Ontario Clean Water Agency
Agence Ontarienne Des Eaux

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P.O. Box 728
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Fax: 807-854-0483

February 2021

Mayor Renald Beaulieu and Council
The Corporation of the Municipality of Greenstone
P.O. Box 70
Geraldton, Ontario
P0T 1M0

Re: 2020 Annual Summary Report for the Beardmore Drinking-Water System
2020 Annual Summary Report for the Caramat Drinking-Water System
2020 Annual Summary Report for the Geraldton Drinking-Water System
2020 Annual Summary Report for the Longlac Drinking-Water System
2020 Annual Summary Report for the Nakina 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 2020 Annual Summary for the Greenstone Drinking-Water Systems.

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.

These reports were prepared by the Ontario Clean Water Agency on behalf of the Corporation of the Municipality of Greenstone and are based on information kept on record by OCWA at each specific water treatment plant. The report covers the period January 1st through to December 31st 2020.

Yours truly,

Patti O'Handley
Senior Operations Manager
Northwestern Ontario Regional Hub

Copy to: Mark Wright - CAO
Brian Aaltonen – Director of Public Services
Operations Staff – Beardmore WTP
Operations Staff – Caramat WTP
Operations Staff – Geraldton WTP
Operations Staff – Longlac WTP
Operations Staff – Nakina WS

2020 Schedule 22 Annual Summary Report

Beardmore Drinking-Water System

February 2021

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 Beardmore 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 2020. The Beardmore Drinking-Water System is categorized as a Large Municipal Residential Drinking-Water System.

This report is prepared by The Ontario Clean Water Agency on behalf of the Corporation of the Municipality of Greenstone – Beardmore Ward. A copy of the Summary Report is to be provided to the members of the municipal council by March 31st 2021.

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."

- 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

In accordance with the ***Municipal Drinking Water Licence 225-102 Schedule C: System – Specific Conditions 1.0 Performance Limits***, the Beardmore 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 **752 m^3 / 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

In 2020, the average monthly raw flow rate was 2335.15m^3; the average raw daily flow rate was 76.54m^3, with a maximum raw daily flow rate of 230.07m^3.

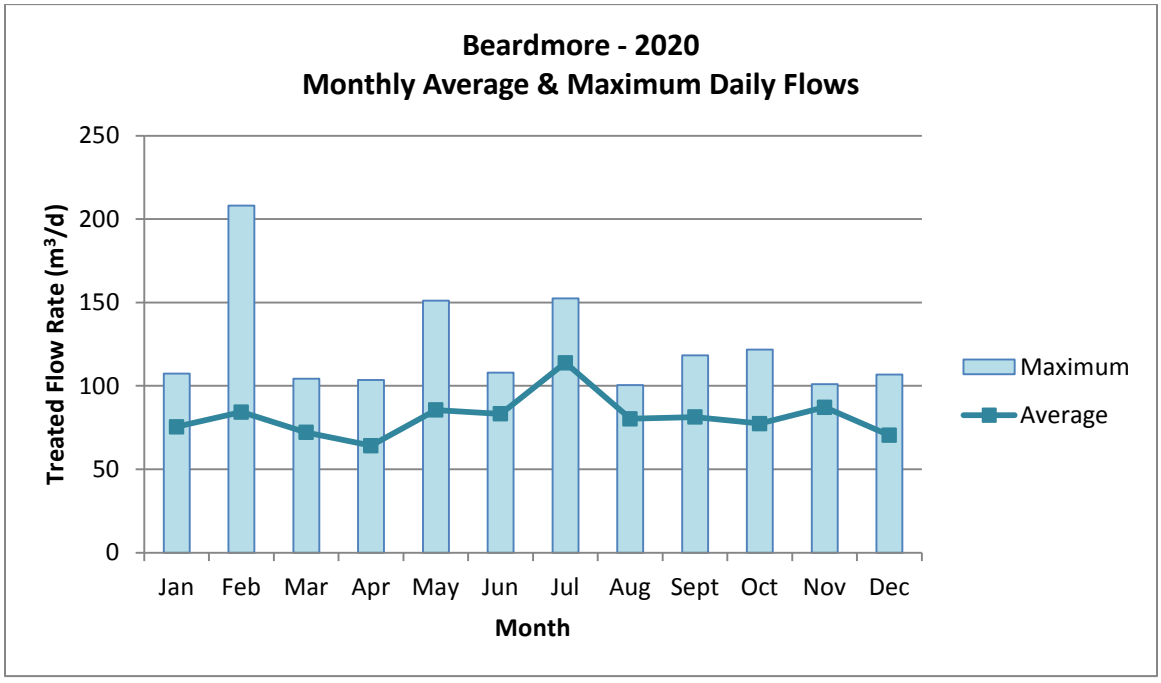
In 2020, the average monthly treated flow rate was 1995.17m^3; the average daily treated flow was 65.40m^3 and the maximum daily treated flow for the year was 192.65m^3; this represents 25.62 % of the allowable daily volume.

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 treated flows directed to the distribution system exceed the rated capacity for this system.

Monthly Raw & Treated Flow Rates for 2020

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	77.63	116.13	66.03	93.84	2046.90
February	73.91	116.87	62.03	82.08	1798.92
March	70.97	125.02	59.42	91.07	1841.95
April	69.12	109.95	57.92	78.60	1737.47
May	77.99	146.60	67.51	115.17	2092.94
June	83.27	152.37	73.87	142.93	2215.96
July	97.59	212.48	79.95	109.97	2478.56
August	78.54	140.06	65.48	106.03	2030.00
September	86.22	230.07	74.62	192.65	2238.55
October	73.26	173.42	64.72	154.27	2006.42
November	64.62	107.01	56.17	63.37	1684.98
December	65.36	91.17	57.08	65.20	1769.41
		2020 Total Treated Flows (m^3)		**23942.06**	



Section 4: System Failures and Correction

There were no identified system failures in 2020. The Ministry of Environment conducted an inspection of the water plant on September 28 2020. The final inspection report identified two non-conformance as summarized in the table below. The 2020 final inspection rating record for the Beardmore Drinking Water System was 92.34%.

Item	Non-Compliance Identified	Compliance Date	Action Being Taken to Address item	Status
1	**Operators were not examining continuous monitoring test results or they were not examining the results within 72 hours of the test.** During the inspection, it was determined that operators are not conducting a proper examination of all test results generated by continuous monitoring equipment. This became evident when several data gaps, which occurred during the inspection review period, were identified during a review of continuous monitoring data in the facility's SCADA system. There were no records of these data gaps made in the logs.	N/A	Issue was discussed with the ORO on September 29 2020	Complete
2	**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.** In accordance with the Table in O. Reg. 170/03, Schedule 6, section 6-5, the time, date, sampling location and test result must be recorded as a minimum, every five (5) minutes for primary disinfection chlorine residual and every 15 minutes for filter effluent turbidity. A review of continuous monitoring data for inspection review period identified that several data gaps occurred in the facility's SCADA system, while water was being directed to users, resulting in no record of primary disinfection chlorine residuals for time periods greater then 5 minutes and no record of filter effluent turbidity test results for time periods greater then 15 minutes. The ministry is aware that these data gaps are a direct result of the network communication issues associated with the facility's SCADA system which is operated by servers over a long-distance communication infrastructure. It is acknowledged that chlorine and turbidity analyzers are properly functioning, however, SCADA is not recording during instances where there are network communication issues. This issue of non-	N/A	Issue was discussed with the operator on September 29 2020	Complete

compliance does not imply that
primary disinfection is not being achieved.

Section 5: Conclusion

In the reporting year of 2020, there were no adverse water quality incidents (AWQI) reports filed.

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 2020, the Beardmore 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.

2020 Schedule 22 Annual Summary Report

Caramat Drinking-Water System

February 2021

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 Caramat 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 2020. The Caramat 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 Municipality of Greenstone – Caramat Ward. A copy of the Summary Report is to be provided to the members of the municipal council by March 31st 2021.

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."

- 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

In accordance with the ***Municipal Drinking Water Licence 225-101 Schedule C: System – Specific Conditions 1.0 Performance Limits***, the Caramat 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 **75.2 m^3 / 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

In 2020, the average monthly raw flow rate was 408.37 m^3; the average raw daily flow rate was 13.37 m^3, with a maximum raw daily flow rate of 33.9 m^3.

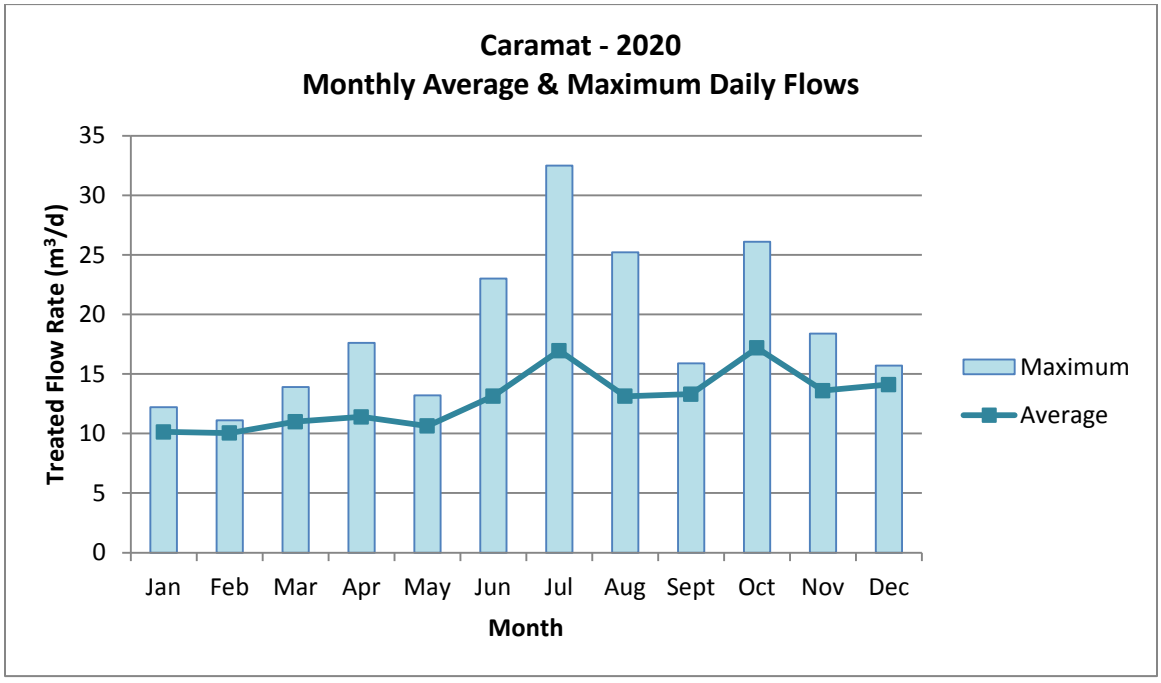
In 2020, the average monthly treated flow rate was 393.49 m^3; the average daily treated flow was 12.89 m^3 and the maximum daily treated flow for the year was 32.50 m^3; this represents 43.22% of the allowable daily volume.

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 treated flows directed to the distribution system exceed the rated capacity for this system.

Monthly Raw & Treated Flow Rates for 2020

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	9.77	13.80	10.13	12.20	314.00
February	9.82	11.40	10.04	11.10	291.10
March	10.72	14.90	11.00	13.90	341.10
April	11.50	17.30	11.40	17.60	341.90
May	10.27	13.70	10.63	13.20	329.40
June	12.85	22.30	13.14	23.00	394.10
July	17.75	33.90	16.96	32.50	525.90
August	15.32	22.10	13.13	25.20	407.00
September	14.34	19.80	13.31	15.90	399.20
October	17.11	22.30	17.19	26.10	532.80
November	14.97	18.20	13.60	18.40	408.10
December	16.02	22.00	14.11	15.70	437.30
		2020 Total Treated Flows (m^3)		**4,721.90**	



Section 4: System Failures and Correction

The Ministry of the Environment conducted an *unannounced* inspection of the Caramat Drinking-Water System on September 30, 2020. There was one non-compliance items identified in the inspection report. The final 2020 inspection rating record for the Caramat Drinking-Water System was 95.76%.

Item	Non-Compliance Identified	Compliance Date	Action Being Taken to Address item	Status
1	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.	Immediately	The DWS Owner and Operating Authority shall ensure that treated chlorine residuals are continuously read and recorded, when water is being directed to users, in accordance with O.Reg 170/03, Schedule 6, Section 6-5(2) for the purpose of assessing primary disinfection. If the analyzer has to be taken offline and water is still being directed to users, every effort shall be made to meet this requirement by taking grab samples. If this cannot be reasonably achieved, the local Ministry of Environment, Conservation and Parks office is to be contacted to discuss, or for after hour events, the ministry's Spills Action Centre and Northwestern Health Unit should be notified as soon as reasonably possible.	Completed

Section 5: Conclusion

In the reporting year of 2020, there were no adverse water quality incident (AWQI) report filed as summarized in the below table.

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
N/A	N/A	N/A	N/A	N/A	N/A

The treated water samples at the plant and in the distribution system were shown to be free of bacteriological contaminants and met the Ontario Drinking Water Quality Standards.

For the operating year of 2020, the Caramat 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.

2020 Schedule 22 Annual Summary Report

Geraldton Drinking-Water System

February 2021

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 Geraldton 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 2020. The Geraldton Drinking-Water System is categorized as a Large Municipal Residential Drinking Water System.

This report is prepared by The Ontario Clean Water Agency on behalf of the Corporation of the Municipality of Greenstone – Geraldton Ward. A copy of the Summary Report is to be provided to the members of the municipal council by March 31st 2021.

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."

- 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

In accordance with the ***Municipal Drinking Water Licence 225-104 Schedule C: System – Specific Conditions 1.0 Performance Limits***, the Geraldton 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 **6045 m^3 / 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

In 2020, the average monthly raw flow rate was 55,328.92 m^3; the average raw daily flow rate was 1,814 m^3, with a maximum raw daily flow rate of 3426.00 m^3.

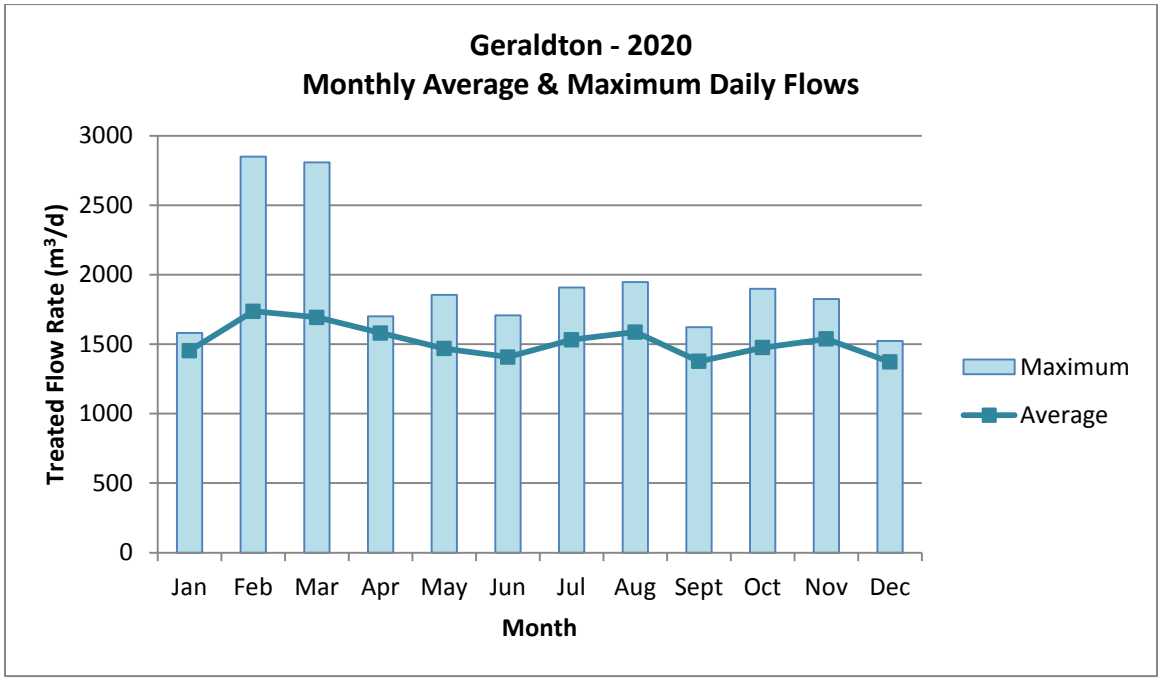
In 2020, the average monthly treated flow rate was 46,290.25 m^3; the average daily treated flow was 1518.44 m^3 and the maximum daily treated flow for the year was 2850.00 m^3; this represents 47.15% of the allowable daily volume.

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 treated flows directed to the distribution system exceed the rated capacity for this system.

Monthly Raw & Treated Flow Rates for 2020

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	1767.45	1975.00	1453.35	1580.00	45054.00
February	2053.52	3426.00	1736.72	2850.00	50365.00
March	2011.61	3205.00	1692.58	2808.00	52470.00
April	1899.57	2073.00	1579.97	1701.00	47399.00
May	1758.97	2277.00	1469.06	1855.00	45541.00
June	1711.73	2015.00	1407.83	1707.00	42235.00
July	1846.58	2261.00	1532.42	1908.00	47505.00
August	1945.87	2246.00	1586.65	1948.00	49186.00
September	1629.27	2033.00	1376.30	1623.00	41289.00
October	1742.81	2226.00	1475.81	1898.00	45750.00
November	1791.33	2090.00	1538.20	1824.00	46146.00
December	1618.26	1770.00	1372.35	1523.00	42543.00
		2020 Total Treated Flows (m^3)		**555,483.00**	



Section 4: System Failures and Correction

The Ministry of Environment conducted an *announced inspection* of the Geraldton Drinking-Water System on August 13 2019 with a final inspection rating of 100%. No major system failures were identified in 2019. There were no inspections in 2020.

Item	Non-Compliance Identified	Compliance Date	Action Being Taken to Address item	Status
N/A	N/A	N/A	N/A	N/A

Section 5: Conclusion

In the reporting year of 2020, there were nine adverse water quality incident (AWQI) reports filed as summarized below.

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
27-Feb-2020	Loss of pressure to three businesses and 25 homes. Called MOH and spoke with Torsten Schulz. BWA issued to home owners and businesses			Collect 1 set of bacteriological samples.	02-Mar-2020
04-Mar-2020	Loss of pressure to 20 homes in Olde Road area. Call MOH and talk to Melissa Syrja. BWA issued to home owners.			Collect 1 set of bacteriological samples.	07-Mar-2020
26-Mar-2020	Loss of pressure to 15 homes and 1 business. Call MOH, BWA issued to affected area.			Collect 1 set of bacteriological samples.	30-Mar-2020
15-Apr-2020	Exceeded lead limit, 13.3ug/L from a hydrant.	13.3	ug/L	Flush hydrant and resample.	27-Apr-2020
30-Apr-2020	Loss of pressure due to hydrant replacement/repair affecting 6 businesses.			Collect 1 set of bacteriological samples.	05-May-2020
15-Jul-2020	Loss of pressure to 18 homes installing new 2” line to the fire hall from the 12” main line.			Flush main and collect 1 set of bacteriological samples.	17-Jul-2020
25-Aug-2020	Loss of pressure due to hydrant relocation at school,			Flush main and collect 1 set of bacteriological	28-Aug-2020

	affecting 25 homes. BWA issued for affected area.	samples.	
20-Oct-2020	Loss of pressure to 4 homes, 1 nurses residence and hospital. Located on 4th Ave SW between 4th St West and 5th St West. Installing new valve and hydrant for the Hospital.	Collect 1 set of bacteriological samples.	23-Oct-2020
18-Dec-2020	Loss of pressure at 1 home due to repairing 6" broken water main and changing out a fire hydrant. Flushed after repair was done. Sample collection.	Collect 1 set of bacteriological samples.	30-Dec-2020

The inspection found the plant to be producing good quality water. The treated water samples at the plant were shown to be free of bacteriological contaminants and met the Ontario Drinking Water Quality Standards.

For the operating year of 2020, the Geraldton 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.

2020 Schedule 22 Annual Summary Report

Longlac Drinking-Water System

February 2021

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 Longlac 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 2020. The Longlac Drinking-Water System is categorized as a Large Municipal Residential Drinking Water System.

This report is prepared by The Ontario Clean Water Agency on behalf of the Corporation of the Municipality of Greenstone – Longlac Ward. A copy of the Summary Report is to be provided to the members of the municipal council by March 31st 2021.

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."

- 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

In accordance with the ***Municipal Drinking Water Licence 225-105 Schedule C: System – Specific Conditions 1.0 Performance Limits***, the Longlac 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 **4540 m^3 / 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

In 2020, the average monthly raw flow rate was 30,647.50 m^3; the average raw daily flow rate was 1004.40 m^3, with a maximum raw daily flow rate of 1597.00 m^3.

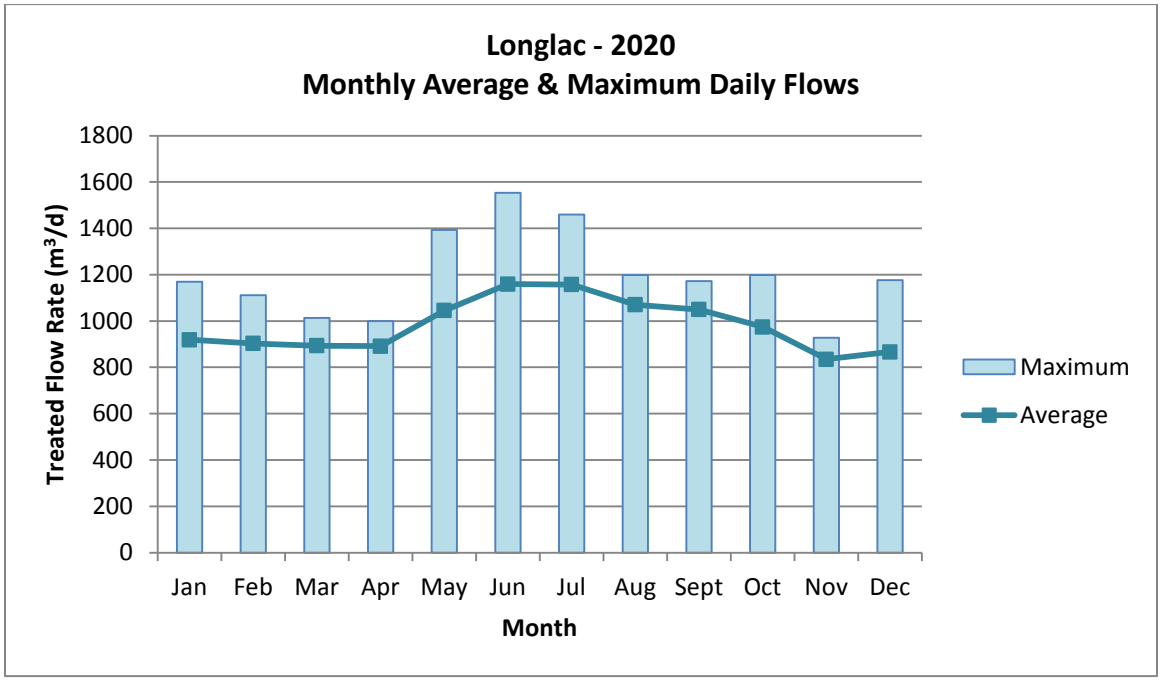
In 2020, the average monthly treated flow rate was 29,769.08 m^3; the average daily treated flow was 980.53 m^3 and the maximum daily treated flow for the year was 1553.00 m^3; this represents 34.21% of the allowable daily volume.

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 treated flows directed to the distribution system exceed the rated capacity for this system.

Monthly Raw & Treated Flow Rates for 2020

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	928.71	1202.00	919.19	1170.00	28495.00
February	920.34	1113.00	903.24	1112.00	26194.00
March	902.81	1053.00	893.40	1014.00	26802.00
April	915.93	1071.00	891.48	1000.00	25853.00
May	1077.06	1509.00	1045.35	1394.00	32406.00
June	1163.03	1597.00	1159.50	1553.00	34785.00
July	1208.10	1530.00	1157.52	1460.00	35883.00
August	1110.00	1261.00	1070.65	1198.00	33190.00
September	1096.37	1355.00	1050.03	1172.00	31501.00
October	1009.00	1247.00	974.48	1199.00	30209.00
November	849.50	1006.00	835.13	928.00	25054.00
December	871.90	1177.00	866.35	1176.00	26857.00
		2020 Total Treated Flows (m^3)		**357,229.00**	



Section 4: System Failures and Correction

The Ministry of Environment conducted an *unannounced* inspection of the Longlac Drinking-Water System on October 28, 2020. There were no non-compliance items identified in the inspection report.

The final inspection rating record for the Longlac Drinking Water System was 100%.

Item	Non-Compliance Identified	Compliance Date	Action Being Taken to Address item	Status
N/A	N/A	N/A	N/A	N/A

Section 5: Conclusion

In the reporting year of 2020, there were two adverse water quality incident (AWQI) reports filed as summarized below.

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
20-May-2020	Loss of coagulation (alum) due to power failure (GFCI breaker tripped).	-	-	Restore power, operate in manual mode to waste to restore clarifier. Replace receptacle and rewired alum panel through UPS	21-May-2020

The inspection found the plant to be producing good quality water. The treated water samples at the plant and in the distribution system were shown to be free of bacteriological contaminants and met the Ontario Drinking Water Quality Standards.

For the operating year of 2020, the Longlac Drinking Water System was able to meet the demand of water use within the town without exceeding the Municipal Drinking Water License and Permit to Take Water.

2020 Schedule 22 Annual Summary Report

Nakina Drinking-Water System

February 2021

Prepared by the

Ontario Clean Water Agency
Agence Ontarienne Des Eaux

Table of Contents

Section 1: Introduction

This report is a summary of water quality information for the Nakina 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 2020. The Nakina Drinking-Water System is categorized as a Large Municipal Residential Drinking Water System.

This report is prepared by The Ontario Clean Water Agency on behalf of the Corporation of the Municipality of Greenstone – Nakina Ward. A copy of the Summary Report is to be provided to the members of the municipal council by March 31st 2021.

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."

- 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

In accordance with the ***Municipal Drinking Water Licence 225-103 Schedule C: System – Specific Conditions 1.0 Performance Limits***, the Nakina 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 **2000 m^3 / 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

In 2020, the average monthly raw flow rate was 5370.17 m^3; the average raw daily flow rate was 176.07 m^3, with a maximum raw daily flow rate of 529.00 m^3.

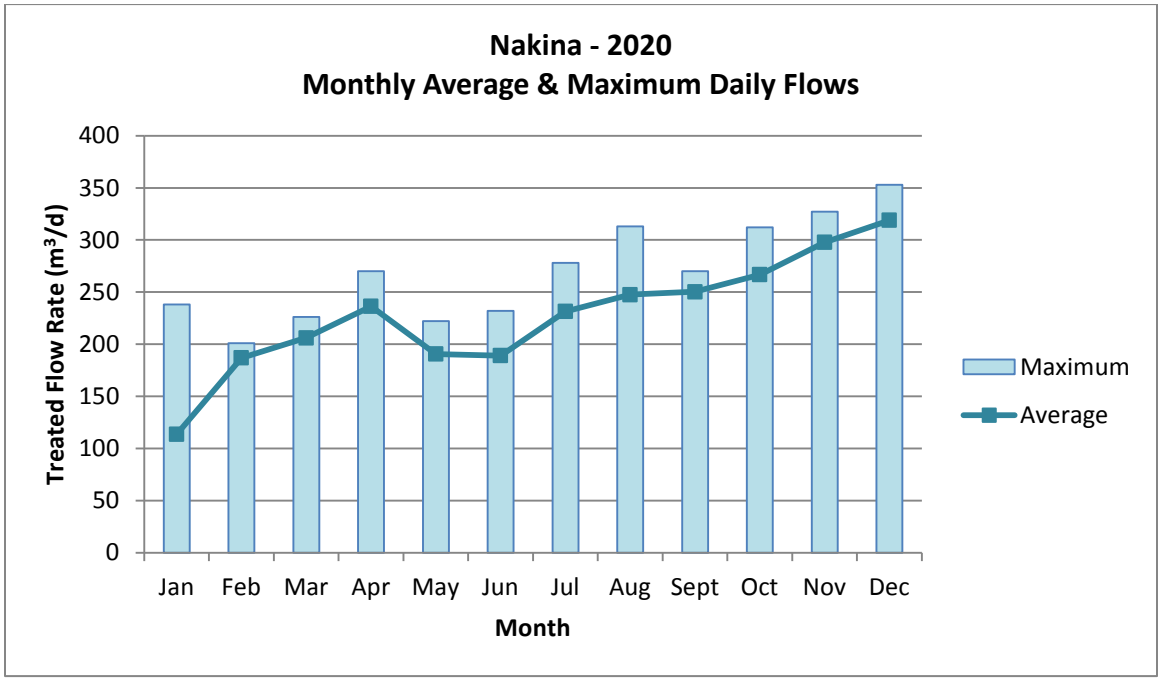
In 2020, the average monthly treated flow rate was 6953.83 m^3; the average daily treated flow was 227.94 m^3 and the maximum daily treated flow for the year was 353.00 m^3; this represents 17.65% of the allowable daily volume.

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 treated flows directed to the distribution system exceed the rated capacity for this system.

Monthly Raw & Treated Flow Rates for 2020

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	160.03	390	113.58	238.00	3521.00
February	119.79	376	186.86	201.00	5419.00
March	167.35	339	206.06	226.00	6388.00
April	76.80	351	236.33	270.00	7090.00
May	119.52	334	190.61	222.00	5909.00
June	77.37	332	189.10	232.00	5673.00
July	109.97	356	231.39	278.00	7173.00
August	147.00	391	247.52	313.00	7673.00
September	251.23	358	250.37	270.00	7511.00
October	263.97	361	266.74	312.00	8269.00
November	296.93	460	297.70	327.00	8931.00
December	319.19	529	319.00	353.00	9889.00
			2020 Total Treated Flows (m^3)		**83,446.00**



Section 4: System Failures and Correction

The Ministry of Environment conducted an *announced* inspection of the Nakina Drinking Water System on September 2 2019. There were no inspections in 2020.

The 2019 final inspection rating record for the Nakina Drinking Water System was 97.91%.

Item	Non-Compliance Identified	Compliance Date	Action Being Taken to Address item	Status
1	**The owner was not in compliance with all conditions of the PTTW.** The maximum rated capacity specified in Nakina Drinking Water System PTTW 3828-97JL37 for PW1 and PW2 wells is 3,265.92 cubic m3/d at a maximum flow rate of 1,134 L/m or 18.9L/s. The maximum flow rate recorded of raw water from PW1 and PW2 was 49.63 L/s in April 2019. Further review of the data from the time of last inspection also shows exceedance of maximum flow rate (18.9L/s) from PW1 and PW2 every month, therefore the owner is not compliant with all conditions of the PTTW. By October 11, 2019 provide a report to Provincial Officer Pamela Cowie stating what steps have been taken to ensure the flow rates of the raw water pumps do not exceed the water taking allowed by the Permit to Take Water.	October 11 2019	New well pumps installed. Pumping efficiency higher than the rate per minute specified in the PTTW. Requires rebuild kit for the singer valve to reduce pump rate. Replaced the valve.	Complete

Section 5: Conclusion

In the reporting year of 2020, there was one adverse water quality incident (AWQI) reports filed.

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
16-Apr-2020	Lead exceedance on hydrant	12.5	ug/L	Resample	28-Apr-2020

For the operating year of 2020, the Nakina Drinking Water System was able to meet the demand of water use within the town without exceeding the Municipal Drinking Water License. The Permit to Take Water pumping rate was exceeded due to the new well pump pumping efficiency.