



2020 Annual Drinking Water System (DWS) Quality Report Keswick-Sutton Distribution Subsystem

Prepared by the Town of Georgina pursuant to Section 11 of O.Reg. 170/03

Drinking Water System Number: 260062686
Drinking Water System Name: Keswick-Sutton Distribution Subsystem
Drinking Water System Owner: The Town of Georgina
DWS Category: Large Municipal Residential
Drinking Water System Classification: Water Distribution II
Reporting period: Jan 1, 2020 - Dec 31, 2020

The Keswick-Sutton Distribution Subsystem serves 39,527 people

This annual report is available to the public at no charge on the Town's website <https://www.georgina.ca/living-here/home-and-property/municipal-water-and-wastewater/drinking-water-reports> and upon request at the Civic Centre.

Summary report required under O.Reg. 170/03 Schedule 22 will be available for inspection at:

The Town of Georgina
Civic Centre
Office of the Clerk
26557 Civic Centre Road, Keswick, Ontario, L4P 3G1
and online, <https://www.georgina.ca/living-here/home-and-property/municipal-water-and-wastewater/drinking-water-reports>

List all Drinking Water Systems which receive their drinking water from the Keswick-Sutton Distribution Subsystem

None

Description of the Keswick-Sutton Distribution Subsystem

Introduction

Municipal drinking water is being supplied to the communities of Keswick and Sutton, located on the south shore of Lake Simcoe. Surface water from Lake Simcoe is treated by the Regional Municipality of York, while the Town of Georgina distributes treated water to end users. The Province governs the Region and Town of Georgina operations with Acts and Regulations, a Permit to Take Water, a Municipal Drinking Water License and an Operating Permit.

Raw water source

Lake Simcoe

List of water treatment chemicals used over this reporting period

None

Brief description and breakdown of monetary expenses incurred

Approx. **\$3.0 million** of capital expenditures associated with the Treasure Hill development:

- Connell Booster Station
- Church Street water service replacement

Approx. **\$0.65 million** of capital expenditures associated with infrastructure replacement:

- Annual polybutylene service replacements (20 sites in 2020)
- Hydrants and secondary valve replacements.
- SCADA secondary alarm system (Auto-dialers)
- Annual water meter change-out program

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Notices submitted under Section 18(1) of the Safe Drinking Water Act or Section 16-4 of O.Reg. 170/03 and reported to MECP Spills Action Centre (SAC) as potential / suspected Adverse Water Quality results

Incident Date	Parameter	Result (Present or Absent)	Unit of Measure	Corrective Action	Corrective Action Date
May 21, 2020	Watermain / Water Service Break / Leak TC - (Total Coliform) EC - (E.Coli)	Absent	Presence/ Absence	Resample (at, and downstream), flush, & test for chlorine residuals + microbiological samples in accordance with O.Reg. 170/03	May 21, 2020 – 1 st sample + test & monitor May 22, 2020 – 2 nd resample + test & monitor
Aug 17, 2020	Operational Chlorine Residual	< 0.05	mg/L	Flush, monitor and rush microbiological samples in accordance with O.Reg. 170/03	Aug 17, 2020 – Flush, test for chlorine residual and take microbiological samples
Sep 23, 2020	Operational Chlorine Residual	< 0.05	mg/L	Flush, monitor and rush microbiological samples in accordance with O.Reg. 170/03	Sep 23, 2020 – Flush, test for chlorine residual and take microbiological samples
Sep 28, 2020	Operational Chlorine Residual	< 0.05	mg/L	Flush, monitor and rush microbiological samples in accordance with O.Reg. 170/03	Sep 28, 2020 – Flush, test for chlorine residual and take microbiological samples
Sep 30, 2020	Watermain / Water Service Break / Leak TC - (Total Coliform) EC - (E.Coli)	Absent	Presence/ Absence	Resample (at, upstream, and downstream), flush, & test for chlorine residuals + microbiological samples in accordance with O.Reg. 170/03	Sep 30, 2020 – 1 st sample + test & monitor Oct 01, 2020 – 2 nd resample + test & monitor
Oct 31, 2020	Operational Chlorine Residual	< 0.05	mg/L	Flush, monitor and rush microbiological samples in accordance with O.Reg. 170/03	Oct 31, 2020 – Flush, test for chlorine residual and take microbiological samples
Dec 06, 2020	Watermain / Water Service Break / Leak TC - (Total Coliform) EC - (E.Coli)	Absent	Presence/ Absence	Resample (at, and downstream), flush, & test for chlorine residuals + microbiological samples in accordance with O.Reg. 170/03	Dec 06, 2020 – Flush, test for chlorine Dec 7, 2020 – Rush microbiological samples to laboratory.

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Compared to 2019, the 2020 year saw seven (7) potential adverse water quality incidents (AWQI's, as identified in the table above). This is an increase of six (6) separate events as compared to the previous year, however, sample results for each incident returned negative for microbiological contamination. Town staff reported each potential adverse incident to the MECP SAC and the York-Durham Public Health Unit (PHU) as a precaution to ensure due diligence and to keep the public safe from water borne harm.

Microbiological testing completed under Schedule 10 of O.Reg. 170/03

	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	N/A	N/A	N/A	N/A	N/A
Treated	N/A	N/A	N/A	N/A	N/A
Distribution	752	Range: (Absent)	Range: (Absent)	210	Range: 0 – 32 CFU

Operational testing done under Schedule 7 of Regulation 170/03 during the period covered by this Annual Report

	Number of Grab Samples	Range of Results (min #)-(max #)	Unit of Measure
Chlorine	4670	0.00 – 2.14	mg/L

Summary of testing pursuant to Schedule 13 of O. Reg. 170/03 and sampling carried out in accordance with the requirement of an approval, order or other legal instrument

	Date of Sample	Running Annual Average (µg/L)	ODWS Regulatory Limit	Exceedance
Trihalomethanes (THM's)	February 3, 2020	61.31	100 µg/L	No
	May 4, 2020	60.70		
	August 5, 2020	61.99		
	November 2, 2020	61.08		
Haloacetic Acid (HAA's)	February 3, 2020	40.25	80 µg/L	No
	May 4, 2020	38.88		
	August 05, 2020	39.00		
	November 6, 2020	38.75		
Nitrate		*Refer to Regional Municipality of York Annual Report O.Reg 170/03 requires these parameters to be tested at the point where water enters the distribution system. The Town of Georgina relies on the Region of York to undertake this sampling and testing when the water leaves the treatment plant.		
Nitrite				
Sodium				
Fluoride				



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Summary of testing pursuant to Schedule 13 of O. Reg. 170/03 as chosen to be sampled for;

	Date of Sample	MAC*	Results
Nitrite (NO ₂ ⁻) as N	February 19, 2020	1mg/L	<0.05mg/L
Nitrate (NO ₃ ⁻) as N		10mg/L	<0.50mg/L
Nitrite (NO ₂ ⁻) as N	May 19, 2020	1mg/L	<0.05mg/L
Nitrate (NO ₃ ⁻) as N		10mg/L	<0.50mg/L
Nitrite (NO ₂ ⁻) as N	August 7, 2020	1mg/L	<0.05mg/L
Nitrate (NO ₃ ⁻) as N		10mg/L	<0.50mg/L
Nitrite (NO ₂ ⁻) as N	November 11, 2020	1mg/L	<0.05mg/L
Nitrate (NO ₃ ⁻) as N		10mg/L	<0.50mg/L

Lead testing under Schedule 15.1 of O.Reg 170/03

Location Type	Number of Samples	Range of Lead Results (min#) – (max #)	Unit of Measure	ODWS Regulatory Limit	Number of Exceedances
Plumbing	N/A				
Distribution	8 (4 – Keswick) (4 – Sutton)	<0.0005 – 0.0009	mg/L	0.01mg/L	N/A

Summary of Inorganic (Schedule 23 of O.Reg 170/03) parameters tested during this reporting period or the most recent sample results

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Antimony	*Refer to Regional Municipality of York Annual Report O.Reg 170/03 requires these parameters to be tested at the point where water enters the distribution system. The Town of Georgina relies on the Region of York to undertake this sampling and testing when the water leaves the treatment plant.			
Arsenic				
Barium				
Boron				
Cadmium				
Chromium				
Mercury				
Selenium				
Sodium				
Uranium				
Fluoride				
Nitrite				
Nitrate				
*Lead	*See above table; Schedule 15.1 results			

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Summary of Organic (Schedule 23 of O.Reg 170/03) parameters sampled during this reporting period or the most recent sample results

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Alachlor				*Refer to Regional Municipality of York Annual Report O.Reg 170/03 requires these parameters to be tested at the point where water enters the distribution system. The Town of Georgina relies on the Region of York to undertake this sampling and testing when the water leaves the treatment plant.
Aldicarb				
Aldrin + Dieldrin				
Atrazine + N-dealkylated metabolites				
Azinphos-methyl				
Bendiocarb				
Benzene				
Benzo(a)pyrene				
Bromoxynil				
Carbaryl				
Carbofuran				
Carbon Tetrachloride				
Chlordane (Total)				
Chlorpyrifos				
Cyanazine				
Diazinon				
Dicamba				
1,2-Dichlorobenzene				
1,4-Dichlorobenzene				
Dichlorodiphenyltrichloroethane (DDT) + metabolites				
1,2-Dichloroethane				
1,1-Dichloroethylene (vinylidene chloride)				
Dichloromethane				
2,4 Dichlorophenol				
2,4-Dichlorophenoxy acetic acid (2,4-D)				
Diclofop-methyl				
Dimethoate				
Dinoseb				
Diquat				
Diuron				
Glyphosate				
Heptachlor + Heptachlor Epoxide				
Lindane (Total)				
Malathion				
Methoxychlor				
Metolachlor				
Metribuzin				
Monochlorobenzene				
Paraquat				
Parathion				
Pentachlorophenol				
Phorate				
Picloram				
Polychlorinated Biphenyls(PCB)				



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Prometryne	
Simazine	
THM (NOTE: see table below)	
Temephos	
Terbufos	
Tetrachloroethylene	
2,3,4,6-Tetrachlorophenol	
Triallate	
Trichloroethylene	
2,4,6-Trichlorophenol	
2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)	
Trifluralin	
Vinyl Chloride	

Organic and inorganic parameter(s) that exceeded half the standard prescribed in Schedule 2 of O. Reg. 169/03 Ontario Drinking Water Quality Standards

	Date of Sample	Running Annual Average (µg/L)	Value exceeded over half of regulatory standard (ODWS Standard 100 µg/L)
Trihalomethanes (THM's)	February 3, 2020	61.31	Yes
	May 4, 2020	60.70	
	August 5, 2020	61.99	
	November 2, 2020	61.08	