



SOUTH BRUCE WATER SYSTEMS  
2020 SUMMARY REPORT

PREPARED IN ACCORDANCE WITH SCHEDULE 22  
ONTARIO REGULATION 170/03, AS AMENDED

PREPARED BY VEOLIA WATER CANADA  
FOR THE MUNICIPALITY OF SOUTH BRUCE

March 19, 2021

REPORTING PERIOD: JANUARY 1, 2020 TO DECEMBER 31, 2020

## Summary of Reporting Requirements

**O. Reg 170/03, Section 22** sets out the preparation and distribution of an annual summary report by owners of a drinking water system.

**22-2.** (1) The owner of a drinking water system shall ensure that, no later than March 31 of each year after 2003, a report is prepared in accordance with subsections

(2) and (3) for the preceding calendar year and is given to,

(a) in the case of a drinking water system owned by a municipality, the members of the municipal council;

(b) in the case of a drinking water system owned by a municipal service board established under section 195 of the *Municipal Act, 2001*, the members of the municipal service board; or

(c) in the case of a drinking water system owned by a corporation, the board of directors of the corporation.

(2) 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.

(3) The report must also include the following information for the purpose of enabling the owner of the system to assess the capability of the 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.

(4) If a report is prepared under subsection (1) for a system that supplies water to a municipality under the terms of a contract, the owner of the system shall give a copy of the report to the municipality by March 31.

**Infrastructure Review** – As part of the Drinking Water Quality Management System (DWQMS) an Infrastructure Review is required on an Annual Basis. The South Bruce Operations Manager and the Veolia Water Project Manager review Infrastructure on a regular basis. In the DWQMS Operational Plan it States: *The procedure will be for the Project Manager / Overall Responsible Operator to compile information received from the Maintenance Lead and Operators throughout the year based on work orders and observations relating to the infrastructure of the water treatment system. This information will be summarized in an Infrastructure section of the annual summary report and presented to the Owner on an annual basis. The Annual Summary is required to be submitted to the Owner by March 30<sup>th</sup> of each year.*

**Mildmay Water System – Drinking Water System #220002654**

Report Period: January 1st, 2020 to December 31st, 2020

On December 16, 2020, Heather Lovely from the Ministry of the Environment Conservation and Parks conducted an inspection of the Mildmay Water System.

The inspection report was received by South Bruce CAO/Clerk Leanne Martin and Veolia Water Project Manager Scott Gowan on January 29, 2021. The Inspection Report concluded that there were no issues of non-compliance. An Inspection Rating of 100% was received.

The following table lists the Adverse Water Quality Incidents that occurred during the reporting period:

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
NA					

**Mildmay Infrastructure Review**

The following items have been identified as potential improvements for the Mildmay Water System:

- Replacement of Aging Pumphouse Diesel Generator
- Continued review and replacement of aging and/or undersized distribution water mains.

**Maintenance/Expenses**

- April 1 - A curbstop box and rod were replaced at the Mildmay Ball Diamond.
- April 2 - The pumphouse diesel generator was serviced by an outside contractor.
- October 1 - Repaired a leaking curb stop at 12 Ellen Street
- October 23 - Repaired a service leak at 4 Adam Street (Appartments)



**Mildmay Summary of Quantities and Flow Rates - January 1<sup>st</sup> to December 31<sup>st</sup>, 2020.**

MONTH	Total Flow For Month (Liters)	Average Daily Flow (Liters)	Maximum Daily Flow (Liters)
January	16,201,000	522,613	647,000
February	15,115,000	521,207	606,000
March	16,390,000	528,710	626,000
April	15,344,000	511,467	718,000
May	16,676,000	537,935	762,000
June	19,084,000	636,133	779,000
July	21,527,000	694,419	1,004,000
August	20,266,000	653,742	841,000
September	17,740,000	591,333	695,000
October	15,581,000	502,613	612,000
November	14,746,000	491,533	633,000
December	15,239,000	491,581	600,000
<b>TOTAL:</b>	<b>203,909,000</b>		
<b>DAILY AVERAGE:</b>		<b>557,128</b>	
<b>DAILY MAXIMUM:</b>			<b>1,004,000</b>
<b>MAXIMUM ALLOWABLE TAKING, AS PER PERMIT TO TAKE WATER</b>			
<b>DRINKING WATER LICENCE CAPACITY (DAILY): 1,637,000 Litres</b>			
<b>MAXIMUM ALLOWABLE PER DAY: 1,600,000 Litres</b>			

For 2020 the average daily flow rate was **34.82%**, and the maximum daily flow was **62.75%** of the Permit To Take water capacity of 1,600,000 Litres per day.

The maximum daily flow was **61.33%** of the Municipal Drinking Water License Rated Capacity of 1,637,000 Litres per day.



**Teeswater Water System – Drinking Water System #220002654**

Report Period: January 1st, 2020 to December 31st, 2020

On December 16, 2020, Heather Lovely from the Ministry of the Environment Conservation and Parks conducted an inspection of the Teeswater Water System.

The inspection report was received by South Bruce CAO/Clerk Leanne Martin and Veolia Water Project Manager Scott Gowan on February 18, 2021. The Inspection Report concluded that there was 1 issue of non-compliance (see below). The non-compliance was the result of a battery backup system failure which resulted in the loss of Chlorine Residual monitoring for approximately 42 minutes. Extra system checks have been put in place in order to prevent this issue from recurring. The Inspector was satisfied with the corrective actions that were put in place, and did not require any further action to be taken. An Inspection Rating of **95.76%** was received.

**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.**

Chlorine recording > 5min

**Action(s) Required:**

Subsequent to this incident, the Operating Authority revised the monthly generator test procedure to include a check to ensure that UPS unit and chlorine monitor were working properly after the power switch.

No further action is required.

The following table lists the Adverse Water Quality Incidents that occurred during the reporting period:

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
April 23, 2020	<b>Chlorine</b>	N/A	mg/L	The chlorine analyzer was off from 11:50 to 12:32 due to Battery Backup failure. Once the issue was corrected, the Operators collected distribution chlorine residuals to ensure adequate disinfection was present.  2 Janet St. (1.86 mg/L @ 14:08) 8 Mill St. (1.84 mg/L @ 14:14)	April 23, 2020



**Teeswater Infrastructure Review**

The following items have been identified as potential improvements for the Teeswater Drinking Water System:

- Conduct a study on the benefits and feasibility of water storage and/or a second well (Study is underway).
- Continued review and replacement of aging and/or undersized distribution water mains.

**Maintenance/Expenses**

- April 9 - The pumphouse diesel generator was serviced by an outside contractor.
- September 4 - Repaired a water service leak at 8 James Street
- September 15 - Repaired a water main leak just North of the Co-op on Hillcrest Street.
- November 18 - The main controller was replaced for the Pumphouse Diesel Generator.

**Teeswater Summary of Quantities and Flow Rates - January 1<sup>st</sup> to December 31<sup>st</sup>, 2020.**

MONTH	Total Flow For Month (Liters)	Average Daily Flow (Liters)	Maximum Daily Flow (Liters)
January	10,145,000	327,258	451,000
February	9,652,000	332,828	403,000
March	10,225,000	329,839	430,000
April	9,884,000	329,467	435,000
May	11,523,000	371,710	490,000
June	12,759,000	425,300	644,000
July	14,236,000	459,226	606,000
August	14,132,000	455,871	618,000
September	11,076,000	369,200	443,000
October	10,367,000	334,419	458,000
November	10,865,000	362,167	430,000
December	10,925,000	352,419	446,000
<b>TOTAL:</b>	<b>135,789,000</b>		
<b>DAILY AVERAGE:</b>		<b>371,008</b>	
<b>DAILY MAXIMUM:</b>			<b>644,000</b>
<b>MAXIMUM ALLOWABLE TAKING, AS PER PERMIT TO TAKE WATER</b>			
<b>DRINKING WATER LICENCE CAPACITY (DAILY): 2,160,000 Litres</b>			
<b>MAXIMUM ALLOWABLE PER DAY: 1,600,000 Litres</b>			

For 2020 the average daily flow rate was **23.19%**, and the maximum daily flow was **40.25%** of the Permit To Take water capacity of 1,600,000 Litres per day.

The maximum daily flow was **29.81%** of the Municipal Drinking Water License Rated Capacity of 2,160,000 Litres per day.

**Teeswater Raw Water Quality Trends**

The raw water quality of the well in Teeswater remains excellent.

The first two tables below show that there were no instances of E. Coli or Total Coliform in the Raw Water Sample Results.

The third table shows the Raw Water Turbidity. Turbidity is a measurement of the clarity of the water (the lower the number the more clear the water is). For 2020 the raw turbidity ranged from 0.04 to 0.24 ntu, and averaged 0.09 ntu. This range is consistent with previous years Raw Water Turbidity.

Based on this information it does not appear that a below grade inspection of the well is required at this time.

Raw Water - E. Coli Results			
Month	Monthly Minimum (cfu/100ml)	Monthly Maximum (cfu/100ml)	Monthly # Samples
Jan '20	0	0	4
Feb '20	0	0	4
Mar '20	0	0	5
Apr '20	0	0	4
May '20	0	0	4
Jun '20	0	0	5
Jul '20	0	0	4
Aug '20	0	0	4
Sep '20	0	0	5
Oct '20	0	0	4
Nov '20	0	0	4
Dec '20	0	0	5
Annual Summary			
Min	0		
Max		0	
Avg			
Total			52

Raw Water - Total Coliform Results			
Month	Monthly Minimum (cfu/100ml)	Monthly Maximum (cfu/100ml)	Monthly # Samples
Jan '20	0	0	4
Feb '20	0	0	4
Mar '20	0	0	5
Apr '20	0	0	4
May '20	0	0	4
Jun '20	0	0	5
Jul '20	0	0	4
Aug '20	0	0	4
Sep '20	0	0	5
Oct '20	0	0	4
Nov '20	0	0	4
Dec '20	0	0	5
Annual Summary			
Min	0		
Max		0	
Avg			
Total			52

Raw Water Turbidity				
Month	Raw Turbidity			
	Minimum ntu	Maximum ntu	Average ntu	No. of Samples
Jan '20	0.07	0.08	0.07	4
Feb '20	0.06	0.09	0.08	4
Mar '20	0.06	0.14	0.10	5
Apr '20	0.07	0.10	0.09	4
May '20	0.08	0.24	0.13	4
Jun '20	0.05	0.09	0.08	5
Jul '20	0.04	0.08	0.06	4
Aug '20	0.06	0.08	0.08	4
Sep '20	0.08	0.11	0.09	4
Oct '20	0.05	0.12	0.09	6
Nov '20	0.05	0.13	0.09	4
Dec '20	0.07	0.15	0.11	5
Annual Summary				
# of Samples				53
Minimum	0.04			
Maximum		0.24		
Average			0.09	