG.  
DIRECTOR OF ENVIRONMENTAL  
SERVICES**

**RECOMMENDATION**

THAT a Waste Management Steering Committee be added to the Joint Services Operating Agreement, subject to mutual agreement on the apportionment of future costs amongst the Steering Committee partners.

**PURPOSE**

This report is in response to a request from the Joint Services Committee (Attachment 1).

**BACKGROUND**

Included in Attachment 1 is a report to the Joint Services Committee raising the potential for a Waste Management Steering Committee to be added to the Joint Services Operating Agreement.

The United Counties of Leeds & Grenville, in conjunction with the City of Brockville and the Town of Prescott, issued a request for Expressions of Interest for a regional waste management program in October 2010. A committee representing the municipal partners is required to receive staff recommendations regarding the Expressions of Interest, and to make recommendations with respect to the investigation and potential implementation of a regional waste management program.

**ANALYSIS**

A Waste Management Steering Committee would be a logical extension of the Joint Services Committee.

The method of apportioning potential future costs should be mutually agreed upon by the municipal partners as part of adding a Waste Management Steering Committee to the Joint Services Operating Agreement.

## FINANCIAL CONSIDERATIONS

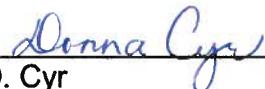
None at this time.



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



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



D. Cyr  
Director of Finance



B. Casselman  
City Manager



United Counties of Leeds and Grenville

**Administration Division**  
Chief Administrative Officer  
Counties Clerk  
Economic Development  
Employee Services  
Health & Safety, Emergency  
Planning & Accessibility

25 Central Ave. W. Suite 100  
Brockville, ON K6V 4N6  
T 613-342-3840  
800-770-2170  
TTY 800-539-8685  
F 613-342-2101  
[www.leedsgrenville.com](http://www.leedsgrenville.com)

January 19, 2011

Mayor & Council  
City of Brockville  
P.O. Box 5000  
1 King Street, West  
BROCKVILLE, ON  
K6V 7A5

Dear Mayor Henderson and Members of Council

**Re: Addition of a Waste Management Steering Committee to Joint Services Operating Agreement**

Please be advised that I have been directed by the Joint Services Committee to canvass the councils of Brockville, Gananoque, Prescott and the United Counties to determine if there is unanimous consent for adding a proposed "Waste Management Steering Committee" to the current Joint Services agreement as a separate schedule. I have attached two staff reports regarding this matter for your review.

The current operating agreement allows for such additions by unanimous consent of all partners. An example of where this has been used in the past is for economic development services. In 2003, economic development was added as a pilot project by unanimous consent. It was then terminated again by unanimous consent in 2008.

I would respectfully request that your council adopt a motion indicating your consent or rejection of this proposal. Please feel free to contact my office should you have any questions or concerns regarding this matter.

Sincerely,

A handwritten signature in black ink, appearing to read "Steven G. Silver".

Steven G. Silver  
Chief Administrative Officer

where lifestyle  
grows good business

synonyme de qualité de vie  
et de réussite en affaires

**JANUARY 19, 2011**

Action		Date Required
Process/Action Required		
Policy/Action Required		
Information Only	X	Jan 19/11

## **REPORT TO THE JOINT SERVICES COMMITTEE**

**REPORT NO. JSC-001-2011**

## **WASTE MANAGEMENT STEERING COMMITTEE**

**STEVEN SILVER,  
CHIEF ADMINISTRATIVE OFFICER**

---

### **RECOMMENDATIONS**

THAT staff be directed to canvas the Councils of Brockville, Prescott, United Counties of Leeds & Grenville, and Gananoque to determine if there is unanimous consent for adding the new "Waste Management Steering Committee" to the current Joint Services Operating Agreement.

### **BACKGROUND**

Please see attached report dated January 5, 2010 from Les Shepherd, Director of Works, Planning Services and Asset Management.

### **INFORMATION/DISCUSSION**

The UCLG Public Works Committee agreed to recommend to Counties Council the re-establishment of the Waste Management Steering Committee as recommended in the attached report. Staff was directed to draft a committee mandate document for consideration. The UCLG Governance and Finance Committee is further recommending to Counties Council that all councillors be members of the committee. Representation will also be sought from Brockville and Prescott as original members of the Waste

Page 2

ESTABLISHMENT OF A WASTE MANAGEMENT STEERING COMMITTEE  
REPORT TO THE JOINT SERVICES COMMITTEE

Management Steering Committee. Gananoque is currently not a participant in the waste management study which resulted in the certificate of approval for site ED-19.

It is noted that the first operative clause of the recommendation calls for the committee to report directly to Counties Council. This is being recommended so that the committee can be established fairly quickly.

The second operative clause directs discussion to occur with the partner municipalities to create the steering committee as a sub-committee of Joint Services.

There is an allowance in the Joint Services Operating Agreement which allows for additional services: "New services other than those specified in this agreement may be added to this agreement by unanimous vote of all the members" (page 6 – par. 6.1). As an example this was done in 2003 to provide economic development services which was subsequently removed again by unanimous consent in 2008.

The process for achieving the unanimous consent is to write each partner Council and request a motion in support of adding the new service.

**ALTERNATIVES/OPTIONS**

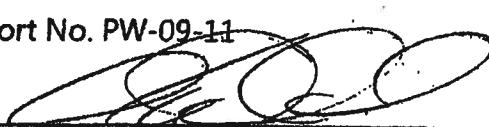
The Waste Management Steering Committee not report to the Joint Services Committee and that it report directly to Counties Council.

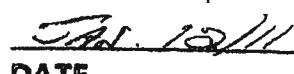
**FINANCIAL IMPLICATIONS**

At this point there are no additional anticipated administration costs for establishing this steering committee. Should it be determined by the participating municipalities that a budget be established, the committee will make a recommendation for the apportionment of costs to the respective participating councils.

**ATTACHMENTS**

Report No. PW-09-11

  
STEVEN G. SILVER,  
CHIEF ADMINISTRATIVE OFFICER

  
DATE

**JANUARY 5, 2010**

Action		Date Required
Process/Action Required	X	January 6, 2011
Policy/Action Required		
Information Only		

## **REPORT TO THE PUBLIC WORKS COMMITTEE**

**REPORT NO. PW-09-11**

### **RE-ESTABLISHMENT OF THE WASTE MANAGEMENT STEERING COMMITTEE**

**LES SHEPHERD,  
DIRECTOR OF WORKS, PLANNING SERVICES AND ASSET MANAGEMENT**

**STEVEN SILVER,  
CHIEF ADMINISTRATIVE OFFICER**

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#### **RECOMMENDATIONS**

**THAT** the Waste Management Steering Committee be re-established as a standing committee of Counties Council with representation from Counties Council, the Councils of the City of Brockville, Town of Prescott and the Landfill Liaison Committee and a committee mandate including the following:

Receive staff recommendations regarding the Expressions of Interest (EOI) for Leeds-Grenville Waste Management, October 2010;

Make recommendations to the municipal councils in respect of proceeding to a formal request for proposals to suitable firms/partnerships identified through review of the EOI's;

Make recommendations to Counties Council with respect to the annual budget and work program proposed for ED-19 in 2011;

**AND THAT;** the Counties open discussions with the Joint Services partners regarding establishing the Waste Management Steering Committee as a Joint Services Sub-committee instead of a committee of Counties Council.

Page 2

**RE-ESTABLISHMENT OF THE WASTE MANAGEMENT STEERING COMMITTEE  
REPORT TO THE PUBLIC WORKS COMMITTEE**

**BACKGROUND**

In October 2010, the United Counties working in partnership with the City of Brockville and the Town of Prescott, issued a request for Expressions of Interest in providing a comprehensive waste management program that would be available to all of the municipal partners in Leeds-Grenville.

Ten responses have been received and will be reviewed by a team of public works staff from Rideau Lakes, North Grenville, City of Brockville and the United Counties. This review is expected to result in a recommendation to issue a RFP to a limited number of well qualified firms which have been identified through the EOI process.

The Waste Management Steering Committee which was active until approximately 2001, had membership from Counties Council, City of Brockville, Town of Prescott and the Landfill Liaison Committee. At present, it may be more expedient for the Waste Management Steering Committee to operate as a sub-committee of the Joint Services Committee.

**INFORMATION/DISCUSSION**

During the development of ED-19, project staff reported to a Waste Management Steering Committee which was a standing committee of Counties Council. At that time, there was no formal equivalent of the Joint Services Committee and the Counties became the formal approval body by agreement with Brockville and Prescott. With a Joint Services Committee in place with representatives from all of the municipalities in Leeds-Grenville, it seems expedient to consider waste management under that body. Provided that waste management is intended to be a "user pay" service, there should be little concern over cost sharing and the representation is already in place.

**ALTERNATIVES/OPTIONS**

The Waste Management Steering Committee could continue to report to Counties Council with representation from the City of Brockville and the Town of Prescott.

Page 3

RE-ESTABLISHMENT OF THE WASTE MANAGEMENT STEERING COMMITTEE  
REPORT TO THE PUBLIC WORKS COMMITTEE

**FINANCIAL IMPLICATIONS**

No financial commitment is required at this time.

**ATTACHMENTS**

Nil



**LES SHEPHERD**  
**DIRECTOR OF WORKS, PLANNING SERVICES AND**  
**ASSET MANAGEMENT**

Dec 23 2010

**DATE**

---

**STEVEN G. SILVER,**  
**CHIEF ADMINISTRATIVE OFFICER**

Dec 23/10

**DATE**

## Sandra Seale

---

**From:** David LeSueur  
**Sent:** February 10, 2011 5:34 PM  
**To:** Sandra Seale  
**Subject:** GIS background

We have had the ESRI GIS software for over 10 years. It is used by Planning and the Fire Dept. It is compatible with the UCLG who we dispatch 20 fire stations for. It is also best suited as our corporate GIS system.

We may dispatch fire departments outside of Leeds & Grenville and this ERSI software will be necessary and required to bring revenue in.

This other system (MARMAK) was purchased 3 years ago and is a web based product. Although the yearly costs are small at the moment if it was expanded yearly pricing would rise.

87% of municipalities that are approximately our size +/- have GIS. We do not need to study GIS anymore but move forward by cutting the costs and moving the ESRI product forward.

I will have more information at FAO.

David LeSueur  
City of Brockville - Councillor

Home Phone: 613 342-7869

[www.city.brockville.on.ca](http://www.city.brockville.on.ca)  
[www.brockville.com](http://www.brockville.com)

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Information from ESET Smart Security, version of virus signature database 5863 (20110210)

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The message was checked by ESET Smart Security.

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