



**2023  
SECTION 11  
ANNUAL REPORT**

**ANGUS  
DRINKING WATER SYSTEM**

For the period of  
**January 1<sup>st</sup>, 2023 to December 31<sup>st</sup>, 2023**

Prepared for the Corporation of the Township of Essa by the Ontario Clean Water Agency



This report was prepared in accordance with the requirements of [O.Reg 170/03, Section 11, Annual reports](#) for the following system and reporting period:

<b>Drinking Water System Number:</b>	260001026
<b>Drinking Water System Name:</b>	Angus Drinking Water System
<b>Drinking Water System Owner:</b>	The Corporation of the Township of Essa
<b>Drinking Water System Category:</b>	Large Municipal Residential
<b>Reporting Period:</b>	January 1, 2023 to December 31, 2023

**Does your Drinking Water System serve more than 10,000 people?**

Yes

**Is your Annual Report available to the public at no charge on a website on the Internet?**

Yes

*Note: If a large municipal residential system serves more than 10,000 people, the owner of the system shall ensure that a copy of every report prepared under this section is available to the public at no charge on a website on the Internet. O. Reg. 170/03, Section 11. (10)*

**Location where Summary Report required under O. Reg 170/03, Schedule 22 will be available for inspection. (O. Reg 170/03, Section 11.(6)(5)):**

- Hard copy available for public viewing at the Township of Essa Municipal Office, 5786 Simcoe County Road 21, Utopia, Essa Township, ON, L0M 1T0
- <http://www.essatownship.on.ca>

*Note: this is required for large municipal residential systems or small municipal residential systems.*

**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
N/A	N/A

**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?**

N/A

**How system users are notified that the annual report is available, and is free of charge:**

- Public access/notice via the web
- Public access/notice via Government Office

- |                                     |  |
|-------------------------------------|--|
| <input type="checkbox"/>            | Public access/notice via a newspaper         |
| <input checked="" type="checkbox"/> | Public access/notice via Public Request      |
| <input type="checkbox"/>            | Public access/notice via a Public Library    |
| <input type="checkbox"/>            | Public access/notice via other method: _____ |

*Note: The owner of a drinking water system shall ensure that a copy of an annual report for the system is given, without charge, to every person who requests a copy. ((O.Reg 170/03, Section 11.(7))*

### **Description of Drinking Water System (O.Reg 170/03, Section 11.(6)(a)):**

The Angus Drinking Water System is classified as a Class II Water Distribution and Supply Subsystem and categorized as a Large Municipal Drinking Water System, servicing an approximate population of 14,503 persons. The system is comprised of three pumphouses, including the Mill Street Pumphouse, McGeorge Pumphouse and Brownley Pumphouse which draw water from six production wells, along with receiving water from the Collingwood/Alliston pipeline within the Mill Street Pumphouse. The three facilities supply water through a common distribution system.

#### McGeorge (Centre Street) Pumphouse

The raw water for the McGeorge pumphouse is supplied by two drilled groundwater wells (Well 2 and Well 3). The water pumped from the wells is treated with sodium silicate (for iron sequestration) and sodium hypochlorite (for primary and secondary disinfection) and the treated water is stored in two (2) underground reservoirs prior to entering the distribution system. Online equipment continuously monitors and records free chlorine residual and flowrates. In the event of a power failure, the pumphouse is equipped with standby power.

#### Mill Street Pumphouse

The Mill Street Pumphouse is located at 28 Mill Street in Angus. Raw Water is supplied from one drilled groundwater well (Well 1). As groundwater is pumped from the well, chemical feed pumps add sodium silicate (for iron sequestering) and sodium hypochlorite (for primary and secondary disinfection). Treated water is stored in two underground reservoirs. Flow is measured before entering the reservoir and as the treated water enters the distribution system. In the event of a power failure, the pumphouse is equipped with standby power.

*Note: The Mill Street Water Treatment Plant receives the daily difference of 100 m<sup>3</sup> minus Baxter Distribution System daily water taking from the New Tecumseth Pipeline as of 2015. The Raymond A. Barker Ultrafiltration Plant in Collingwood supplies safe drinking water through the Pipeline to the Baxter and Mill Street facilities. Collingwood water sample results are found in the Annual Compliance Reports at: <https://www.collingwood.ca/town-services/water-sewer-services>*

#### Brownley Pumphouse

The Brownley Pumphouse is located at 8610 5th Line. Raw Water is supplied from three groundwater wells (Well 4, Well 5 and Well 6). As groundwater is pumped from the wells,

chemical feed pumps add sodium silicate (for iron sequestering) and sodium hypochlorite (for primary and secondary disinfection). Treated water is stored in one (1) underground reservoir. Flow is measured before entering the reservoir and as the treated water enters the distribution system. In the event of a power failure, the pumphouse is equipped with standby power.

**List of water treatment chemicals used by the system during the reporting period (O.Reg 170/03, Section 11.(6)(a)):**

- Sodium Hypochlorite 12% Solution
- Sodium Silicate

**Significant expenses were incurred to:**

- |                                     |                                       |
|-------------------------------------|---------------------------------------|
| <input checked="" type="checkbox"/> | Install required equipment            |
| <input checked="" type="checkbox"/> | Repair required equipment             |
| <input checked="" type="checkbox"/> | Replace required equipment            |
| <input type="checkbox"/>            | No significant expenses were incurred |

**Description of major expenses during the reporting period to install, repair or replace required equipment (O.Reg 170/03, Section 11.(6)(e)):**

- Distribution System- Hydrant painting, service, repair and replacements
- Distribution System- Watermain swabbing, flushing and repairs
- Distribution System- Leak Detection Program
- Annual Diesel Generator TSSA inspection and servicing- all Pumphouses
- Chemical dosing pump rebuild/maintenance, repair and replace- all Pumphouses
- Brownley Pumphouse- UPS replacement
- Brownley Pumphouse- Power Supply Replacement on PLC
- Brownley Pumphouse- SCADA system/computer repairs
- Brownley Pumphouse- Generator Diesel Repairs
- Mill Street- Well #1 Electrical Repairs
- Mill Street- Singer Valve Rebuild

**Summary of any reports/notices submitted to the Ministry and/or Spills Action Centre in accordance with subsection 18(1) of the Safe Drinking-Water Act or section 16-4 of Schedule 16 of O.Reg.170/03 during the reporting period, including a description of any corrective actions taken under Schedule 17 or 18 (O. Reg 170/03, Section 11.(6)(b),(d):**

Incident Date (yyyy/mm/dd)	Parameter/ Notice of	Result & Unit	Summary of Reporting, Corrective Actions & Resolution
N/A	N/A	N/A	N/A

**Table 1. Microbiological testing done under the Schedule 11 of Regulation 170/03 during this reporting period (O.Reg 170/03, Section 11.(6)(c)).**

Location	Number of Samples	Range of E. Coli or Fecal Results		Range of Total Coliform Results		Number of HPC Samples	Range of HPC Samples	
		Min.	Max.	Min.	Max.		Min.	Min.
RW <sup>1A</sup> , Well 1	51 <sup>1D</sup>	0	0	0	3	N/A	N/A	N/A
RW <sup>1A</sup> , Well 2	44 <sup>1E</sup>	0	0	0	0	N/A	N/A	N/A
RW <sup>1A</sup> , Well 3	44 <sup>1E</sup>	0	0	0	2	N/A	N/A	N/A
RW <sup>1A</sup> , Well 4	52	0	0	0	0	N/A	N/A	N/A
RW <sup>1A</sup> , Well 5	52	0	0	0	16	N/A	N/A	N/A
RW <sup>1A</sup> , Well 6	52	0	0	0	0	N/A	N/A	N/A
TW1 <sup>1B</sup>	0 <sup>1E</sup>	N/A	N/A	N/A	N/A	0 <sup>1E</sup>	N/A	N/A
TW2 <sup>1B</sup>	52	0	0	0	0	52	<10	110
TW3 <sup>1B</sup>	52	0	0	0	0	52	<10	10
Distribution <sup>1C</sup>	267	0	0	0	0	100	<10	10

Note: HPC = Heterotrophic Plate Count

Note: Units for E.Coli or Fecal Results are cfu/100 mL, units for Total Coliform Results are cfu/100 mL, units for HPC results are cfu/1mL.

<sup>1A</sup>RW=Raw Water. RW Well 1= Well #1 Mill Street; RW Well 2= Well #2 McGeorge; RW Well 3= Well #3 McGeorge; RW Well 4= Well #4 Brownley; RW Well 5= Well #5 Brownley; RW Well 6= Well #6 Brownley. O.Reg 170/03, Schedule 10-4. (1)(3) requires for a large municipal residential system that a water sample is taken at least once every week from the drinking water system's raw water, before any treatment is applied to the water and tested for E.Coli and total coliforms.

<sup>1B</sup>TW=Treated Water. TW1=Treated Water McGeorge Pumphouse; TW2=Treated Water Mill Street Pumphouse; TW3= Treated Water Brownley Pumphouse. O Reg 170/03, Schedule 10-3 requires for a large municipal residential system that a treated water sample is taken at least once every week and tested for E.Coli, total coliforms and general bacteria population expressed as colony counts on a heterotrophic count (HPC).

<sup>1C</sup>O.Reg 170/03 Schedule 10-2.(1)(2)(3) requires that a system that serves 100,000 people or less, at least eight distribution samples, plus one additional distribution sample for every 1,000 people served by the system, are taken every month, with at least one of the samples being taken in each week and that each of the samples taken is tested for E.Coli, Total Coliforms. At least 25 percent of the samples required must be tested for general bacteria population expressed as colony counts on heterotrophic plate count (HPC). As of 2023, the population of Angus is 14,503 persons (as confirmed by the owner on November 9, 2022-based on the 2021 Statistics Canada Census Data) and thus requires at the minimum twenty-two (22) monthly distribution samples

<sup>1D</sup>Mill Street Well #1 was offline February 5 and 6, 2023 for maintenance activities. A weekly raw water sample was taken following AWWA Standards of Disinfection, prior to placing the well back in service on February 7, 2023. Sampling results were 0 Total Coliforms and 0 E.Coli.

<sup>1E</sup>McGeorge Well #2, Well #3 and Treated Water sources were offline for the duration of 2023. The pumphouse was not supplying water to the distribution system. Forty-four (44) weekly raw water samples were taken from each well from the week of February 27 to the end of the reporting period, although not required, to monitor the raw water sources. No treated water samples were taken for the duration of the reporting period.

**Table 2. Operational testing done under Schedule 7 of Regulation 170/03 during the period covered by this Annual Report (O. Reg 170/03, Section 11.(6)(c)).**

Parameter & Location	Number of Samples	Range of Results	
		Min.	Max.
Turbidity, Raw Water McGeorge Well 1 (Grab) [NTU] <sup>2A</sup>	8 <sup>2D</sup>	0.06	0.49
Turbidity, Raw Water McGeorge Well 2 (Grab) [NTU] <sup>2A</sup>	8 <sup>2D</sup>	0.07	0.47
Turbidity, Raw Water Mill Street Well 3 (Grab) [NTU] <sup>2A</sup>	12	0.07	0.89
Turbidity, Raw Water Brownley Well 4 (Grab) [NTU] <sup>2A</sup>	12	0.16	0.69
Turbidity, Raw Water Brownley Well 5 (Grab) [NTU] <sup>2A</sup>	12	0.06	0.83
Turbidity, Raw Water Brownley Well 6 (Grab) [NTU] <sup>2A</sup>	12	0.10	0.96
Free Chlorine Residual, (Continuous) McGeorge [mg/L]-TW <sup>2B</sup>	N/A <sup>2D</sup>	N/A <sup>2D</sup>	N/A <sup>2D</sup>
Free Chlorine Residual, (Continuous) Mill Street [mg/L]-TW <sup>2B</sup>	8760	0.79	1.60
Free Chlorine Residual, (Continuous) Brownley [mg/L]-TW <sup>2B</sup>	8760	0.14 <sup>2E</sup>	5.00 <sup>2F</sup>
Free Chlorine Residual, Distribution (Continuous) [mg/L]-DW <sup>2C</sup>	8760	0.44	3.11

Note: The number of samples used for continuous monitoring units is 8760.

<sup>2A</sup>O.Reg 170/03 Schedule 7-3.(1)(1.1) requires a raw water sample be taken at least once every month from each well that is supplying water to the system and tested for turbidity.

<sup>2B</sup>O.Reg 170/03 Schedule 7-2.(1) requires a drinking water system that provides chlorination for primary disinfection to sample and test for free chlorine residual with continuous monitoring equipment in the treatment process at or near a location where the intended contact time has just been completed.

<sup>2c</sup>**O.Reg 170/03 Schedule 7-2.(3) requires a large municipal residential system that provides secondary disinfection to take at least seven distribution samples each week and immediately tested for free chlorine residual, if the system provides chlorination and does not provide chloramination. Secondary disinfection at Angus DWS is monitored via an online continuous free chlorine distribution analyzer at the Angus WPCP, as permitted under the regulation.**

<sup>1D</sup>McGeorge Well #2, Well #3 and Treated Water sources were offline for the duration of 2023. The pumphouse was not supplying water to the distribution system. **Monthly** raw water samples were taken **eight times from each well throughout the year**, although not required, to monitor the raw water sources. Treated water **free chlorine residual continuous monitoring was not recorded as no treated water was being produced.**

<sup>2E</sup>**June 13 to 14 - Low free chlorine alarm response was isolating pumphouse from the distribution system, causing no flow to the online analyzer and 0.14 mg/L reading. OCWA flushed untreated water to waste and was not sent to the distribution system.**

<sup>2F</sup>June 14 to 16 and July 3 to 6, 2023 - Free chlorine residual went down to where it activates secondary sodium hypochlorite pump. Secondary sodium hypochlorite pump dosing rate caused extreme high (5.00 mg/L). Primary sodium hypochlorite system was repaired/adjusted accordingly.

**Table 3. Summary of additional testing and sampling results carried out in accordance with the requirement of an approval, municipal drinking water licence or order (including OWRA) or other legal instrument. (O. Reg 170/03, Section 11.(6)(c))**

Legal Instrument & Issue Date (yyyy/mm/dd)	Parameter	Date Sampled (yyyy/mm/dd)	Result	Unit of Measure
N/A	N/A	N/A	N/A	N/A

**Table 4. Summary of Inorganic parameters tested during this reporting period or the most recent sample results (O.Reg 170/03, Section 11.(6)(c))**

Parameter & Location	Sample Date <sup>4A</sup> (yyyy/mm/dd)	Sample Result	Maximum Allowable Concentration (MAC)	Exceedance of MAC
Antimony: Sb (µg/L) – TW1	2021/01/26	<MDL 0.9	6.0	No
Antimony: Sb (µg/L) – TW2	2021/01/26	<MDL 0.9	6.0	No
Antimony: Sb (µg/L) – TW3	2021/01/26	<MDL 0.9	6.0	No
Arsenic: As (µg/L) - TW1	2021/01/26	0.4	10.0	No
Arsenic: As (µg/L) - TW2	2021/01/26	0.7	10.0	No
Arsenic: As (µg/L) - TW3	2021/01/26	0.3	10.0	No
Barium: Ba (µg/L) – TW1	2021/01/26	86.5	1000.0	No
Barium: Ba (µg/L) – TW2	2021/01/26	139.0	1000.0	No
Barium: Ba (µg/L) – TW3	2021/01/26	61.1	1000.0	No

Parameter & Location	Sample Date <sup>4A</sup> (yyyy/mm/dd)	Sample Result	Maximum Allowable Concentration (MAC)	Exceedance of MAC
Boron: B (µg/L) – TW1	2021/01/26	28.0	5000.0	No
Boron: B (µg/L) – TW2	2021/01/26	36.0	5000.0	No
Boron: B (µg/L) – TW3	2021/01/26	34.0	5000.0	No
Cadmium: Cd (µg/L) – TW1	2021/01/26	<MDL 0.003	5.0	No
Cadmium: Cd (µg/L) – TW2	2021/01/26	<MDL 0.003	5.0	No
Cadmium: Cd (µg/L) – TW3	2021/01/26	0.014	5.0	No
Chromium: Cr (µg/L) – TW1	2021/01/26	0.24	50.0	No
Chromium: Cr (µg/L) – TW2	2021/01/26	0.35	50.0	No
Chromium: Cr (µg/L) – TW3	2021/01/26	0.42	50.0	No
Mercury: Hg (µg/L) – TW1	2021/01/26	<MDL 0.01	1.0	No
Mercury: Hg (µg/L) – TW2	2021/01/26	<MDL 0.01	1.0	No
Mercury: Hg (µg/L) – TW3	2021/01/26	<MDL 0.01	1.0	No
Selenium: Se (µg/L) – TW1	2021/01/26	<MDL 0.04	50.0	No
Selenium: Se (µg/L) – TW2	2021/01/26	<MDL 0.04	50.0	No
Selenium: Se (µg/L) – TW3	2021/01/26	0.09	50.0	No
Uranium: U (µg/L) – TW1	2021/01/26	0.024	20.0	No
Uranium: U (µg/L) – TW2	2021/01/26	0.072	20.0	No
Uranium: U (µg/L) – TW3	2021/01/26	1.61	20.0	No
Fluoride (mg/L) – TW1	2018/07/17 <sup>4B</sup>	0.21	1.5	No
Fluoride (mg/L) – TW2	2023/07/24 <sup>4B</sup>	0.12	1.5	No
Fluoride (mg/L) – TW3	2023/07/24 <sup>4B</sup>	0.13	1.5	No
Nitrite (mg/L) - TW1	2022/01/13 <sup>4C</sup>	<MDL 0.003	1.0	No
Nitrite (mg/L) - TW1	2022/04/19 <sup>4C</sup>	<MDL 0.003	1.0	No
Nitrite (mg/L) - TW2	2023/01/23	<MDL 0.003	1.0	No
Nitrite (mg/L) - TW2	2023/04/17	<MDL 0.003	1.0	No
Nitrite (mg/L) - TW2	2023/07/24	<MDL 0.003	1.0	No
Nitrite (mg/L) - TW2	2023/10/16	<MDL 0.003	1.0	No
Nitrite (mg/L) - TW3	2023/01/23	<MDL 0.003	1.0	No
Nitrite (mg/L) - TW3	2023/04/17	<MDL 0.003	1.0	No
Nitrite (mg/L) - TW3	2023/07/24	<MDL 0.003	1.0	No
Nitrite (mg/L) - TW3	2023/10/16	<MDL 0.003	1.0	No
Nitrate (mg/L) - TW1	2022/01/13 <sup>4C</sup>	0.027	10.0	No
Nitrate (mg/L) - TW1	2022/04/19 <sup>4C</sup>	0.022	10.0	No
Nitrate (mg/L) - TW2	2023/01/23	0.017	10.0	No
Nitrate (mg/L) - TW2	2023/04/17	0.018	10.0	No
Nitrate (mg/L) - TW2	2023/07/24	0.009	10.0	No



Parameter & Location	Sample Date <sup>4A</sup> (yyyy/mm/dd)	Sample Result	Maximum Allowable Concentration (MAC)	Exceedance of MAC
Nitrate (mg/L) - TW2	2023/10/16	0.007	10.0	No
Nitrate (mg/L) - TW3	2023/01/23	1.36	10.0	No
Nitrate (mg/L) - TW3	2023/04/17	1.33	10.0	No
Nitrate (mg/L) - TW3	2023/07/24	1.12	10.0	No
Nitrate (mg/L) - TW3	2023/10/16	1.26	10.0	No

Parameter & Location	Sample Date <sup>4D</sup> (yyyy/mm/dd)	Sample Result	Aesthetic Objective (AO)	Exceedance	
				AO	> 20 mg/L
Sodium: Na (mg/L) – TW1	2018/07/17	13.9	200	No	No
Sodium: Na (mg/L) – TW2	2023/07/24	19.0	200	No	No
Sodium: Na (mg/L) – TW3	2023/07/24	17.4	200	No	No

Note: MDL = Minimum Detection Limit, TW = Treated Water

Note: TW1= McGeorge Treatment Pumphouse; TW2= Mill Street Treatment Pumphouse; TW3= Brownley Treatment Pumphouse

<sup>4A</sup>Inorganic Parameters (Schedule 23) are required to be tested every 36 months for a large municipal residential system, if the system obtains water from a raw water source that is ground water (O. Reg 170/03 Schedule 13-2(b)). The last set of samples was collected and tested in 2021, the next set of samples is scheduled to be collected and tested in 2024.

<sup>4B</sup>Fluoride is reportable every 60 months. The most recent Fluoride samples were tested in 2023 for TW-Mill Street Pumphouse and TW-Brownley Pumphouse. TW- McGeorge Pumphouse was offline in 2023, no Fluoride samples were taken. Fluoride samples at TW-McGeorge are scheduled to be taken in 2024, when the Pumphouse is placed back online. The next set of samples for the remaining TW sources is scheduled to be tested in 2028.

Note: There is no regulatory Maximum Allowable Concentration (MAC) Sodium. The aesthetic objective (AO) 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.

<sup>4C</sup>McGeorge Pumphouse was offline for the reporting period. Treated water sampling for Nitrite and Nitrate has not completed since the second quarter of 2022 as the pumphouse went offline in June, 2022 prior to the third quarter samples. McGeorge pumphouse is scheduled to go back online in January 2024 and sampling for these parameters will resume on a quarterly basis.

<sup>4D</sup>Sodium is reportable every 60 months. The most recent Sodium samples were tested in 2023 for TW-Mill Street Pumphouse and TW-Brownley Pumphouse. TW- McGeorge Pumphouse was offline in 2023, no Sodium samples were taken. Sodium samples at TW-McGeorge Pumphouse are scheduled to be taken

in 2024, when the Pumphouse is placed back online. The next set of samples for the remaining TW sources is scheduled to be tested in 2028.

**Table 5: Summary of lead testing under Schedule 15.1 during this reporting period (O.Reg 170/03, Section 11.(6)(g))**

Location/Type & Parameter	Number of Samples <sup>5A</sup>	Range of Results		Number of Lead Exceedances (MAC = 10 µ/L)
		Min.	Max.	
<b>Period: January 1 to April 15</b>				
Plumbing – Lead (µg/L) <sup>5B</sup>	N/A	N/A	N/A	0
Distribution – Lead (µg/L) <sup>5C</sup>	N/A	N/A	N/A	0
Distribution – Alkalinity (mg/L as CaCO <sub>3</sub> )	4	169	201	N/A
Distribution – pH	4	7.37	7.59	N/A
<b>Period: June 15 to October 15</b>				
Plumbing – Lead (µg/L) <sup>5B</sup>	N/A	N/A	N/A	0
Distribution – Lead (µg/L) <sup>5C</sup>	N/A	N/A	N/A	0
Distribution – Alkalinity (mg/L as CaCO <sub>3</sub> )	4	163	166	N/A
Distribution – pH	4	7.33	7.50	N/A
<b>Period: December 15 to 31</b>				
Plumbing – Lead (µg/L) <sup>5B</sup>	N/A	N/A	N/A	0
Distribution – Lead (µg/L) <sup>5C</sup>	N/A	N/A	N/A	0
Distribution – Alkalinity (mg/L as CaCO <sub>3</sub> )	N/A	N/A	N/A	N/A
Distribution - pH	N/A	N/A	N/A	N/A

*Note: this is required for large municipal residential systems, small municipal residential systems or non-municipal year-round residential system. (O.Reg 170/03, Section 11.(6)(g))*

<sup>5A</sup>The number of sampling points for the system is based on the population served by the system. The number of people served by the system is 14,503 persons (as confirmed with the Owner on November 9, 2022 based on the 2021 Statistics Canada Census data) and therefore requires four (4) distribution sampling points per sampling period.

<sup>5B</sup>Plumbing samples are not applicable as this system qualifies for the plumbing exemption per O. Reg 170/03 Schedule 15.1-5 (9) (10).

<sup>5C</sup>This system follows a reduced sampling schedule (O.Reg 170/03, Section 15.1.5). Distribution lead samples are collected every 36 months. The most recent set of distribution lead samples were collected within the winter period of December 15, 2020 to April 15, 2021 and summer period of June 15, 2021 to October 15, 2021. The next set of distribution lead samples is scheduled to be collected within the winter period of December 15, 2023 to April 15, 2024 and summer period of June 15, 2024 to October 15, 2024.

**Table 6: Summary of Organic parameters sampled during this reporting period or the most recent sample results (O.Reg 170/03, Section 11.(6)(c)).**

Parameter & Location	Sample Date <sup>6A</sup> (yyyy/mm/dd)	Sample Result	Maximum Allowable Concentration (MAC)	Exceedance of MAC
Alachlor (µg/L) - TW1	2021/01/26	<MDL 0.02	5.0	No
Alachlor (µg/L) - TW2	2021/01/26	<MDL 0.02	5.0	No
Alachlor (µg/L) - TW3	2021/01/26	<MDL 0.02	5.0	No
Atrazine + N-dealkylated metabolites (µg/L) - TW1	2021/01/26	<MDL 0.01	5.0	No
Atrazine + N-dealkylated metabolites (µg/L) - TW2	2021/01/26	<MDL 0.01	5.0	No
Atrazine + N-dealkylated metabolites (µg/L) - TW3	2021/01/26	<MDL 0.01	5.0	No
Azinphos-methyl (µg/L) - TW1	2021/01/26	<MDL 0.05	20.0	No
Azinphos-methyl (µg/L) - TW2	2021/01/26	<MDL 0.05	20.0	No
Azinphos-methyl (µg/L) - TW3	2021/01/26	<MDL 0.05	20.0	No
Benzene (µg/L) - TW1	2021/01/26	<MDL 0.32	1.0	No
Benzene (µg/L) - TW2	2021/01/26	<MDL 0.32	1.0	No
Benzene (µg/L) - TW3	2021/01/26	<MDL 0.32	1.0	No
Benzo(a)pyrene (µg/L) - TW1	2021/01/26	<MDL 0.004	0.01	No
Benzo(a)pyrene (µg/L) - TW2	2021/01/26	<MDL 0.004	0.01	No
Benzo(a)pyrene (µg/L) - TW3	2021/01/26	<MDL 0.004	0.01	No
Bromoxynil (µg/L) - TW1	2021/01/26	<MDL 0.33	5.0	No
Bromoxynil (µg/L) - TW2	2021/01/26	<MDL 0.33	5.0	No
Bromoxynil (µg/L) - TW3	2021/01/26	<MDL 0.33	5.0	No
Carbaryl (µg/L) - TW1	2021/01/26	<MDL 0.05	90.0	No
Carbaryl (µg/L) - TW2	2021/01/26	<MDL 0.05	90.0	No
Carbaryl (µg/L) - TW3	2021/01/26	<MDL 0.05	90.0	No
Carbofuran (µg/L) - TW1	2021/01/26	<MDL 0.01	90.0	No
Carbofuran (µg/L) - TW2	2021/01/26	<MDL 0.01	90.0	No
Carbofuran (µg/L) - TW3	2021/01/26	<MDL 0.01	90.0	No
Carbon Tetrachloride (µg/L) - TW1	2021/01/26	<MDL 0.17	2.0	No
Carbon Tetrachloride (µg/L) - TW2	2021/01/26	<MDL 0.17	2.0	No
Carbon Tetrachloride (µg/L) - TW3	2021/01/26	<MDL 0.17	2.0	No
Chlorpyrifos (µg/L) - TW1	2021/01/26	<MDL 0.02	90.0	No
Chlorpyrifos (µg/L) - TW2	2021/01/26	<MDL 0.02	90.0	No
Chlorpyrifos (µg/L) - TW3	2021/01/26	<MDL 0.02	90.0	No
Diazinon (µg/L) - TW1	2021/01/26	<MDL 0.02	20.0	No

<b>Parameter &amp; Location</b>	<b>Sample Date<sup>6A</sup> (yyyy/mm/dd)</b>	<b>Sample Result</b>	<b>Maximum Allowable Concentration (MAC)</b>	<b>Exceedance of MAC</b>
Diazinon (µg/L) - TW2	2021/01/26	<MDL 0.02	20.0	No
Diazinon (µg/L) - TW3	2021/01/26	<MDL 0.02	20.0	No
Dicamba (µg/L) - TW1	2021/01/26	<MDL 0.2	120.0	No
Dicamba (µg/L) - TW2	2021/01/26	<MDL 0.2	120.0	No
Dicamba (µg/L) - TW3	2021/01/26	<MDL 0.2	120.0	No
1,2-Dichlorobenzene (µg/L) - TW1	2021/01/26	<MDL 0.41	200.0	No
1,2-Dichlorobenzene (µg/L) - TW2	2021/01/26	<MDL 0.41	200.0	No
1,2-Dichlorobenzene (µg/L) - TW3	2021/01/26	<MDL 0.41	200.0	No
1,4-Dichlorobenzene (µg/L) - TW1	2021/01/26	<MDL 0.36	5.0	No
1,4-Dichlorobenzene (µg/L) - TW2	2021/01/26	<MDL 0.36	5.0	No
1,4-Dichlorobenzene (µg/L) - TW3	2021/01/26	<MDL 0.36	5.0	No
1,2-Dichloroethane (µg/L)- TW1	2021/01/26	<MDL 0.35	5.0	No
1,2-Dichloroethane (µg/L)- TW2	2021/01/26	<MDL 0.35	5.0	No
1,2-Dichloroethane (µg/L)- TW3	2021/01/26	<MDL 0.35	5.0	No
1,1-Dichloroethylene (µg/L) - TW1	2021/01/26	<MDL 0.33	14.0	No
1,1-Dichloroethylene (µg/L) - TW2	2021/01/26	<MDL 0.33	14.0	No
1,1-Dichloroethylene (µg/L) - TW3	2021/01/26	<MDL 0.33	14.0	No
Dichloromethane (Methylene Chloride) (µg/L) - TW1	2021/01/26	<MDL 0.35	50.0	No
Dichloromethane (Methylene Chloride) (µg/L) - TW2	2021/01/26	<MDL 0.35	50.0	No
Dichloromethane (Methylene Chloride) (µg/L) - TW3	2021/01/26	<MDL 0.35	50.0	No
2,4-Dichlorophenol (µg/L) - TW1	2021/01/26	<MDL 0.15	900.0	No
2,4-Dichlorophenol (µg/L) - TW2	2021/01/26	<MDL 0.15	900.0	No
2,4-Dichlorophenol (µg/L) - TW3	2021/01/26	<MDL 0.15	900.0	No
2,4-Dichlorophenoxy acetic acid (2,4-D) (µg/L) - TW1	2021/01/26	<MDL 0.19	100.0	No
2,4-Dichlorophenoxy acetic acid (2,4-D) (µg/L) - TW2	2021/01/26	<MDL 0.19	100.0	No

Parameter & Location	Sample Date <sup>6A</sup> (yyyy/mm/dd)	Sample Result	Maximum Allowable Concentration (MAC)	Exceedance of MAC
2,4-Dichlorophenoxy acetic acid (2,4-D) (µg/L) - TW3	2021/01/26	<MDL 0.19	100.0	No
Diclofop-methyl (µg/L) - TW1	2021/01/26	<MDL 0.4	9.0	No
Diclofop-methyl (µg/L) - TW2	2021/01/26	<MDL 0.4	9.0	No
Diclofop-methyl (µg/L) - TW3	2021/01/26	<MDL 0.4	9.0	No
Dimethoate (µg/L) - TW1	2021/01/26	<MDL 0.06	20.0	No
Dimethoate (µg/L) - TW2	2021/01/26	<MDL 0.06	20.0	No
Dimethoate (µg/L) - TW3	2021/01/26	<MDL 0.06	20.0	No
Diquat (µg/L) - TW1	2021/01/26	<MDL 1.0	70.0	No
Diquat (µg/L) - TW2	2021/01/26	<MDL 1.0	70.0	No
Diquat (µg/L) - TW3	2021/01/26	<MDL 1.0	70.0	No
Diuron (µg/L) - TW1	2021/01/26	<MDL 0.03	150.0	No
Diuron (µg/L) - TW2	2021/01/26	<MDL 0.03	150.0	No
Diuron (µg/L) - TW3	2021/01/26	<MDL 0.03	150.0	No
Glyphosate (µg/L) - TW1	2021/01/26	<MDL 1.0	280.0	No
Glyphosate (µg/L) - TW2	2021/01/26	<MDL 1.0	280.0	No
Glyphosate (µg/L) - TW3	2021/01/26	<MDL 1.0	280.0	No
Malathion (µg/L) - TW1	2021/01/26	<MDL 0.02	190.0	No
Malathion (µg/L) - TW2	2021/01/26	<MDL 0.02	190.0	No
Malathion (µg/L) - TW3	2021/01/26	<MDL 0.02	190.0	No
Metolachlor (µg/L) - TW1	2021/01/26	<MDL 0.01	50.0	No
Metolachlor (µg/L) - TW2	2021/01/26	<MDL 0.01	50.0	No
Metolachlor (µg/L) - TW3	2021/01/26	<MDL 0.01	50.0	No
Metribuzin (µg/L) - TW1	2021/01/26	<MDL 0.02	80.0	No
Metribuzin (µg/L) - TW2	2021/01/26	<MDL 0.02	80.0	No
Metribuzin (µg/L) - TW3	2021/01/26	<MDL 0.02	80.0	No
Monochlorobenzene (Chlorobenzene) (µg/L) - TW1	2021/01/26	<MDL 0.3	80.0	No
Monochlorobenzene (Chlorobenzene) (µg/L) - TW2	2021/01/26	<MDL 0.3	80.0	No
Monochlorobenzene (Chlorobenzene) (µg/L) - TW3	2021/01/26	<MDL 0.3	80.0	No
Paraquat (µg/L) - TW1	2021/01/26	<MDL 1.0	10.0	No
Paraquat (µg/L) - TW2	2021/01/26	<MDL 1.0	10.0	No
Paraquat (µg/L) - TW3	2021/01/26	<MDL 1.0	10.0	No
PCB (µg/L) - TW1	2021/01/26	<MDL 0.04	3.0	No
PCB (µg/L) - TW2	2021/01/26	<MDL 0.04	3.0	No
PCB (µg/L) - TW3	2021/01/26	<MDL 0.04	3.0	No
Pentachlorophenol (µg/L) - TW1	2021/01/26	<MDL 0.15	60.0	No
Pentachlorophenol (µg/L) - TW2	2021/01/26	<MDL 0.15	60.0	No

<b>Parameter &amp; Location</b>	<b>Sample Date<sup>6A</sup> (yyyy/mm/dd)</b>	<b>Sample Result</b>	<b>Maximum Allowable Concentration (MAC)</b>	<b>Exceedance of MAC</b>
Pentachlorophenol (µg/L) - TW3	2021/01/26	<MDL 0.15	60.0	No
Phorate (µg/L) - TW1	2021/01/26	<MDL 0.01	2.0	No
Phorate (µg/L) - TW2	2021/01/26	<MDL 0.01	2.0	No
Phorate (µg/L) - TW3	2021/01/26	<MDL 0.01	2.0	No
Picloram (µg/L) - TW1	2021/01/26	<MDL 1.0	190.0	No
Picloram (µg/L) - TW2	2021/01/26	<MDL 1.0	190.0	No
Picloram (µg/L) - TW3	2021/01/26	<MDL 1.0	190.0	No
Prometryne (µg/L) - TW1	2021/01/26	<MDL 0.03	1.0	No
Prometryne (µg/L) - TW2	2021/01/26	<MDL 0.03	1.0	No
Prometryne (µg/L) - TW3	2021/01/26	<MDL 0.03	1.0	No
Simazine (µg/L) - TW1	2021/01/26	<MDL 0.01	10.0	No
Simazine (µg/L) - TW2	2021/01/26	<MDL 0.01	10.0	No
Simazine (µg/L) - TW3	2021/01/26	<MDL 0.01	10.0	No
Terbufos (µg/L) - TW1	2021/01/26	<MDL 0.01	1.0	No
Terbufos (µg/L) - TW2	2021/01/26	<MDL 0.01	1.0	No
Terbufos (µg/L) - TW3	2021/01/26	<MDL 0.01	1.0	No
Tetrachloroethylene (µg/L) - TW1	2021/01/26	<MDL 0.35	10.0	No
Tetrachloroethylene (µg/L) - TW2	2021/01/26	<MDL 0.35	10.0	No
Tetrachloroethylene (µg/L) - TW3	2021/01/26	<MDL 0.35	10.0	No
2,3,4,6-Tetrachlorophenol (µg/L) - TW1	2021/01/26	<MDL 0.2	100.0	No
2,3,4,6-Tetrachlorophenol (µg/L) - TW2	2021/01/26	<MDL 0.2	100.0	No
2,3,4,6-Tetrachlorophenol (µg/L) - TW3	2021/01/26	<MDL 0.2	100.0	No
Triallate (µg/L) - TW1	2021/01/26	<MDL 0.01	230.0	No
Triallate (µg/L) - TW2	2021/01/26	<MDL 0.01	230.0	No
Triallate (µg/L) - TW3	2021/01/26	<MDL 0.01	230.0	No
Trichloroethylene (µg/L) - TW1	2021/01/26	<MDL 0.44	5.0	No
Trichloroethylene (µg/L) - TW2	2021/01/26	<MDL 0.44	5.0	No
Trichloroethylene (µg/L) - TW3	2021/01/26	<MDL 0.44	5.0	No
2,4,6-Trichlorophenol (µg/L) - TW1	2021/01/26	<MDL 0.25	5.0	No
2,4,6-Trichlorophenol (µg/L) - TW2	2021/01/26	<MDL 0.25	5.0	No
2,4,6-Trichlorophenol (µg/L) - TW3	2021/01/26	<MDL 0.25	5.0	No

Parameter & Location	Sample Date <sup>6A</sup> (yyyy/mm/dd)	Sample Result	Maximum Allowable Concentration (MAC)	Exceedance of MAC
2-methyl-4-chlorophenoxyacetic acid (MCPA) (µg/L) - TW1	2021/01/26	<MDL 0.12	100.0	No
2-methyl-4-chlorophenoxyacetic acid (MCPA) (µg/L) - TW2	2021/01/26	<MDL 0.12	100.0	No
2-methyl-4-chlorophenoxyacetic acid (MCPA) (µg/L) - TW3	2021/01/26	<MDL 0.12	100.0	No
Trifluralin (µg/L) - TW1	2021/01/26	<MDL 0.02	45.0	No
Trifluralin (µg/L) - TW2	2021/01/26	<MDL 0.02	45.0	No
Trifluralin (µg/L) - TW3	2021/01/26	<MDL 0.02	45.0	No
Vinyl Chloride (µg/L) - TW1	2021/01/26	<MDL 0.17	1.0	No
Vinyl Chloride (µg/L) - TW2	2021/01/26	<MDL 0.17	1.0	No
Vinyl Chloride (µg/L) - TW3	2021/01/26	<MDL 0.17	1.0	No
Trihalomethane: Total (µg/L) Annual Average - DW	4 Quarters of 2023	30.75	100.00	No
HAA Total (µg/L) Annual Average - DW	4 Quarters of 2023	<MDL 5.3	80.00	No

Note: TW = Treated Water, DW = Distribution Water, MDL = Minimum Detection Limit, MAC = Maximum Allowable Concentration, HAA = Haloacetic Acids

Note: TW1= McGeorge Treatment Pumphouse; TW2= Mill Street Treatment Pumphouse; TW3= Brownley Treatment Pumphouse

<sup>6A</sup>Organic Parameters (Schedule 24) are required to be tested every 36 months for a large municipal residential system, if the system obtains water from a raw water supply that is ground water (O. Reg 170/03 Schedule 13-4.(1b)). The last set of samples was collected and tested in 2021, the next set of samples is scheduled to be collected and tested in 2024.

**Table 7: List of Inorganic or Organic parameter(s) that exceeded half the standard prescribed in Schedule 2 of Ontario Drinking Water Quality Standards for the reporting period.**

Parameter	Result Value	Unit of Measure	Date of Sample
N/A	N/A	N/A	N/A