

# ANNUAL REPORT

## **DRAYTON DRINKING WATER SYSTEM**

**FOR THE PERIOD:  
JANUARY 1, 2020 – DECEMBER 31, 2020**

*Prepared for the Township of Mapleton  
by the Ontario Clean Water Agency*



<b>Drinking-Water System Number:</b>	220004064
<b>Drinking-Water System Name:</b>	Drayton Drinking Water System
<b>Drinking-Water System Owner:</b>	The Corporation of the Township of Mapleton
<b>Drinking-Water System Category:</b>	Large Municipal Residential
<b>Period being reported:</b>	January 1, 2020 – December 31, 2020

<b><u>Complete if your Category is Large Municipal Residential or Small Municipal Residential</u></b>	<b><u>Complete for all other Categories.</u></b>
<p><b>Does your Drinking-Water System serve more than 10,000 people?</b>                      Yes [ ] No [X]</p> <p><b>Is your annual report available to the public at no charge on a web site on the Internet?</b>                      Yes [X] No [ ]</p> <p><b>Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.</b>                      Office of Township of Mapleton                      7275 Sideroad 16                      Drayton                      Ontario, NOG 1P0</p>	<p><b>Number of Designated Facilities served:</b>                      Not Applicable</p> <p><b>Did you provide a copy of your annual report to all Designated Facilities you serve?</b>                      Not Applicable</p> <p><b>Number of Interested Authorities you report to:</b>                      Not Applicable</p> <p><b>Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility?</b>                      Not Applicable</p>

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
<i>Not Applicable</i>	<i>Not Applicable</i>

**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?**

Not Applicable.

**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**

The Drayton Water Supply System is a ground water supply, treatment and storage system, serving the Village of Drayton in the Township of Mapleton. There are two wells, Well #1 is 66.29 m deep bedrock and Well #2 is 67.05 m deep bedrock within the same aquifer. Both wells are located within the pumphouse and are approved to supply water at a maximum flow rate of 1,364 L/min and a maximum daily flow of 3,928 m<sup>3</sup>/day from the system.

Before entering the distribution system from these wells, the raw water is treated by adding a disinfectant to protect against microbial contaminants. The water is disinfected with sodium hypochlorite solution (chlorine) and iron sequestering (sodium silicate), prior to entering the in-ground reservoir. Residual chlorine levels are maintained in the distribution system to effectively provide disinfection throughout the entire system.

The treated water in the pumphouse is pumped into a four-celled in ground reservoir with a total storage capacity of approximately 405m<sup>3</sup>. The treated water in the reservoir is distributed by high pumps through 9.88 kilometers of watermain.

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

- Sodium Hypochlorite 12% Solution NSF, Disinfection
- Sodium Silicate, Iron Sequestering, NSF

**Were any significant expenses incurred to?**

- Install required equipment  
 Repair required equipment  
 Replace required equipment  
 No significant expenses were incurred

**Please provide a brief description of any significant expenses incurred**

- Reservoir Cleaning
- Annual Flow Meter Calibrations
- Annual Generator Load Testing
- Annual Backflow Preventer Inspections
- DWQMS S2 Systems Audit
- Chlorine Analyzer replacement

**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 (yyyy/mm/dd)	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date (yyyy/mm/dd)
2020/07/26	High Chlorine Residual	TW - 7.48 DW – 8.80	mg/L mg/L	AWQI# 150951 - Flushed hydrant at Township Shed from 13:30-19:15; continuous chlorine residual	2020/07/26
2020/07/31	Observation of improperly	n/a	n/a	AWQI# 151045 Breaker was	2020/07/31

	disinfected water			tripped losing power to Cl2 analyzer, turbidity analyzer and distribution flow meter losing monitoring data; Cl2 pumps were on different power circuit and ran when well pumps were running; Operator restored power to units and confirmed Cl2 residuals were sufficient; free Cl2 1.74 mg/L at 13:30	
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**Table 1. Microbiological testing done under the Schedule 10, 11 or 12 of Regulation 170/03, during this reporting period.**

Location	Number of Samples	Range of E.coli Results		Range of Total Coliforms Results		Number of HPC Samples	Range of HPC Samples	
		Min.	Max.	Min.	Max.		Min.	Max.
Raw Water - Well 1	52	0	0	0	0	n/a	n/a	n/a
Raw Water - Well 2	52	0	0	0	0	n/a	n/a	n/a
Treated Water	52	0	0	0	0	52	0	3
DW location	143	0	0	0	0	119	0	19

**Table 2. Operational testing done under Schedule 7, 8 or 9 during the period covered by this Annual Report.**

Parameter	Number of Grab Samples	Range of Results	
		Minimum	Maximum
<b>Raw Water</b>			
Turbidity, Well 1 (NTU)	12	0.13	0.82
Turbidity, Well 2 (NTU)	12	0.14	0.69
<b>Treated Water</b>			
Free Chlorine Residual, TW (mg/L)	8760	0.00*	5.00**
<b>Distribution Water</b>			
Free Chlorine Residual, DW (mg/L)	459	0.48	2.09

NOTE: For continuous monitors, 8760 is used as the number of samples.

\*Minimum chlorine residuals of 0 mg/L were due to alarm testing during MECP Inspection and system maintenance; actual readings at the time were well within regulatory requirements.

\*\*Maximum chlorine residuals of 5.0 mg/L were due to alarm testing during MECP Inspection; actual readings at the time were well within regulatory requirements.

**Table 3. 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
<i>Not Applicable</i>				

**Table 4. Summary of Inorganic parameters tested during this reporting period or most recent sample results**

Treated Water	Sample Date (yyyy/mm/dd)	Sample Result	MAC	No. of Exceedances	
				MAC	1/2 MAC
Antimony: Sb (µg/L) - TW	2019/01/15	0.03	6.0	No	No
Arsenic: As (µg/L) - TW	2019/01/15	3.1	10.0	No	No
Barium: Ba (µg/L) - TW	2019/01/15	226.0	1000.0	No	No
Boron: B (µg/L) - TWµ	2019/01/15	46.0	5000.0	No	No
Cadmium: Cd (µg/L) - TW	2019/01/15	<MDL 0.003	5.0	No	No
Chromium: Cr (µg/L) - TW	2019/01/15	0.09	50.0	No	No
Mercury: Hg (µg/L) - TW	2019/01/15	<MDL 0.01	1.0	No	No
Selenium: Se (µg/L) - TW	2019/01/15	<MDL 0.04	50.0	No	No
Uranium: U (µg/L) - TW	2019/01/15	0.056	20.0	No	No
<b>Additional Inorganics</b>					
Fluoride (mg/L) - TW	2018/09/11	0.48	1.5	No	No
Nitrite (mg/L) - TW	2020/01/14	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2020/04/08	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2020/07/07	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2020/10/27	<MDL 0.003	1.0	No	No
Nitrate (mg/L) - TW	2020/01/14	<MDL 0.006	10.0	No	No
Nitrate (mg/L) - TW	2020/04/08	0.006	10.0	No	No
Nitrate (mg/L) - TW	2020/07/07	<MDL 0.006	10.0	No	No
Nitrate (mg/L) - TW	2020/10/27	0.009	10.0	No	No
Sodium: Na (mg/L) - TW	2018/09/11	18.8	20*	No	Yes

\*There is no "MAC" for Sodium. The aesthetic objective for sodium in drinking water is 200 mg/L. The local Medical Officer of Health should be notified when the sodium concentration exceeds 20 mg/L so that this information may be communicated to local physicians for their use with patients on sodium restricted diets.

**Table 5. 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 Results		MAC	Number of Exceedances
		Minimum	Maximum		
Distribution - Lead Results (µg/L)	4	0.04	0.21	10	0
Distribution - Alkalinity (mg/L)	4	212	220	n/a	n/a
DW location - pH In-House	4	7.65	7.85	n/a	n/a

The Drayton Drinking Water Systems qualifies for plumbing exemption.

**Table 6. Summary of Organic parameters sampled during this reporting period or the most recent sample results**

TREATED WATER	Sample Date (yyyy/mm/dd)	Sample Result	MAC	Number of Exceedances	
				MAC	1/2 MAC
Alachlor (µg/L) - TW	2019/01/15	<MDL 0.02	5.00	No	No
Atrazine + N-dealkylated metabolites (µg/L) - TW	2019/01/15	<MDL 0.01	5.00	No	No
Azinphos-methyl (µg/L) - TW	2019/01/15	<MDL 0.05	20.00	No	No
Benzene (µg/L) - TW	2019/01/15	<MDL 0.32	1.00	No	No
Benzo(a)pyrene (µg/L) - TW	2019/01/15	<MDL 0.004	0.01	No	No
Bromoxynil (µg/L) - TW	2019/01/15	<MDL 0.33	5.00	No	No
Carbaryl (µg/L) - TW	2019/01/15	<MDL 0.05	90.00	No	No
Carbofuran (µg/L) - TW	2019/01/15	<MDL 0.01	90.00	No	No
Carbon Tetrachloride (µg/L) - TW	2019/01/15	<MDL 0.16	2.00	No	No
Chlorpyrifos (µg/L) - TW	2019/01/15	<MDL 0.02	90.00	No	No
Diazinon (µg/L) - TW	2019/01/15	<MDL 0.02	20.00	No	No
Dicamba (µg/L) - TW	2019/01/15	<MDL 0.2	120.00	No	No
1,2-Dichlorobenzene (µg/L) - TW	2019/01/15	<MDL 0.41	200.00	No	No
1,4-Dichlorobenzene (µg/L) - TW	2019/01/15	<MDL 0.36	5.00	No	No
1,2-Dichloroethane (µg/L) - TW	2019/01/15	<MDL 0.35	5.00	No	No
1,1-Dichloroethylene (µg/L) - TW	2019/01/15	<MDL 0.33	14.00	No	No
Dichloromethane (Methylene Chloride) (µg/L) - TW	2019/01/15	<MDL 0.35	50.00	No	No
2,4-Dichlorophenol (µg/L) - TW	2019/01/15	<MDL 0.15	900.00	No	No
2,4-Dichlorophenoxy acetic acid (2,4-D) (µg/L) - TW	2019/01/15	<MDL 0.19	100.00	No	No
Diclofop-methyl (µg/L) - TW	2019/01/15	<MDL 0.4	9.00	No	No
Dimethoate (µg/L) - TW	2019/01/15	<MDL 0.06	20.00	No	No
Diquat (µg/L) - TW	2019/01/15	<MDL 1.0	70.00	No	No
Diuron (µg/L) - TW	2019/01/15	<MDL 0.03	150.00	No	No
Glyphosate (µg/L) - TW	2019/01/15	<MDL 1.0	280.00	No	No
Malathion (µg/L) - TW	2019/01/15	<MDL 0.02	190.00	No	No
Metolachlor (µg/L) - TW	2019/01/15	<MDL 0.01	50.00	No	No

Metribuzin (µg/L) - TW	2019/01/15	<MDL 0.02	80.00	No	No
Monochlorobenzene (Chlorobenzene) (µg/L) - TW	2019/01/15	<MDL 0.3	80.00	No	No
Paraquat (µg/L) - TW	2019/01/15	<MDL 1.0	10.00	No	No
PCB (µg/L) - TW	2019/01/15	<MDL 0.04	3.00	No	No
Pentachlorophenol (µg/L) - TW	2019/01/15	<MDL 0.15	60.00	No	No
Phorate (µg/L) - TW	2019/01/15	<MDL 0.01	2.00	No	No
Picloram (µg/L) - TW	2019/01/15	<MDL 1.0	190.00	No	No
Prometryne (µg/L) - TW	2019/01/15	<MDL 0.03	1.00	No	No
Simazine (µg/L) - TW	2019/01/15	<MDL 0.01	10.00	No	No
Terbufos (µg/L) - TW	2019/01/15	<MDL 0.01	1.00	No	No
Tetrachloroethylene (µg/L) - TW	2019/01/15	<MDL 0.35	10.00	No	No
2,3,4,6-Tetrachlorophenol (µg/L) - TW	2019/01/15	<MDL 0.2	100.00	No	No
Triallate (µg/L) - TW	2019/01/15	<MDL 0.01	230.00	No	No
Trichloroethylene (µg/L) - TW	2019/01/15	<MDL 0.44	5.00	No	No
2,4,6-Trichlorophenol (µg/L) - TW	2019/01/15	<MDL 0.25	5.00	No	No
2-methyl-4-chlorophenoxyacetic acid (MCPA) (µg/L) - TW	2019/01/15	<MDL 0.12	100.00	No	No
Trifluralin (µg/L) - TW	2019/01/15	<MDL 0.02	45.00	No	No
Vinyl Chloride (µg/L) - TW	2019/01/15	<MDL 0.17	1.00	No	No
<b>Distribution Water</b>					
Trihalomethane: Total (µg/L) Annual Average - DW	2020 (Quarterly)	13.75	100.00	No	No
HAA Total (µg/L) Annual Average - DW	2020 (Quarterly)	5.3	80.00	No	No

**Table 7. List any Inorganic or Organic parameter(s) that exceeded half the standard prescribed in Schedule 2 of Ontario Drinking Water Quality Standards. (Only if DWS category is large municipal residential, small municipal residential, large municipal non-residential, non-municipal year round residential, large non municipal non-residential)**

Parameter	Result Value	Unit of Measure	Date of Sample
<i>Not Applicable</i>			

The Drayton Drinking Water System was last inspected by the Ministry of the Environment, Conservation, and Parks on August 19, 2020.