



ANNUAL REPORT

Drinking-Water System Number:	220005161
Drinking-Water System Name:	Washago Water Supply and Distribution
Drinking-Water System Owner:	The Corporation of the Township of Severn
Drinking-Water System Category:	Large Municipal Residential
Period being reported:	January 1, 2017 to December 31, 2017

<p><u>Complete if your Category is Large Municipal Residential or Small Municipal Residential</u></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>Township of Severn Administrative Office 1024 Hurlwood Lane Severn, Ontario L3V 0Y6</p> </div>	<p><u>Complete for all other Categories.</u></p> <p>Number of Designated Facilities served:</p> <div style="border: 1px solid black; width: 100px; height: 20px; margin: 5px 0;"></div> <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; width: 100px; height: 20px; margin: 5px 0;"></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>
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Note: For the following tables below, additional rows or columns may be added or an appendix may be attached to the report

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
Ramara Knob Hill / Somerset	260046137

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.

Public access/notice via the web

Public access/notice via Government Office

Public access/notice via a newspaper

Public access/notice via Public Request

Public access/notice via a Public Library

Public access/notice via other method _____

Describe your Drinking-Water System

Water for the Washago water treatment plant is pumped from Lake Couchiching to a package water treatment plant located on Quetton Street. Chlorine dioxide and SternPAC are added prior to direct filtration. Filtration is provided by two (2) trains of pressure type depth filters and clarifiers, followed by GAC filtration. Filtered water is chlorinated and then sent to a 257 m³, three-cell, baffled concrete underground reservoir for storage. Backwash water from the clarifiers and filters is sent directly to the sanitary sewage system. The distribution system was constructed in the 1980's and consists of PVC piping with a recirculation line connecting all dead ends. There are 11 fire hydrants and two sampling stations connected to the distribution system. The Washago water system serves approximately 300 residents in the village of Washago in the Township of Severn and 17 houses in the Township of Ramara.

List all water treatment chemicals used over this reporting period

Sodium Hypochlorite
Stern PAC
Sodium Chlorite
Hydrochloric Acid

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

New SCADA computer - \$9,200
Two (2) new peristaltic Chlorine pumps - \$8,900
New Dialer - \$5,200
New Block Heater in Generator - \$3,100
New Carrying Water pump - \$1,600



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
Nov. 6, 2017	Total Coliform	1	CFU	Resampled. Resamples were in compliance.	Nov. 8, 2017
Nov. 20, 2017	Total Coliform	2	CFU	Resampled. Resamples were in compliance.	Nov. 22, 2017

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	52	0 - 0	0 - 920	N/A	N/A
Treated	52	0 - 0	0 - 0	52	0 - 1
Distribution	108	0 - 0	0 - 2	52	0 - 2

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 #)
Turbidity – Train 1	8760	0.064 – 0.150 NTU
Turbidity – Train 2	8760	0.065 – 0.106 NTU
Turbidity	8760	0.083 – 0.186 NTU
Chlorine	8760	1.61 – 2.09
Chlorine Free Residual Distribution Supply	364	0.74 – 2.02
Fluoride (If the DWS provides fluoridation)	N/A	

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

***NOTE:** Record the unit of measure if it is **not** milligrams per litre.*



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
July 16, 2012	Chlorite	Jan. 6, 2017	0.06	mg/L
		Feb. 8, 2017	0.15	
		March 8, 2017	0.24	
		April 5, 2017	0.29	
		May 3, 2017	0.10	
		June 13, 2017	0.01	
		July 5, 2017	0.10	
		August 12, 2017	0.15	
		Sept. 6, 2017	0.19	
		Oct. 11, 2017	0.08	
		Nov. 8, 2017	0.29	
		Dec. 6, 2017	0.10	
		July 16, 2012	Chlorate	
Feb. 8, 2017	0.39			
March 8, 2017	0.39			
April 5, 2017	0.37			
May 3, 2017	0.37			
June 13, 2017	0.50			
July 5, 2017	0.65			
August 12, 2017	0.71			
Sept. 6, 2017	0.59			
Oct. 11, 2017	0.37			
Nov. 8, 2017	0.48			
Dec. 6, 2017	0.43			

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

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Antimony	October 2, 2017	0.07	µg/L	No
Arsenic	October 2, 2017	0.4	µg/L	No
Barium	October 2, 2017	21.5	µg/L	No
Boron	October 2, 2017	23	µg/L	No
Cadmium	October 2, 2017	0.016	µg/L	No
Chromium	October 2, 2017	0.65	µg/L	No
*Lead	N/A			
Mercury	October 2, 2017	<0.01	µg/L	No
Selenium	October 2, 2017	0.06	µg/L	No
Sodium	October 2, 2017	31.8	mg/L	Yes
Uranium	October 2, 2017	0.088	µg/L	No
Fluoride	October 21, 2013	<0.06	mg/L	No
Nitrite	Jan. 9, 2017	<0.003	mg/L	No
	April 3, 2017	<0.003		
	July 10, 2017	<0.003		
	October 2, 2017	<0.003		



Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Nitrate	Jan. 9, 2017	0.027	mg/L	No
	April 3, 2017	0.021		
	July 10, 2017	0.066		
	October 2, 2017	0.043		

*only for drinking water systems testing under Schedule 15.2; this includes large municipal non-residential systems, small municipal non-residential systems, non-municipal seasonal residential systems, large non-municipal non-residential systems, and small non-municipal non-residential systems

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)

Location Type	Number of Samples	Range of Lead Results (min#) – (max #)	Number of Exceedances
Plumbing			
Distribution	2	0.26 – 0.35	0

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

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Alachlor	October 2, 2017	<0.02	µg/L	No
Aldicarb	October 26, 2015	<0.01	µg/L	No
Aldrin + Dieldrin	October 26, 2015	<0.01	µg/L	No
Atrazine + N-dealkylated metabolites	October 2, 2017	<0.01	µg/L	No
Azinphos-methyl	October 2, 2017	<0.05	µg/L	No
Bendiocarb	October 26, 2015	<0.01	µg/L	No
Benzene	October 2, 2017	<0.32	µg/L	No
Benzo(a)pyrene	October 2, 2017	<0.004	µg/L	No
Bromoxynil	October 2, 2017	<0.33	µg/L	No
Carbaryl	October 2, 2017	<0.05	µg/L	No
Carbofuran	October 2, 2017	<0.01	µg/L	No
Carbon Tetrachloride	October 2, 2017	<0.16	µg/L	No
Chlordane (Total)	October 26, 2015	<0.01	µg/L	No
Chlorpyrifos	October 2, 2017	<0.02	µg/L	No
Cyanazine	October 26, 2015	<0.03	µg/L	No
Diazinon	October 2, 2017	<0.02	µg/L	No
Dicamba	October 2, 2017	<0.20	µg/L	No
1,2-Dichlorobenzene	October 2, 2017	<0.41	µg/L	No
1,4-Dichlorobenzene	October 2, 2017	<0.36	µg/L	No
Dichlorodiphenyltrichloroethane (DDT) + metabolites	October 26, 2015	<0.01	µg/L	No
1,2-Dichloroethane	October 2, 2017	<0.35	µg/L	No
1,1-Dichloroethylene (vinylidene chloride)	October 2, 2017	<0.33	µg/L	No



Dichloromethane	October 2, 2017	<0.35	µg/L	No
2-4 Dichlorophenol	October 2, 2017	<0.15	µg/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	October 2, 2017	<0.19	µg/L	No
Diclofop-methyl	October 2, 2017	<0.40	µg/L	No
Dimethoate	October 2, 2017	<0.03	µg/L	No
Dinoseb	October 26, 2015	<0.36	µg/L	No
Diquat	October 2, 2017	<1	µg/L	No
Diuron	October 2, 2017	<0.03	µg/L	No
Glyphosate	October 2, 2017	<1	µg/L	No
Haloacetic Acids (HAA5) (NOTE: show latest annual average)	2017 Average	26.4	µg/L	No
Heptachlor + Heptachlor Epoxide	October 26, 2015	<0.01	µg/L	No
Lindane (Total)	October 26, 2015	<0.01	µg/L	No
Malathion	October 2, 2017	<0.02	µg/L	No
Methoxychlor	October 26, 2015	<0.01	µg/L	No
Metolachlor	October 2, 2017	<0.01	µg/L	No
Metribuzin	October 2, 2017	<0.02	µg/L	No
Monochlorobenzene	October 2, 2017	<0.3	µg/L	No
Paraquat	October 2, 2017	<1	µg/L	No
Parathion	October 26, 2015	<0.02	µg/L	No
Pentachlorophenol	October 2, 2017	<0.15	µg/L	No
Phorate	October 2, 2017	<0.01	µg/L	No
Picloram	October 2, 2017	<1	µg/L	No
Polychlorinated Biphenyls(PCB)	October 2, 2017	<0.04	µg/L	No
Prometryne	October 2, 2017	<0.03	µg/L	No
Simazine	October 2, 2017	<0.01	µg/L	No
THM (NOTE: show latest annual average)	2017 Average	52.4	µg/L	No
Temephos	October 26, 2015	<0.01	µg/L	No
Terbufos	October 2, 2017	<0.01	µg/L	No
Tetrachloroethylene	October 2, 2017	<0.35	µg/L	No
2,3,4,6-Tetrachlorophenol	October 2, 2017	<0.20	µg/L	No
Triallate	October 2, 2017	<0.01	µg/L	No
Trichloroethylene	October 2, 2017	<0.44	µg/L	No
2,4,6-Trichlorophenol	October 2, 2017	<0.25	µg/L	No
2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)	October 26, 2015	<0.22	µg/L	No
Trifluralin	October 2, 2017	<0.02	µg/L	No
Vinyl Chloride	October 2, 2017	<0.17	µg/L	No

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

Parameter	Result Value	Unit of Measure	Date of Sample
Sodium	31.8	mg/L	October 2, 2017
THMs	52.4	µg/L	Annual Average

