



Report No.

ES07-20

File No.

Directed to: Mayor Joe Preston and Members of City Council

Date Authored:  
Jan 24, 2020  
Meeting Date:  
February 18, 2020

Department: Environmental Services

Attachment: #1

Prepared By: Chris Andrew, Manager of Water and Sewer

2019 Summary and Annual  
Report for St. Thomas Water  
Distribution System

Subject: **2019 Summary and Annual Reports for the St. Thomas Water Distribution System**

**Recommendation:**

THAT: Report ES07-20 relating to the 2019 operations of the St. Thomas Water Distribution System, be received for information.

**Background:**

The St. Thomas Water Distribution System directly supplies water to the residents of St. Thomas as well as portions of the interconnected Municipality of Central Elgin and the Township of Southwold. The water is purchased from the Elgin Area Primary Water Supply Board and the St. Thomas Area Secondary Water Supply Board. The system complies with the Ontario Safe Drinking Water Act, Regulation 170/03 and with the terms and conditions of the applicable Municipal Drinking Water Licence and Drinking Water Works Permit.

The Safe Drinking Water Act, Regulation 170/03, Section 11, requires that owners and/or operating authorities of drinking water systems prepare Annual Reports by February 28<sup>th</sup> of each year. Under Schedule 22, the Regulation also requires the owner of a drinking water system to prepare a Summary Report no later than March 31<sup>st</sup> of each year.

**Analysis:**

The City of St. Thomas owns the St. Thomas Water Distribution System. As per the requirements of Ontario Regulation 170/03 the owner of the system shall prepare an Annual Report and Summary Report for the operations of the system during the previous calendar year. The reports have been prepared, summarizing the operations of the St. Thomas Water Distribution System for the 2019 calendar year, and are amended as attachment #1.

The Annual Report has been completed by the required date of February 28<sup>th</sup>, 2020, on standard forms provided by the Ministry of Environment, Conservation and Parks (MECP), and will be filed as required. The Summary Reports have been completed prior to the required submission date of March 31<sup>st</sup>, 2020.

As required by the regulations, arrangements have been made to post the annual report on the City's web site and copies will be sent to the drinking water systems that receive water from the St. Thomas Water Distribution System. Copies of the reports will be made available to the Public upon request at the Environmental Services Department.

The water system remains safe, efficient, extensively tested, and well maintained. It meets all of the stringent regulatory requirements. The rates established by Council contribute to a sustainable asset for this and future generations.

Respectfully Submitted,

Chris Andrew,  
Manager of Water & Sewer

Reviewed By: \_\_\_\_\_  
Treasury      Env. Services      Planning      City Clerk      HR      Other

S  
U  
M  
M  
A  
R  
Y  
R  
E  
P  
O  
R  
T

---

# ST. THOMAS WATER DISTRIBUTION SYSTEM

---

License Number: 057-101  
Permit Number: 057-201

Ontario Regulation 170/03  
Summary Report

For the Period  
January 1, 2019 – December 31, 2019



## Table of Contents

<b>1</b>	<b>Summary Report Requirements .....</b>	<b>1</b>
1.1	Introduction .....	1
1.2	System Description.....	1
1.3	System Approvals and Regulatory Requirements.....	1
<b>2</b>	<b>Evaluation of Water Quantities and Flow Rates.....</b>	<b>2</b>
2.1	Albert Roberts Booster Station – Elgin Area Primary Water Supply System .....	2
2.2	East Chamber – St. Thomas Area Secondary Water Supply System .....	3
2.3	West Chamber – St. Thomas Area Secondary Water Supply System .....	3
2.4	Wellington Road Chamber – St. Thomas Area Secondary Water Supply System	3
2.5	Fingal Line Chamber – Southwold Water Distribution System .....	4
<b>3</b>	<b>Water Quality Summary .....</b>	<b>5</b>
<b>4</b>	<b>Summary of Non-Compliant Conditions .....</b>	<b>5</b>
4.1	Ministry of the Environment, Conservation and Parks Inspection .....	5
4.2	Adverse Test Results and Issue Resolution.....	6
<b>5</b>	<b>List of Appendices .....</b>	<b>6</b>

---

## **1 Summary Report Requirements**

### **1.1 Introduction**

The 2019 Summary Report for the St. Thomas Water Distribution System is being submitted to satisfy Schedule 22 of Ontario Regulation 170/03, the requirement to prepare and distribute a summary report of water system operations, outlining regulatory non-compliance with respect to water quality and water system management and administration and evaluating the water system infrastructure adequacy, with respect to its ability to continue to meet the communities water demands).

As per Ontario Regulation 170/03, the summary report must:

- a. List the requirements of the Act, the regulations, the system's approval, drinking water works permit, municipal drinking water licence, and any orders applicable to the system that were not met at any time during the period covered by the report; and
- b. For each requirement referred to in clause (a) that was not met, specify the duration of the failure and the measures that were taken to correct the failure.

The report must also include the following information for the purpose of enabling the owner of the system to assess the capability of the system to meet existing and planned uses of the system:

- A summary of the quantities and flow rates of the water supplied during the period covered by the report, including monthly average and maximum daily flows.
- A comparison of the summary to the rated capacity and flow rates approved in the system's approval, drinking water works permit or municipal drinking water licence, or if the system is receiving all of its water from another system under an agreement, to the flow rates specified in the written agreement.

The information provided is for the purpose of enabling the owner of the system to assess the capacity of the system. This report covers the reporting period from January 1, 2019 to December 31, 2019.

### **1.2 System Description**

The St. Thomas Water Distribution System has three entry points into the network from the St. Thomas Area Secondary Water Supply System, the East Chamber located at the Elgin Middlesex Booster Station (490 South Edgeware Road), the West Chamber located in Water Works Park (2 South Edgeware), and the Wellington Road Chamber (Ford Line and Wellington Road). The system also receives water from one entry point into the network from the Elgin Area Primary Water Supply System at the Albert Robert Booster Station (8754 Tyke Road) in the Municipality of Central Elgin and one entry point into the network from the Southwold Water Distribution System on Fingal Line at the municipal boundary.

### **1.3 System Approvals and Regulatory Requirements**

Operation and Maintenance of the STDWS is governed by the Safe Drinking Water Act, 2002, and the regulations established under this Act. In accordance with the Safe Drinking Water Act, The City of St. Thomas holds a Municipal Drinking Water Licence and Drinking Water Works Permit, which provide approval for the establishment of drinking water infrastructure and provide the authority to operate and maintain said water system.

During the reporting period, The St. Thomas Drinking Water System was operated pursuant to the approvals, licences and permits listed below:

- City of St. Thomas Water Distribution System
  - MDWL No. 057-101, issued on July 15, 2016
  - DWWP No. 057-201, issued on July 15, 2016

Ontario Regulation 170/03 – Drinking Water Systems, governs the operation, maintenance and water quality monitoring requirements for municipal drinking water systems in Ontario. Ontario Regulation 128/04 – Certification of Drinking Water System Operations and Water Quality Analysts sets out the requirements for persons performing operational or maintenance activities on the water system. The Safe Drinking Water Act, 2002 and the associated regulations are enforced by the Ministry of Environment, Conservation and Parks (MECP) and monitored through annual inspections by Ministry personnel. Any non-compliant conditions identified during the course of the annual inspection are listed in the Inspection Report issued at the conclusion of the inspection period and are summarized in section 4.1 of this report.

Ontario Regulation 169/03 – Ontario Drinking Water Quality Standards sets the limits for parameters of concern in drinking water. Drinking water quality is monitored by the Operating Authority and any exceedance of the Drinking Water Quality Standards must be reported to the MECP and Public Health Unit, verbally and in written form through the use of a Notice of Adverse Test Results and Issue Resolution Form. Any non-compliant conditions identified through water quality monitoring exercises over the reporting period have been documented on a Notice of Adverse Test Results and Issue Resolution Form and are summarized in section 4.2 of this report.

## 2 Evaluation of Water Quantities and Flow Rates

### 2.1 Albert Roberts Booster Station – Elgin Area Primary Water Supply System

The Albert Roberts Booster Station (ARBS) receives treated water from the Elgin Area Primary Water Supply System, which pumps water from the water treatment plant located on the shores of Lake Erie to the east of the Town of Port Stanley. Water is pumped from a connection point on the transmission main that connects the water treatment plant to the Elgin Middlesex Pump Station and reservoir.

The ARBS is comprised of four high lift pumps that deliver water through a transmission main that services the St. Thomas Distribution System. The station maintains the operating pressure and includes a flow meter, chlorine analyzer, monitoring control, alarm system and instrumentation. Remote monitoring and control of the pumps are possible through the St. Thomas SCADA system.

All pumps use a common header and the firm rated pumping capacity (2 pumps operating) of the ARBS is 170.3 l/s or a total of 14,714 m<sup>3</sup>/d.

The Table below compares the flows experienced in 2019 to the capacity of the Albert Roberts Booster Station's entry point into the St. Thomas Distribution Water System.

Entry Point	Flow Capacity (m <sup>3</sup> /day)	2019 Avg. Day Flow (m <sup>3</sup> /day)	Avg. Day % of Entry Point Capacity	2019 Max Day Flow (m <sup>3</sup> /day)	Max Day % of Entry Point Capacity
Albert Roberts BS	14,714	5,061	34	9,947	67

## 2.2 East Chamber – St. Thomas Area Secondary Water Supply System

The East Chamber is one of three entry points into the St. Thomas DWS from the St. Thomas Area Secondary Water Supply System. The East Chamber is located on the grounds of the Elgin Middlesex Pumping Station. Flow through the East Chamber is restricted to 25,920 m<sup>3</sup>/day, based on the maximum instantaneous flow rate being 300 L/s.

Monthly flows experienced through the East Chamber for the 2019 calendar year are provided in Appendix B to this report.

The Table below compares the flows experienced in 2019 to the capacity of the East Chamber's entry point into the St. Thomas Distribution Water System.

Entry Point	Flow Capacity (m <sup>3</sup> /day)	2019 Avg. Day Flow (m <sup>3</sup> /day)	Avg. Day % of Entry Point Capacity	2019 Max Day Flow (m <sup>3</sup> /day)	Max Day % of Entry Point Capacity
East Chamber	25,920	4,531	17	6,066	23

The peak instantaneous flow rate experienced in 2019 at the East Chamber was 174 L/s.

## 2.3 West Chamber – St. Thomas Area Secondary Water Supply System

The West Chamber is the second of three entry points into the St. Thomas DWS from the St. Thomas Area Secondary Water Supply System. The West Chamber is located at 2 South Edgeware Road, within Waterworks Park. Flow through the West Chamber is restricted to 25,920 m<sup>3</sup>/day, based on the maximum instantaneous flow rate being 300 L/s.

Monthly flows experienced through the West Chamber for the 2019 calendar year are provided in Appendix B to this report.

The Table below compares the flows experienced in 2019 to the capacity of the West Chamber's entry point into the St. Thomas Distribution Water System.

Entry Point	Flow Capacity (m <sup>3</sup> /day)	2019 Avg. Day Flow (m <sup>3</sup> /day)	Avg. Day % of Entry Point Capacity	2019 Max Day Flow (m <sup>3</sup> /day)	Max Day % of Entry Point Capacity
West Chamber	25,920	1,269	5	2,760	11

The peak instantaneous flow rate experienced in 2019 at the West Chamber was 85 L/s.

## 2.4 Wellington Road Chamber – St. Thomas Area Secondary Water Supply System

The Wellington Road Chamber is the third entry point into the St. Thomas DWS from the St. Thomas Area Secondary Water Supply System. The Chamber is located at the intersection of Wellington Road and Ford Line. Flow will typically only enter the St. Thomas DWS through the Wellington Road Chamber during periods of very high demand in the WDS. 45 m<sup>3</sup> went through the Wellington Road Chamber during 2019 this is due to maintenance and testing activities.

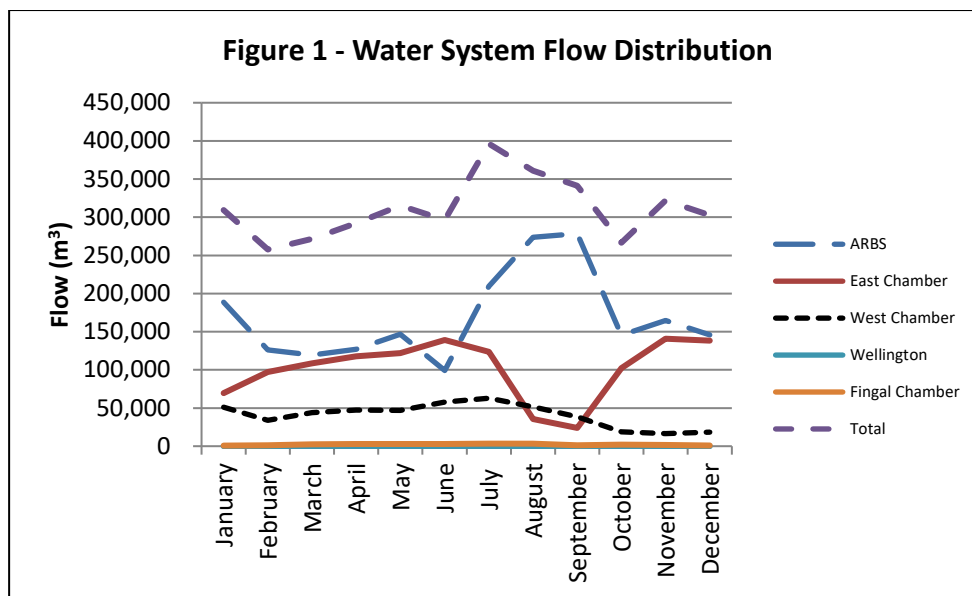
### 2.5 Fingal Line Chamber – Southwold Water Distribution System

The Fingal Line Chamber supplies water from the Southwold Water Distribution System to a section of the St. Thomas Water Distribution System along Fingal Line. The water in the Southwold Water Distribution System originates from the St. Thomas Area Secondary Water Supply System. The water is rechlorinated within the Southwold Water Distribution System. Flow through the Fingal Line Chamber is restricted to 13,824 m<sup>3</sup>/day, based on the maximum instantaneous flow rate being 160 L/s.

The Table below compares the flows experienced in 2019 to the capacity of the Fingal Line Chamber’s entry point into the St. Thomas Distribution Water System.

Entry Point	Flow Capacity (m <sup>3</sup> /day)	2019 Avg. Day Flow (m <sup>3</sup> /day)	Avg. Day % of Entry Point Capacity
Fingal Line	13,824	70	1

**Figure 1** provides a graphical overview of the flows entering the St. Thomas Water Distribution System. Based on the 2019 flow data, the distribution of flows into the distribution system between the water supplied from the Albert Roberts Booster Station versus the St. Thomas Area Secondary Water Supply System (through the East, West and Wellington Chambers).

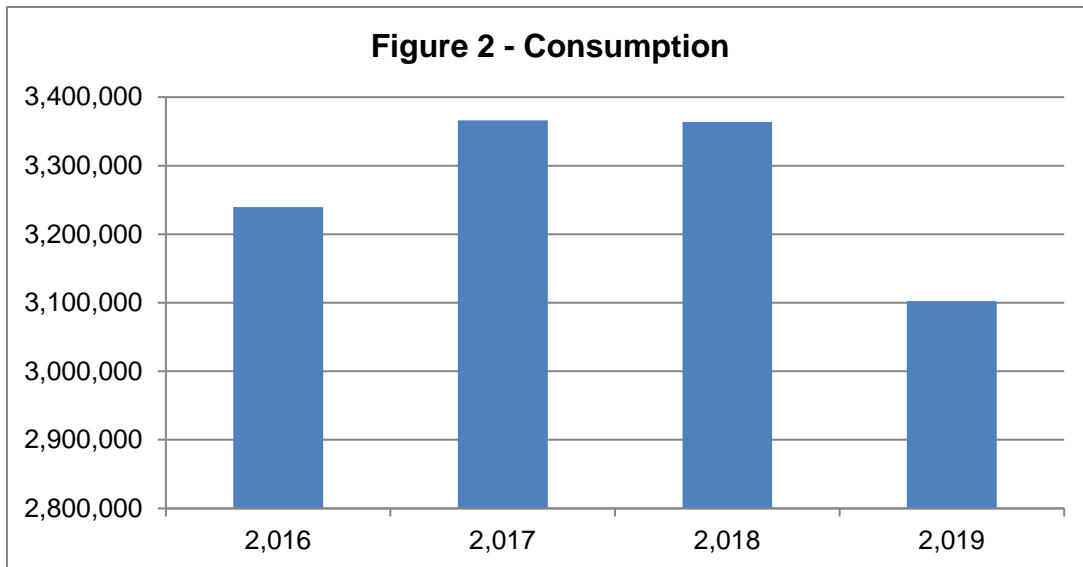


The total consumption by customers of the St. Thomas Water Distribution System decreased by 8% from 3,363,822 m<sup>3</sup> in 2018 to 3,102,505 m<sup>3</sup> in 2019.

The total flow into the St. Thomas Water Distribution System decreased by 11% in 2019 from 4,235,383 m<sup>3</sup> in 2018 to 3,757,559 m<sup>3</sup> over the 2019 year.

The unaccounted water loss in the St. Thomas Water Distribution System was under 15%. This can be attributed capital improvements and monitoring of all water uses from fire fighting and training exercises, maintenance programs and capital projects.

**Figure 2** provides an overview of the consumption flows in the St. Thomas Water Distribution System over the last number of years.



### 3 Water Quality Summary

A summary of water quality testing completed by the City of St. Thomas – Environmental Services Dept. over the course of the reporting period is available in the Annual Report, attached as Appendix A.

### 4 Summary of Non-Compliant Conditions

#### 4.1 Ministry of the Environment, Conservation and Parks Inspection

The Ontario Ministry of the Environment, Conservation and Parks (MECP) conducts an inspection of the St. Thomas Drinking Water System annually. An MECP inspection took place on October 1, 2019. The final inspection report was issued on October 31, 2019. Non-compliances identified in the inspection report, and actions taken to rectify the non-compliant condition are summarized in the table below.

The MECP Inspection Report identified an inspection risk rating of 7.07% and achieving an overall final inspection rating of 92.93%, indicating that the risk was minimal.

MECP Inspection Finding	Action Taken
<p>The Owner/Operating Authority submitted a number of internal forms for new/temporary overland watermains that were commissioned within the distribution system. The Ministry's Watermain Disinfection procedure section 1.0 indicates that the most current version of AWWA Standard C651 is to be followed for new watermain construction.</p> <p>A review of the documentation submitted indicated that Owner/Operating Authority failed to ensure that the Ministry's Watermain Disinfection Procedures and AWWA Standard C651 was correctly followed and documented in order to satisfy the conditions imposed by the Director in Drinking Water Works Permit #057-201, Issue #2. Internal forms that were submitted lacked appropriate details such as but not limited to the</p>	<p>The City completed a review of the documentation required to demonstrate compliance with the Ministries Watermain Disinfection Procedure. As a result, several SOP's were revised to include a "Record-keeping" section to advise staff on where to record and submit records being generated. In addition, several changes were made to the forms being used to capture this information to prompt the collection of specific data that may have historically not been recorded. The City conducted 2 training sessions with Operations Staff on the requirements of DWWP</p>



<p>following; which disinfection method was followed, accurate times of activities (i.e Flushing), the level of free chlorine during the disinfection process, if microbiological samples were collected and if de-chlorination was correctly preformed to dispose of highly chlorinated water. It should be noted that upon notification of the aforementioned the Operating Authority assured the ministry that the form that is used for main commissioning will be updated to ensure that all required information is clearly documented moving forward.</p>	<p>#057-201 Issue 2, with a focus on provision 2.3, relating to disinfection practices. The training sessions also included a review of the procedures revised/developed to help inform staff on proper disinfection processes and provide clear record-keeping requirements.</p>
--	---

**4.2 Adverse Test Results and Issue Resolution**

Any non-compliant conditions identified through water quality monitoring exercises over the reporting period, and actions taken are summarized in the table below.

Adverse Test Result (Date / Location)	Action Taken
1 Total Coliform (Jun 12/ Donker Dr SS)	The area watermains were flushed and resamples were taken from upstream, downstream and at the original sample location. All resample results were clear.
1 Total Coliform (July 17/ Bush line FS)	The area watermains were flushed and resamples were taken from upstream and at the original sample location. All resample results were clear.

**5 List of Appendices**

**Appendix A** – St. Thomas Distribution System – 2019 Annual Report

**Appendix B** – Chamber and Station Flows - 2019

# **APPENDIX A**



# Ontario Drinking-Water Systems Regulation O. Reg. 170/03

<b>Drinking-Water System Number:</b>	260002187
<b>Drinking-Water System Name:</b>	St. Thomas Water Distribution System
<b>Drinking-Water System Owner:</b>	Corporation of the City of St. Thomas
<b>Drinking-Water System Category:</b>	Large Municipal Residential
<b>Period being reported:</b>	January 1, 2019 through December 31, 2019

<p><b><u>Complete if your Category is Large Municipal Residential or Small Municipal Residential</u></b></p> <p>Does your Drinking-Water System serve more than 10,000 people? Yes [ ] No [X]</p> <p>Is your annual report available to the public at no charge on a web site on the Internet? Yes [X] No [ ]</p> <p>Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.</p> <div style="border: 1px solid black; padding: 5px;"> <p>City of St. Thomas, City Hall Environmental Services 545 Talbot Street St Thomas, Ontario</p> </div>	<p><b><u>Complete for all other Categories.</u></b></p> <p>Number of Designated Facilities served:  <div style="border: 1px solid black; padding: 2px; display: inline-block;">NA</div> </p> <p>Did you provide a copy of your annual report to all Designated Facilities you serve? Yes [ ] No [ ]</p> <p>Number of Interested Authorities you report to:  <div style="border: 1px solid black; padding: 2px; display: inline-block;">NA</div> </p> <p>Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility? Yes [ ] No [ ]</p>
---	---

List all Drinking-Water Systems (if any), which receive all of their drinking water from your system:

Drinking Water System Name	Drinking Water System Number
Municipality of Central Elgin	260004761
Township of Southwold	210001362

Did you provide a copy of your annual report to all Drinking-Water System owners that are connected to you and to whom you provide all of its drinking water?

Yes [X] No [ ]

Indicate how you notified system users that your annual report is available, and is free of charge.

[x] Public access/notice via the web

City of St. Thomas Website – [www.city.st-thomas.on.ca](http://www.city.st-thomas.on.ca)

[x] Public access/notice via Government Office

[ ] Public access/notice via a newspaper

[x] Public access/notice via Public Request

[ ] Public access/notice via a Public Library

[ ] Public access/notice via other method \_\_\_\_\_



**Describe your Drinking-Water System**

The St. Thomas Water Distribution System services over 14,500 customers including 862 customers within the Municipality of Central Elgin and 53 customers within the Township of Southwold (Lynhurst Subdivision). The system purchases its water from the Elgin Area Primary Water Supply System, which extends from Lake Erie to the City of London. The St. Thomas Distribution System consists of approximately 226,000 metres of water main ranging in size from 50 mm to 450 mm in diameter with the oldest installation in 1909. Material types include Asbestos Cement, Cast Iron, Concrete Ductile, Iron Polyethylene, and PVC.

**List all water treatment chemicals used over this reporting period**

12% Sodium Hypochlorite (Disinfection/Repairs)

**Were any significant expenses incurred to?**

- Install required equipment
- Repair required equipment
- Replace required equipment

**Please provide a brief description and a breakdown of monetary expenses incurred**

Southwick St. Recon. (Wellington to Rosebery Place)	\$86,799.08
Elm St. Recon. (Wilson to First Ave.)	\$1,357,581.96
Hughes St. Recon. (Kains to Barwick)	\$699,618.35
William St. Recon. (Talbot to Centre St.)	\$43,792.75
Myrtle St. Recon. (Ross to Third Ave)	\$595,928.00
Ross St. Recon. (Wellington to Amelia)	\$160,523.70

**Provide details on the notices submitted in accordance with subsection 18(1) of the Safe Drinking-Water Act or section 16-4 of Schedule 16 of O.Reg.170/03 and reported to Spills Action Centre**

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
June 13, 2019	TC	1	cfu/100 mL	Flush and resample	June 17, 2019
July 18, 2019	TC	1	cfu/100mL	Flush and resample	July 21, 2019



**Microbiological testing done under the Schedule 10, 11 or 12 of Regulation 170/03, during this reporting period.**

	Number of Samples	Range of E.Coli Or Fecal Results (min #)-(max #)	Range of Total Coliform Results (min #)-(max #)	Number of HPC Samples	Range of HPC Results (min #)-(max #)
Raw	NA	NA	NA	NA	NA
Treated	NA	NA	NA	NA	NA
St. Thomas	627	(0)-(0)	(0)-(1)	616	(<10)-(790)
Central Elgin	68	(0)-(0)	(0)-(0)	62	(<10)-(10)
Southwold	13	(0)-(0)	(0)-(0)	13	(<10)-(<10)
Distribution Total	708	(0)-(0)	(0)-(1)	693	(<10)-(790)

**Operational testing done under Schedule 7, 8 or 9 of Regulation 170/03 during the period covered by this Annual Report.**

	Number of Grab Samples	Range of Results (min #)-(max #)
Chlorine (Grab Samples)	708	(0.21)-(1.75)
*Chlorine (Continuous Monitoring)	8760	(0.00)-(2.00)

*NOTE: For continuous monitors use 8760 as the number of samples.*

\*Online locations- East and West chamber, Albert Roberts, Wellington and Southdale Panels. All incidents of <0.05 were investigated and determined to be under 5 minutes in duration.

**Summary of additional testing and sampling carried out in accordance with the requirement of an approval, order or other legal instrument.**

Date of legal instrument issued	Parameter	Date Sampled	Result	Unit of Measure
NA	NA	NA	NA	NA

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

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
NA	NA	NA	NA	NA



**Summary of lead testing under Schedule 15.1 during this reporting period**

(applicable to the following drinking water systems; large municipal residential systems, small municipal residential systems, and non-municipal year-round residential systems)

<b>Location Type</b>	<b>Number of Samples</b>	<b>Range of Lead Results (min#) – (max #)</b>	<b>Number of Exceedances</b>
<b>Plumbing</b>	2	(0.42) – (2.59)	0
<b>Distribution</b>	2	(0.14) – (0.16)	0

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

<b>Parameter</b>	<b>Sample Date</b>	<b>Result Value</b>	<b>Unit of Measure</b>	<b>Exceedance</b>
HAA5	Feb 21 2019 May 14 2019 Aug 27 2019 Nov 21 2019	5.3	ug/L	no
THM (NOTE: show latest annual average)	Feb 21 2019 May 14 2019 Aug 27 2019 Nov 21 2019	22.0	ug/L	no

**List any Inorganic or Organic parameter(s) that exceeded half the standard prescribed in Schedule 2 of Ontario Drinking Water Quality Standards.**

<b>Parameter</b>	<b>Result Value</b>	<b>Unit of Measure</b>	<b>Date of Sample</b>
NA	NA	NA	NA

# **APPENDIX B**

**Albert Roberts**

Month of the Year	Avg Daily Flow	Max Daily Flow	Discharge Volume
	l/s	l/s	m <sup>3</sup>
January	71	127	189,407
February	51	108	123,112
March	48	82	125,883
April	49	85	123,742
May	51	75	137,111
June	51	76	*140,000
July	52	76	*150,000
August	105	175	230,826
September	99	163	255,864
October	56	169	105,264
November	56	128	122,661
December	54	124	143,609
<b>Average</b>	63	115	155,747
<b>Yearly Total</b>			1,847,479

**\*Calculated value due to Scada upgrade**



### East Chamber

Month of the Year	Avg Daily Flow	Max Daily Flow	Volume
	<i>l/s</i>	<i>l/s</i>	<i>m<sup>3</sup></i>
January	28	61	75,062
February	41	127	100,326
March	44	121	123,270
April	43	128	112,389
May	46	139	123,569
June	58	164	599,111
July	42	174	111,085
August	16	117	32,242
September	13	102	10,875
October	40	104	105,397
November	51	135	121,586
December	52	127	139,066
<b>Average</b>	40	125	137,831
<b>Yearly Total</b>			1,653,983

**West Chamber**

Month of the Year	Flow	Max Daily Flow	Volume
	<i>l/s</i>	<i>mg/l</i>	<i>m3</i>
January	23	72	45,467
February	23	84	42,926
March	24	76	49,446
April	23	77	43,229
May	23	69	46,434
June	31	73	63,031
July	28	74	61,581
August	25	80	41,369
September	22	63	18,124
October	11	68	19,169
November	10	74	13,711
December	11	68	18,717
<b>Average</b>	21	73	38,600
<b>Yearly Total</b>			463,207