

## **Peggy Johnson**

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**From:** David Hoffman <DHoffman@ocwa.com>  
**Sent:** Monday, March 30, 2020 10:02 AM  
**To:** Peggy Johnson  
**Cc:** Bradley McMahon; Geoffrey Pearce; Kyle Gibbs  
**Subject:** Schedule 22 - Municipal Summary Report  
**Attachments:** Chapple 2019 Municipal Summary Report.pdf

Please find attached the Municipal Summary Report required under Schedule 22 of O. Reg. 170.

The report is to be made available to the public as per the regulation.

Please distribute as applicable.

If you have any questions please contact me.

**David Hoffman**  
**Process and Compliance Technician**  
Ontario Clean Water Agency  
Northwestern Ontario Hub

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March 28, 2020

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

**Re: 2019 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 1<sup>st</sup> to December 31<sup>st</sup> in a year and must *be prepared not later than March 31<sup>st</sup>* of the following year. Pursuant to the legislative requirements, enclosed for your records is the 2019 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 1<sup>st</sup> through to December 31<sup>st</sup> 2019.

Yours truly,

A handwritten signature in black ink, appearing to read 'B. McMahon', with a long horizontal line extending to the right.

Bradley McMahon  
Senior Operations Manager  
Northwestern Ontario Regional Hub

Copy to: Peggy Johnson – CAO/Clerk Treasurer  
Operations Staff – Barwick Well Supply



# 2019 Schedule 22 Annual Summary Report

## Barwick Drinking-Water System

March 2020

Prepared by the



**Ontario Clean Water Agency**  
**Agence Ontarienne Des Eaux**

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## ***Section 1: Introduction***

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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 2019. 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 2020.

## ***Section 2: What Does This Report Contain?***

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"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."

- 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)

### Section 3: Daily Flow Rates

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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 m<sup>3</sup> / 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 950m<sup>3</sup>/day in 2019. The average monthly raw flow rate was 1152.18m<sup>3</sup>; the average raw daily flow rate was 37.88m<sup>3</sup>, with a maximum raw daily flow rate of 72.6m<sup>3</sup>.

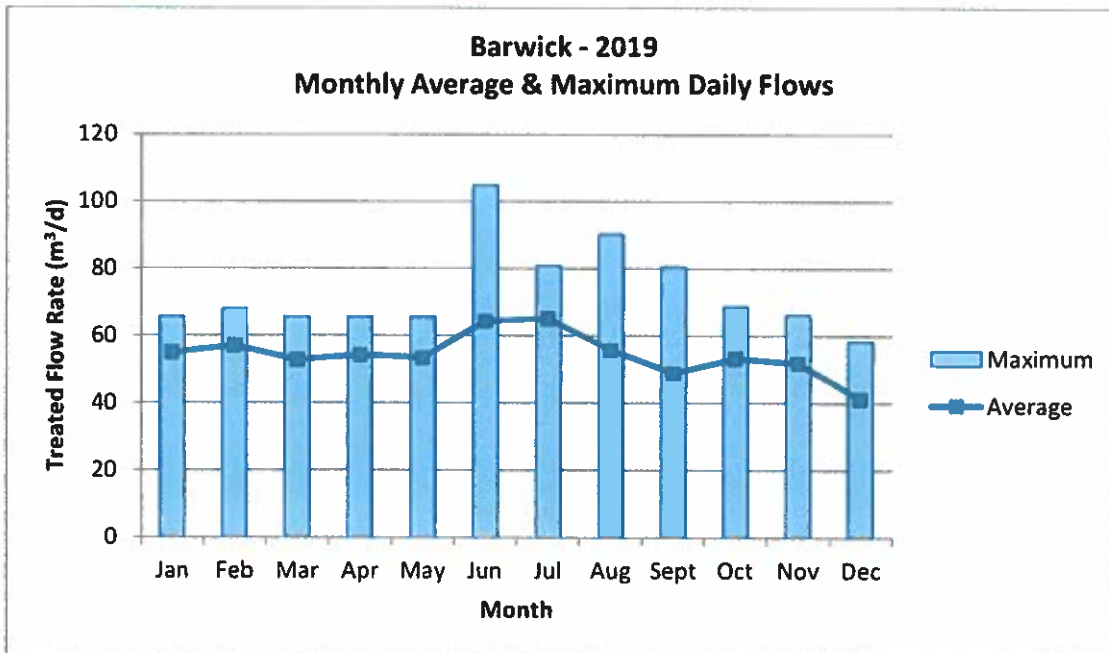
In 2019, the average monthly treated flow rate was 1654.05m<sup>3</sup>; the average daily treated flow rate was 54.41m<sup>3</sup>; and the maximum daily treated flow rate for the year was 104.86m<sup>3</sup> representing 11.04% of the allowable daily volume.

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 2019

Month	Average Daily Raw Flow Rate (m <sup>3</sup> /d)	Maximum Daily Raw Flow Rate (m <sup>3</sup> /d)	Average Daily Treated Flow Rate (m <sup>3</sup> /d)	Maximum Daily Treated Flow Rate (m <sup>3</sup> /d)	Total Monthly Treated Flow Rate (m <sup>3</sup> /month)
January	38.2	44.64	54.97	65.54	1703.97
February	41.41	53.33	57.00	67.87	1595.88
March	36.09	46.38	52.80	65.54	1636.90
April	38.08	50.85	54.27	65.54	1627.99
May	37.09	48.50	53.46	65.54	1657.35
June	44.45	61.25	64.41	104.86	1932.35
July	42.65	59.68	65.15	80.80	2019.50
August	41.34	72.60	55.67	90.30	1725.80
September	34.32	66.89	48.92	80.60	1467.60
October	34.31	39.01	53.18	68.80	1648.60
November	35.39	57.79	51.83	66.30	1555.00
December	31.58	51.87	41.21	58.30	1277.60
2019 Total Treated Flows (m <sup>3</sup> )				19,848.54	





## **Section 4: System Failures and Correction**

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The Ministry of Environment conducted an *announced* inspection of the Barwick Drinking Water System on April 10, 2019. The final inspection report identified nine non-conformance as summarized in the table below.

The 2019 final inspection rating record for the Barwick Drinking Water System was 83.25%.

Item	Non-Compliance Identified	Compliance Date	Action Being Taken to Address item	Status
1	<p><b>Appropriate records of flows and any capacity exceedances were not made in accordance with the Municipal Drinking Water Licence issued under Part V of the SDWA.</b></p> <p>Schedule C, Condition 2.1 of MDWL #285-101 requires the continuous measurement and recording of the flow rate and daily volume of treated water that flows from the treatment subsystem to the distribution system and the continuous flow measurement and daily recording of the flow rate and volume of water that flows into the treatment subsystem. Daily, the average flow rate and volume of raw water that entered the plant was recorded. From the date of the last inspection to October 24, 2018, treated water flow was continuous recorded by a pen chart recorder and daily, the volume of water sent out to the distribution system was documented. On October 24, 2018, the pen chart recorder was replaced with an electronic data logger. After the installation of the electronic data logger, continuous treated water flow measurements was not provided for the following timeframes:</p> <ul style="list-style-type: none"> <li>- October 24, 2018, at 5:45 p.m. to October 25, 2018, at 12:15 a.m.</li> <li>- November 6, 2018, at approx. 10:00 a.m. to November 9, at 01:00 a.m.</li> </ul> <p>The above timeframes both coincide with work being done to link the drinking water system to the new operating authority's software system.</p>	July 19 2019		In Progress
2	<p><b>Operators were not examining continuous monitoring test results or they were not examining the results within 72 hours of the test.</b></p> <p>O. Reg. 170/03, Schedule 6, section 6-5(1)3 requires that continuous monitoring records for filter effluent turbidity and treated water chlorine must be examined within 72 hours after the tests are conducted. During the review period, there were large periods of time where the treated water</p>	July 19 2019 July 31 2019		In Progress

chlorine residual data was unavailable (discussed in subsequent question). The loss of data was not documented in the log book. In addition, explanations of anomalies in the continuous data were not always identified and explained. Without providing explanations to loss of continuous data or anomalies in the data, it cannot be concluded that continuous data was being reviewed within 72 hours of the data being recorded.

3	<p><b>All continuous monitoring equipment utilized for sampling and testing required by O. Reg.170/03, or Municipal Drinking Water Licence or Drinking Water Works Permit or order, were not equipped with alarms or shut-off mechanisms that satisfy the standards described in Schedule 6. O. Reg. 170/03, Schedule 6, section 6-5(1.1)1 states that the continuous monitoring equipment must cause an alarm to signal immediately if the equipment malfunctions or loses power or a test result for a parameter is above the maximum alarm standard or below the minimum alarm standard specified in the Table to this section. Some of the alarm settings include:</b></p> <p>Low chlorine alarm - 0.25 mg/L (call out/alarm)          High chlorine alarm - 2.5 mg/L (call out/alarm)          low turbidity alarm - 0.0001 NTU (call out/alarm)          High turbidity alarm - 0.85 NTU (call out/alarm - plant does not automatically shut down)</p> <p>The alarms were set at values that were consistent with the requirements of section 6-5, Schedule 6, O. Reg. 170/03; however, after the new data logger was installed, the system was programmed with a 5 minute delay on the treated water chlorine residual alarm and a 12.5 minute delay on the filter effluent turbidity alarm. In addition, the new chlorine analyzer, that was installed on December 13, 2018, calculated a treated water chlorine residual, based on the average of three readings, taken 2.5 minutes apart.</p>	Not Specified	<p>Delays installed to reduce nuisance alarms due to spikes.</p> <p>Alarm delays removed.</p>	Complete
4	<p><b>Continuous monitoring equipment that was being utilized to fulfill O. Reg. 170/03 requirements was not performing tests for the parameters with at least the minimum frequency specified in the Table in Schedule 6 of O. Reg. 170/03 and/or was not recording data with the prescribed format.</b></p> <p>O. Reg. 170/03, Schedule 6, requires that treated water chlorine readings be taken and recorded at least once every 5 minutes. When the pen chart recorder was in use, treated water chlorine measurements were taken and recorded every 2.5 minutes.</p> <p>On October 24, 2018, a new data logger was installed. With the new system, treated water</p>	July 19 2019		In Process

chlorine residuals data is taken and recorded every 30 seconds. A review of treated water chlorine residual continuous data shows that data was not being recorded at the following timeframes:

- October 24, 2019, at 5:45 p.m. to October 25, 2019, at 12:15 a.m.
- November 6, 2019, at approx. 10:00 a.m. to November 9, at 01:00 a.m.
- various other times, when maintenance was taking place, data was not being recorded at the required frequency.

Sometimes a hand held chlorine residual was taken, but not at the required frequency.

Filter effluent turbidity is also continuously monitored and recorded every 30 seconds. The current DWWP does not require the continuous monitoring of filter effluent turbidity.

5	<p><b>Logbooks were not properly maintained and/or did not contain the required information.</b></p>	July 31 2019	In Process
	<p>O. Reg. 128/04, section 27, requires that a log or other record-keeping mechanism be maintained to record information concerning the operation of the subsystem. One of the items to be included in the log is any departures from normal operating procedures that occurred during the shift and the time they occurred. This includes documenting all alarms and the response taken and any abnormal or unusual observations. During the review period, not all alarm conditions or anomalies were documented. Some examples include:</p> <ul style="list-style-type: none"> <li>- On August 5, 2018, at approx. 06:15 a.m., the treated water chlorine residual dropped to zero momentarily. This drop was not identified in the log book</li> <li>- On August 6, 2018, at approx. 03:30 p.m. and 11:30 p.m., the treated water chlorine residual dropped to zero momentarily. These drops were not identified in the log book</li> <li>- On August 11, 2018, at approx. 03:55 a.m., the treated water chlorine residual dropped to zero momentarily. This drop was not identified in the log book</li> <li>- October 24, 2018, missing data was not documented</li> <li>- November 6, 2018 to November 9, 2018, missing data was not documented</li> <li>- March 29, 2019 and March 31, 2019, missing filter effluent turbidity trending was not documented</li> </ul>		
6	<p><b>All haloacetic acid water quality monitoring requirements prescribed by legislation are not being conducted within the required frequency and at the required location.</b></p>	July 19 2019	Complete
	<p>Haloacetic acids (HAA's) are required to be collected from the distribution system and tested once every three months, in accordance with</p>		<p>PCT set-up sampling schedule for the facility when first taken over. PCT failed to account for the quarters when ensure sample date ranges were in compliance.</p> <p>Corrected sampling schedule issued.</p>

	<p>section 13-6.1, O. Reg. 170/03. This requirement was not met during the inspection review period. A sample was not taken from the distribution system and tested for HAA's in the 4th quarter of 2018.</p>			
7	<p><b>All trihalomethane water quality monitoring requirements prescribed by legislation were not conducted within the required frequency and at the required location.</b>  Trihalomethanes (ie. THM's) are required to be collected from the distribution system and tested once every three months, in accordance with section 13-6, O. Reg. 170/03. This requirement was not met throughout the inspection review period. Trihalomethanes were not collected from the distribution system in the 4th quarter of 2018.</p>	July 19 2019	<p>PCT set-up sampling schedule for the facility when first taken over. PCT failed to account for the quarters when ensure sample date ranges were in compliance.</p> <p>Corrected sampling schedule issued.</p>	Complete
8	<p><b>All nitrate/nitrite water quality monitoring requirements prescribed by legislation were not conducted within the required frequency for the DWS.</b>  A treated water sample must be collected at least once every three months for analysis of nitrate and nitrite in accordance with Schedule 13, section 13-7 of O. Reg. 170/03. The requirement was not met during the inspection review period. A treated water sample was not taken and tested for nitrate/nitrite in the 4th quarter of 2018.</p>	July 19 2019	<p>PCT set-up sampling schedule for the facility when first taken over. PCT failed to account for the quarters when ensure sample date ranges were in compliance.</p> <p>Corrected sampling schedule issued.</p>	Complete
9	<p><b>All sampling requirements for lead prescribed by schedule 15.1 of O. Reg. 170/03 were not met.</b> requirements for lead sampling are outlined in Schedule 15.1 of O. Reg. 170/03. After the 2017 sampling year, the Barwick Drinking Water System qualified for reduced lead sampling and an exemption from having to take lead samples from plumbing locations and currently take lead samples in accordance with section 15.1 9 and 10 of this Schedule. This section requires that the facility:  (a) test for total alkalinity and for pH during the period from December 15 to April 15 and from June 15 to October 15, in every 12-month period; and  (b) test for lead during each of the periods, from one distribution location, in every third 12-month period. During the sampling period from December 15, 2017 to April 15, 2018, total alkalinity and pH were to be tested from a location in the distribution system. When the operator became aware of this error, they completed the required testing on April 24, 2018. In all subsequent periods, pH, alkalinity and lead were tested.</p>	July 19 2019	<p>Occurred before OCWA was operating the facility. The Facility Sampling SOP for the Barwick system has the sampling for the lead specifying the sample type and due dates for the lead sampling.</p>	Complete

## Section 5: Conclusion

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In the reporting year of 2019, there were no 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
N/A	N/A	N/A	N/A	N/A	N/A

For the operating year of 2019, 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.