

February 2023

Reeve James Gibson and Council
The Township of Chapple
P.O. Box 4
Barwick, Ontario
POW 1A0

Re: 2022 Annual Summary Report for the Barwick Drinking-Water System

Ontario's Drinking-Water Systems Regulation (O.Reg.170/03), made under the *Safe Drinking Water Act, 2002*, requires that the owner of a drinking water system prepare an annual summary for municipalities on the operation of the system and the quality of its water.

The annual summary must cover the period of January 1st to December 31st in a year and must *be prepared not later than March 31st* of the following year. Pursuant to the legislative requirements, enclosed for your records is the 2022 Annual Summary for the Barwick Drinking-Water System.

Pursuant to the legislative requirements, *Schedule 22 Summary Reports for Municipalities*, the annual summary 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."

- O. Reg. 170/03 s. 22 (2)

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

1. 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.
2. A comparison of the summary referred to in paragraph 1 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 pursuant to subsection 5 (4), to the flow rates specified in the written agreement."

-O. Reg. 170/03 s. 22 (3)

In addition, Section 12 (1) - 4 - gives the direction that a copy of the annual summary for the system is given, without charge, to every person who requests a copy and be made available for inspection by any member of the public during normal business hours. The reports should be made available at the office of the municipality, or at a location that is accessible to the users of the water system.

This report was prepared by the Ontario Clean Water Agency on behalf of the Township of Chapple and is based on information kept on record by OCWA at the Barwick Drinking-Water System. The report covers the period January 1st through to December 31st 2022.

Yours truly,



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Copy to: Tara Allaire– CAO/Clerk Treasurer
Operations Staff – Barwick Well Supply

2022 Schedule 22 Annual Summary Report

Barwick Drinking-Water System

February 2023

Prepared by the



Ontario Clean Water Agency
Agence Ontarienne Des Eaux

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Section 1: Introduction

This report is a summary of water quality information for the Barwick Drinking-Water System, published in accordance with Schedule 22 of Ontario's Drinking-Water Systems Regulation for the reporting period of January 1st to December 31st 2022. The Barwick Drinking-Water System is categorized as a Small Municipal Residential Drinking Water System.

This report is prepared by The Ontario Clean Water Agency on behalf of the Corporation of the Township of Chapple. A copy of the Summary Report is to be provided to the members of the municipal council by March 31st 2023.

Section 2: What Does This Report Contain?

"The 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."

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

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2. A comparison of the summary referred to in paragraph 1 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 pursuant to subsection 5 (4), to the flow rates specified in the written agreement."

- O. Reg. 170/03 s. 22 (3)

Section 3: Daily Flow Rates

In accordance with the ***Municipal Drinking Water Licence 285-101 Schedule C: System – Specific Conditions 1.0 Performance Limits***, the Barwick drinking-water system shall not be operated to exceed the rated capacity for maximum flow rate from the treatment subsystem to the distribution system of **950 m³ / day**.

The drinking-water system may be operated temporarily at a rate above the rated capacity where necessary for:

- i) the purposes of fighting a large fire or,
- ii) the maintenance of the drinking-water system

The Barwick Drinking-Water facility operated below the rated capacity of 950 m³/day in 2022. The average monthly raw flow rate was 1,183.39 m³; the average raw daily flow rate was 38.91 m³, with a maximum raw daily flow rate of 68.3 m³.

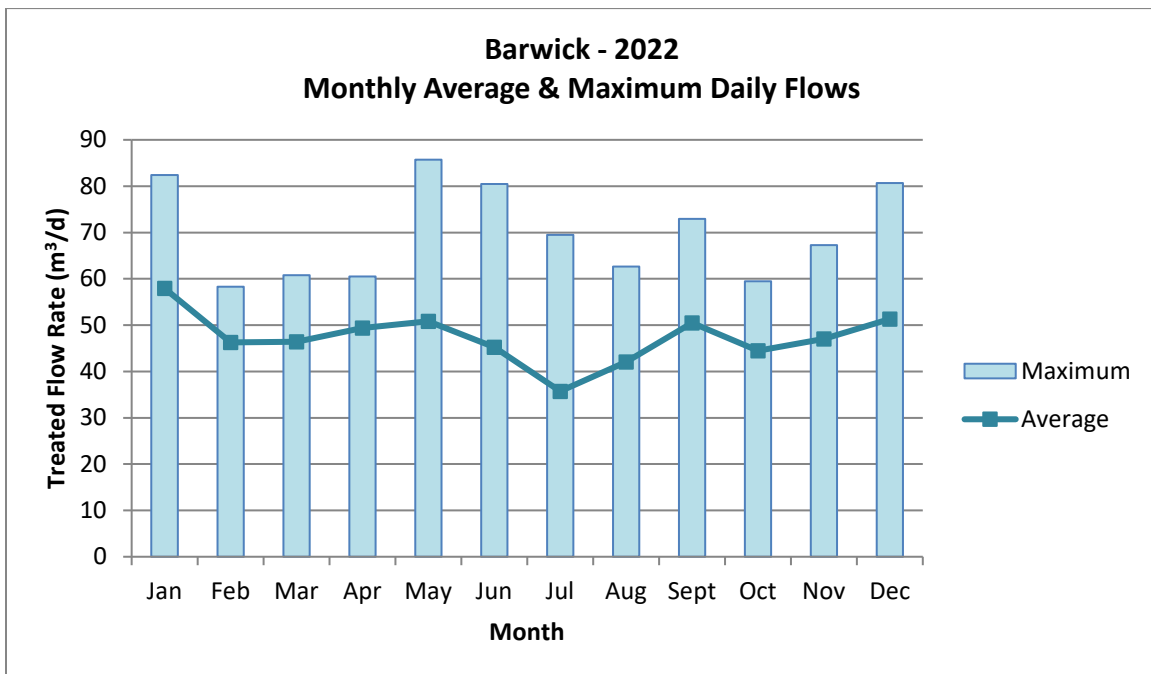
In 2021, the average monthly treated flow rate was 1,437.58 m³; the average daily treated flow rate was 47.26 m³; and the maximum daily treated flow rate for the year was 85.70 m³ representing 9.02% of the allowable daily volume.

A summary of raw and treated flows, including maximum raw flow into the treatment system as well as treated average, maximum and total flow rates are included in the tables below.

The quantity of raw water supplied during the reporting period did not exceed the terms and conditions of the *Permit to Take Water* nor did the flows directed to the treatment system exceed the rated capacity for this system.

Monthly Raw & Treated Flow Rates for 2022

Month	Average Daily Raw Flow Rate (m ³ /d)	Maximum Daily Raw Flow Rate (m ³ /d)	Average Daily Treated Flow Rate (m ³ /d)	Maximum Daily Treated Flow Rate (m ³ /d)	Total Monthly Treated Flow Rate (m ³ /month)
January	45.57	56.1	57.92	82.40	1,795.60
February	36.72	61.9	46.27	58.30	1,295.50
March	35.74	50.5	46.42	60.80	1,439.10
April	36.79	55	49.37	60.50	1,481.10
May	37.07	54	50.83	85.70	1,575.60
June	42.2	52.6	45.25	80.50	1,357.40
July	38.42	51.2	35.73	69.50	1,107.60
August	38.79	50.36	42.08	62.65	1,304.48
September	40.16	68.3	50.46	72.93	1,513.88
October	37.76	53.89	44.48	59.45	1,378.82
November	36.83	48.84	47.05	67.28	1,411.56
December	40.63	49.48	51.30	80.65	1,590.33
2022 Total Treated Flows (m ³)					17,250.97



Section 4: System Failures and Correction

The Ministry of Environment conducted an *announced* inspection of the Barwick Drinking Water System on June 3, 2022. The final inspection report identified two non-compliances as summarized in the table below.

The 2022 final inspection rating record for the Barwick Drinking Water System was 95.47%.

Item	Non-Compliance Identified	Compliance Date	Action Being Taken to Address item	Status
1	O. Reg. 170/03, Schedule 16, section 16-6, requires that an immediate verbal report be made to the Spills Action Centre and the local Medical Officer of Health for reportable events under section 18 of the Act or under sections 16-4 and 16-5 of the regulation. Effective immediately, the owner/operating authority shall ensure that all operators are aware of what is considered a reportable event that requires immediate verbal notification to the Spills Action Centre and the Medical Officer of Health.	2022/07/29	Training completed with staff and provided to MECP Inspector	Complete
2	<ol style="list-style-type: none"> 1. When manual CT calculations are completed by operators, the parameters used to complete the calculation are documented, but the calculated CT result is not documented and compared to the required CT, to demonstrate CT was achieved. 2. The operations manual consists of various electronic documents; however, the documents are not saved in a common area, which makes it challenging to find certain documents. 3. Photos of hard copy operations manuals have been taken and stored electronically, to form part of the operations manual; however, a new naming convention has not been assigned to the photos i.e. file saved as 'image00'. This does not clarify what the file contains. 4. Typically operators adequately review continuous data within 72 hours and document when continuous data is missing and confirm in the log book if the data was 			In Progress

Item	Non-Compliance Identified	Compliance Date	Action Being Taken to Address item	Status
	<p>captured by the back-up data logger. However, from December 30, 2021, at approx. 12:30 p.m. to December 31, 2021, at approx. 09:15 a.m., continuous data was not available through Wonderware, as was noted in the log book, but there was no reference that the back-up data logger trending was reviewed; therefore it cannot be confirmed if the continuous data was reviewed during this time.</p> <p>5. In addition, on January 1, 2022, the continuous data was reviewed for December 31, 2021; however, the following was documented: "There were not any Wonderware data lapses apparent". During this timeframe, Wonderware data was not available from 12:10 a.m. to approx. 09:15 a.m. and should have been documented as such.</p>			

Section 5: Conclusion

In the reporting year of 2022, there were four adverse water quality incident (AWQI) reports filed as summarized in the table below.

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
Mar 22 2022	Running Annual Average THM Exceedance Q1	114	ug/L		
May 12 2022	Running Annual Average THM Exceedance Q2	109	ug/L		
Sept 20 2022	Running Annual Average THM Exceedance Q3	112.6	ug/L		Nov 3 2022
Oct 26 2022	Low Chlorine & Chlorine pump failure	0.12	mg/L	Increased pump dosage	Oct 31 2022

For the operating year of 2022, the Barwick Drinking-Water System was able to meet the demand of water use within the town without exceeding the Municipal Drinking Water Licence and Permit to Take Water.