Manorview Drinking Water System

2025 Annual Water Report

Drinking Water System Number: 260001864

Drinking Water System Operating Authorities: City of Kawartha Lakes and Ontario Clean Water Agency

Drinking Water System Category: Small Municipal Residential

Reporting Period: January 1st – December 31st, 2025

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Annual Drinking Water Report
City of Kawartha Lakes

Kawartha Lakes
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2025 Annual Drinking Water System Summary Report

General Information

The City of Kawartha Lakes prepares a report summarizing system operation and water quality for every municipal drinking water system annually. This report has been prepared to satisfy the annual reporting requirements in O. Reg. 170/03 Section 11 and Schedule 22. The annual reports will be available to residents at the City of Kawartha Lakes Public Works Administration Office by appointment and the City's website. Notification that the reports are available free of charge will be made on the City of Kawartha Lakes website. The City of Kawartha Lakes Public Works Administration Office is located at 322 Kent Street West in Lindsay, Ontario.

This system does not serve more than 10,000 residences.

Drinking Water System Number: 260001864
Drinking Water System Name: Manorview Drinking Water System
Drinking Water System Owner: City of Kawartha Lakes
Drinking Water System Category: Small Municipal Residential
Reporting Period: January 1, 2025 – December 31, 2025

Compliance Summary

Table 1. Drinking Water Compliance Summary

	Number of Events	Date (yyyy/mm/dd)	Details
Ministry (MECP) Inspections	1	2025 04 23	Announced Focused Drinking Water Inspection – Final Inspection Rating of 100%
Adverse Water Quality Incidents (AWQIs)	2	2025 02 03	Did not meet the filter performance criteria for January 2025.
		2025 03 31	Loss of pressure due to generator fault and shutdown.
Non-Compliances	0		

	Number of Events	Date (yyyy/mm/dd)	Details
Boil Water Advisories	1	2025 03 31	Loss of pressure due to generator fault.
Health and Safety	0		

Drinking Water System Description

The Manorview drinking water system is a small municipal residential drinking water system serving the Manorview subdivision located in the community of Bethany, Ontario, within the City of Kawartha Lakes. The drinking water system is classified as a Class I Water Treatment and Class I Water Distribution subsystem in accordance with O. Reg. 128/04.

Source Water

The water supply for the system is obtained from two groundwater wells identified as Well #1 and Well #2. These wells are designated as Groundwater Under the Direct Influence of Surface Water (GUDI).

Water Treatment Facility

The Manorview water treatment facility includes a sodium hypochlorite disinfection system, cartridge filtration, and two ultraviolet (UV) reactors. The treatment process provides filtration followed by primary disinfection using UV and sodium hypochlorite. An underground clearwell provides chlorine contact time and treated water storage prior to distribution.

The facility also includes hydropneumatics tanks, a high lift pumping system, and online monitoring equipment for continuous measurement of chlorine residual and turbidity to ensure regulatory compliance.

A diesel generator is located onsite to provide standby power to the water treatment facility in the event of a power failure.

Distribution System

The distribution system consists of approximately one kilometre of PVC watermain and is not rated for fire protection. There are no treated water storage facilities, chlorine boosting stations, secondary disinfection processes, or pressure boosting capabilities within the control of the distribution system.

Table 2. Treatment Chemicals Used

Chemical Name	Use	Supplier
Sodium Hypochlorite	Disinfection	Jutzi Water Technologies

Summary of Non-Compliance

Adverse Water Quality Incidents

Table 3. Adverse Water Quality Incidents

Date (yyyy/mm/dd)	AWQI #	Location	Problem	Details	Legislation	Corrective Action Taken
2025 02 03	167322	Treated	Monthly Filter Performance	January 2025 filter performance was 91.8%. The criteria is 95%.	O. Reg. 170/03	Cartridge filter change on January 15, 2025. NTU analyzer verification on January 20, 2025 – passed. NTU analyzer verification on January 27, 2025 – passed. NTU analyzer maintenance, flow adjustment – January 31, 2025. Filter performance report for February 2025 – 100%.
2025 03 31	033125JT	Distribution	Loss of pressure	Generator failure causing loss of pressure during prolonged ice storm.	O. Reg. 170/03	BWA issued on March 31, 2025. Generator repaired, power restored, pressure

Date (yyyy/mm/dd)	AWQI #	Location	Problem	Details	Legislation	Corrective Action Taken
						restored. Flush distribution and take bacti samples. Sample results returned all clear. BWA rescinded on April 5, 2025.

Non-Compliance

There were no non-compliances reported during the reporting period.

Non-Compliance Identified in a Ministry Inspection

There were no non-compliances identified in a Ministry Inspection during this period.

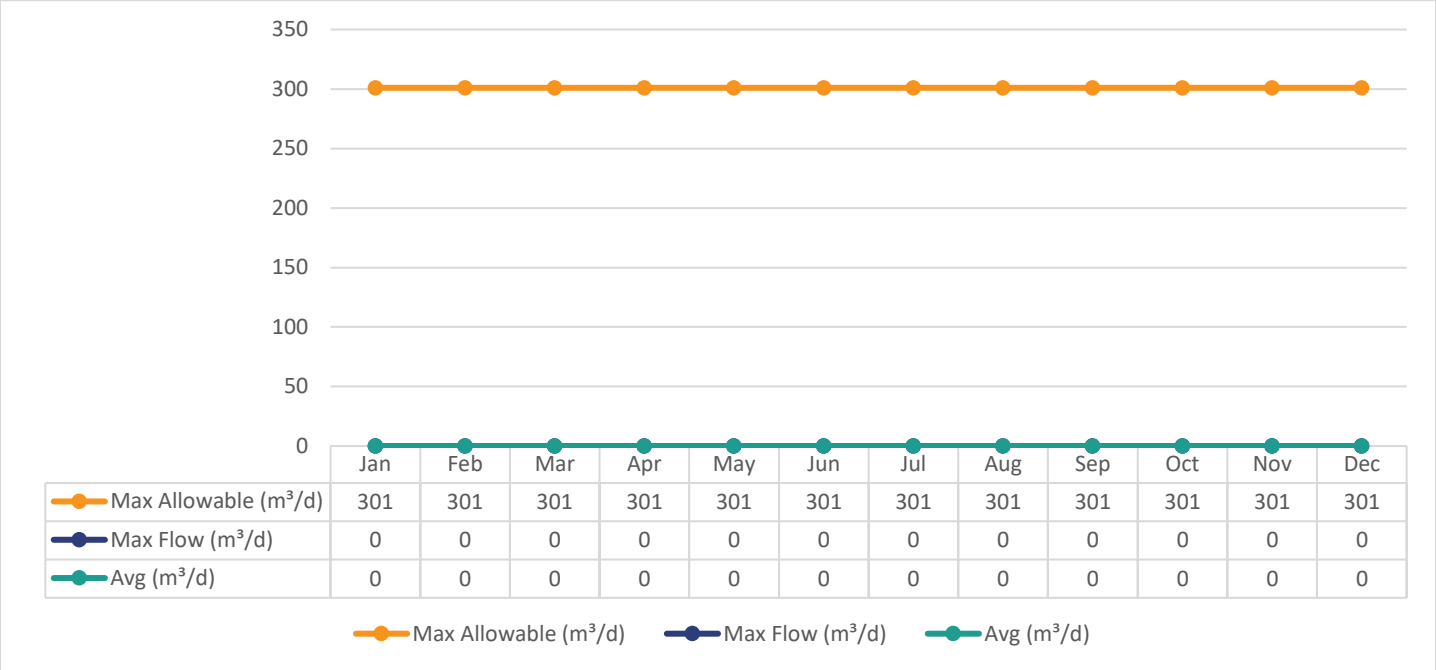
Flows

The Manorview Drinking Water System is operating on average under half the rated capacity. The rated capacity of the system (treated water flows) is 302 m^3/day.

Raw Water Flows

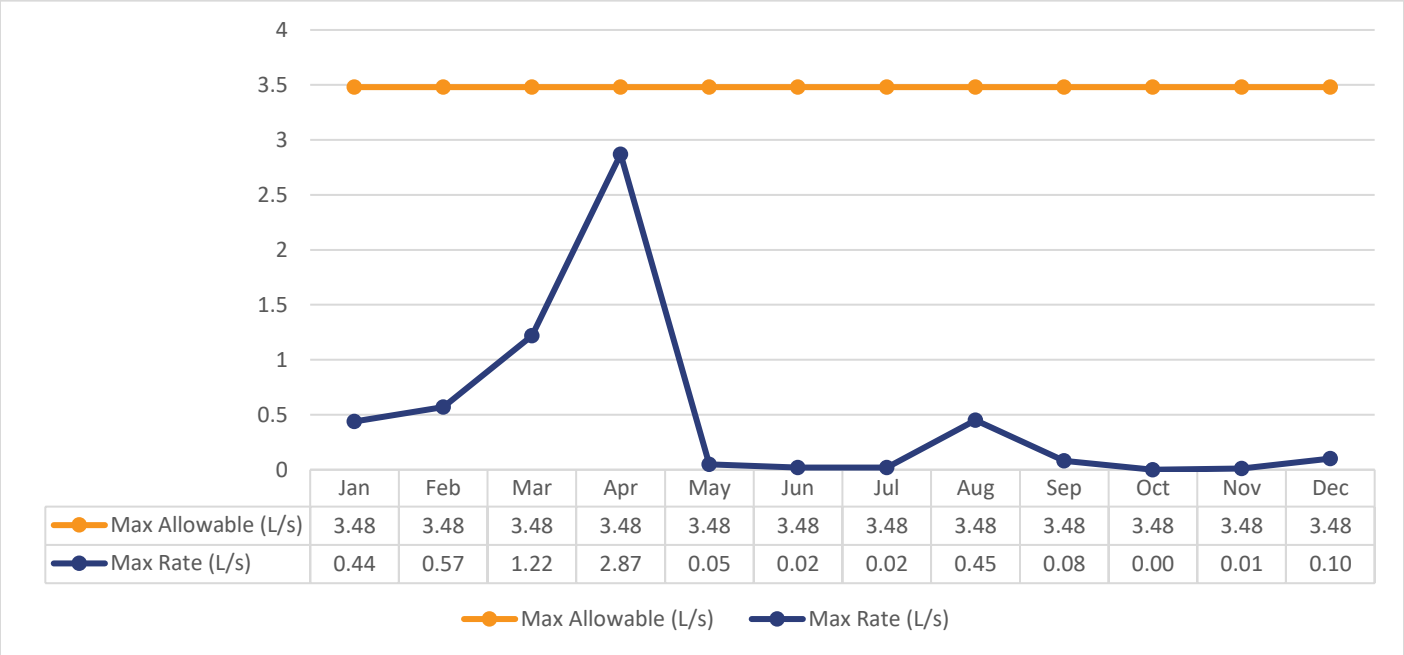
The raw water flows are regulated under the Permit to Take Water. Raw flow data for 2025 was submitted to the Ministry of Environment, Conservation and Parks (MECP) electronically under permit #1163-AYRJ36. The confirmation of the data that was submitted is attached in Appendix A. The Permit to Take Water compliance criteria is in litres per minute (L/min) but for the purposes of this report the flow rate is reported in litres per second (L/sec) based on industry standard for flow monitoring recording.

Graph 1. Total Monthly Flows (m³/d) – Well #1 (Max Allowable PTTW)



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Max Allowable (m³/d)	301	301	301	301	301	301	301	301	301	301	301	301
Max Flow (m³/d)	0	0	0	0	0	0	0	0	0	0	0	0
Avg (m³/d)	0	0	0	0	0	0	0	0	0	0	0	0

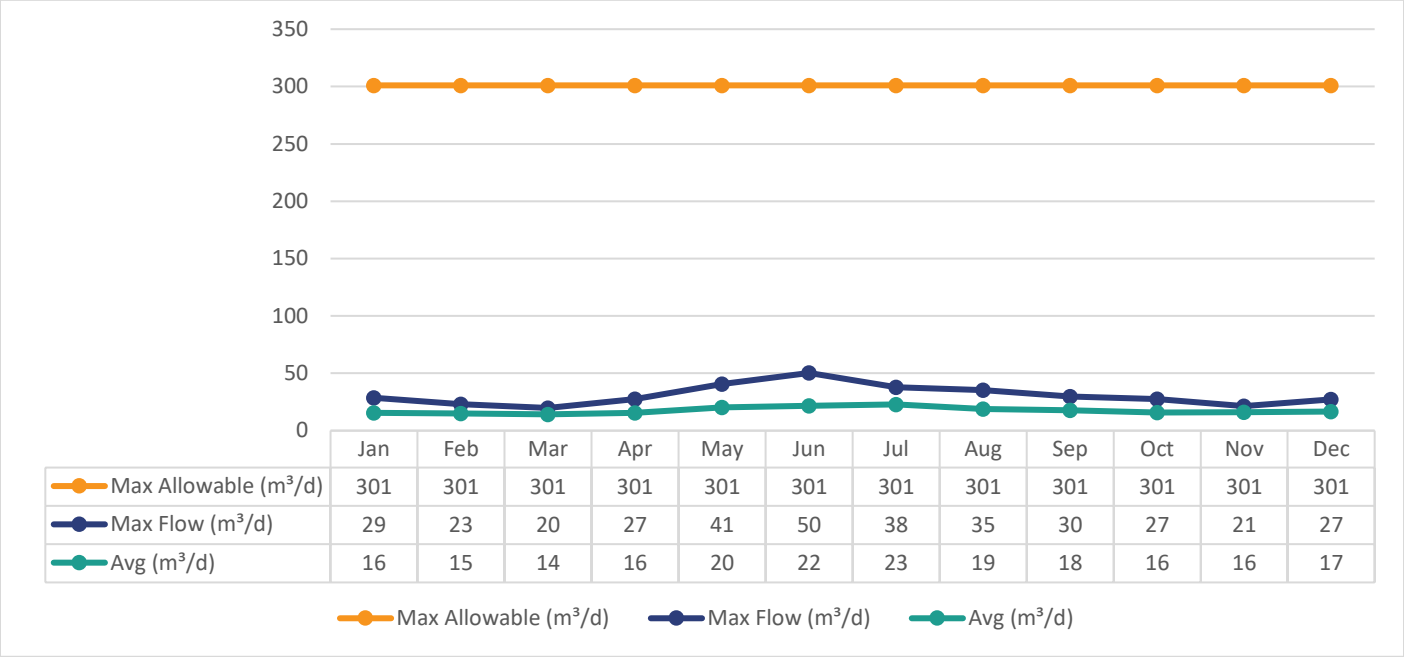
Graph 2. Monthly Rated Flows (L/s) – Well #1 (Max Allowable Rate PTTW)



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Max Allowable (L/s)	3.48	3.48	3.48	3.48	3.48	3.48	3.48	3.48	3.48	3.48	3.48	3.48
Max Rate (L/s)	0.44	0.57	1.22	2.87	0.05	0.02	0.02	0.45	0.08	0.00	0.01	0.10

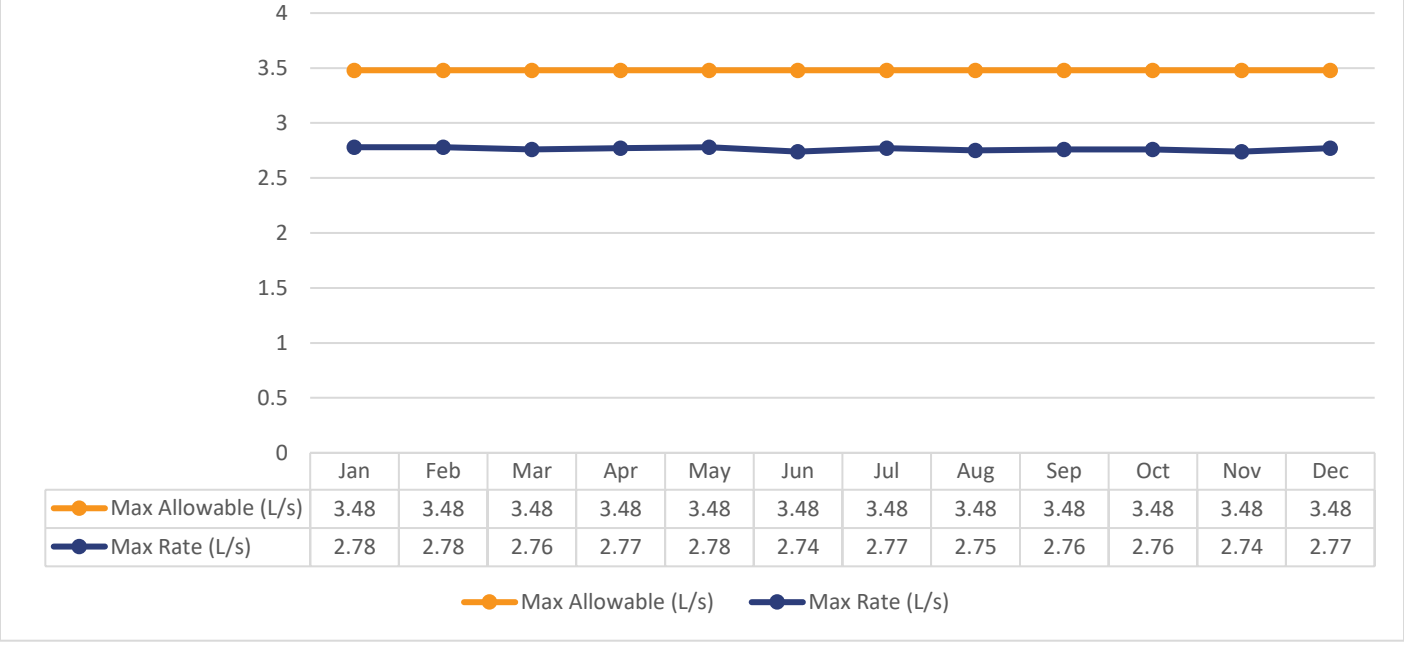
Note: Since October 6, 2023 Well #1 was moved from production to stand-by status due to higher levels of turbidity present in the well.

Graph 3. Total Monthly Flows (m³/d) – Well #2 (Max Allowable PTTW)



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Max Allowable (m³/d)	301	301	301	301	301	301	301	301	301	301	301	301
Max Flow (m³/d)	29	23	20	27	41	50	38	35	30	27	21	27
Avg (m³/d)	16	15	14	16	20	22	23	19	18	16	16	17

Graph 4. Monthly Rated Flows (L/s) – Well #2 (Max Allowable Rate

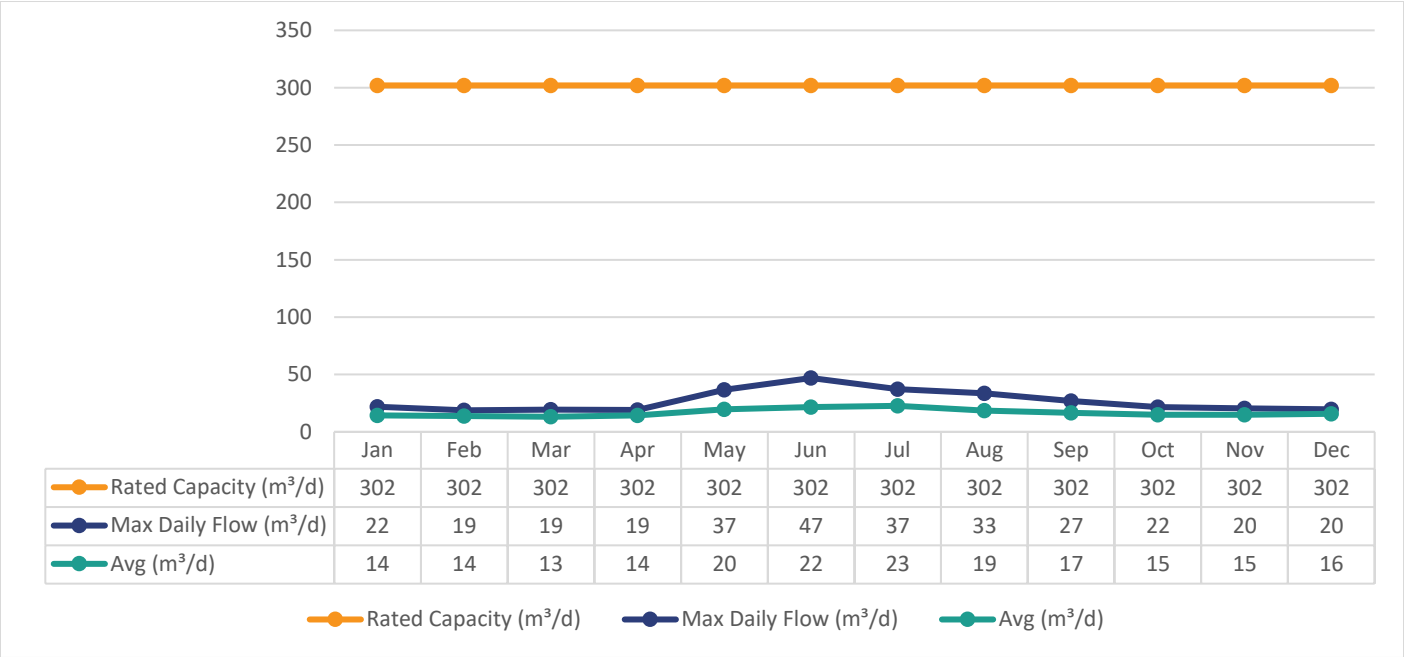


	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Max Allowable (L/s)	3.48	3.48	3.48	3.48	3.48	3.48	3.48	3.48	3.48	3.48	3.48	3.48
Max Rate (L/s)	2.78	2.78	2.76	2.77	2.78	2.74	2.77	2.75	2.76	2.76	2.74	2.77

Treated Water Flows

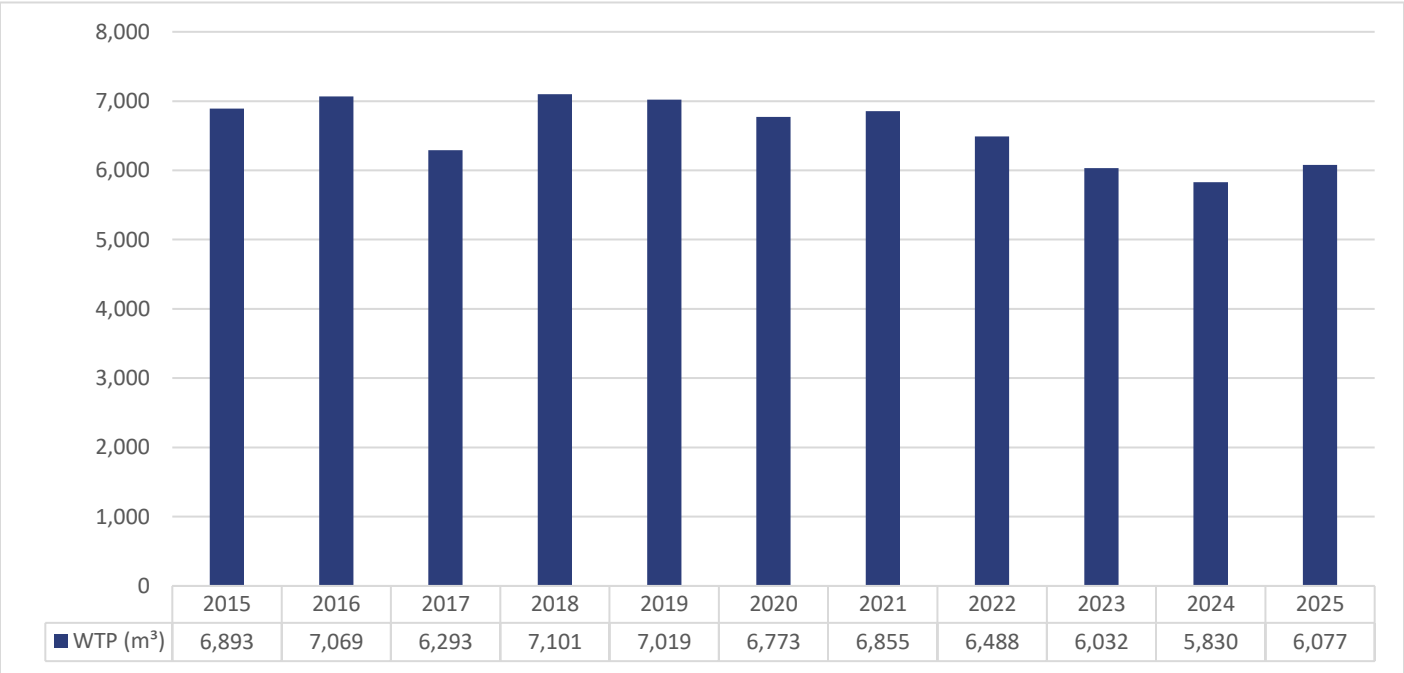
The Treated Water flows are regulated under the Municipal Drinking Water Licence 141-118.

Graph 5. Monthly Rated Flows (m³/d) – Rated Capacity - MDWL



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Rated Capacity (m³/d)	302	302	302	302	302	302	302	302	302	302	302	302
Max Daily Flow (m³/d)	22	19	19	19	37	47	37	33	27	22	20	20
Avg (m³/d)	14	14	13	14	20	22	23	19	17	15	15	16

Graph 6. Annual Total Flow Comparison (m³)



	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
WTP (m³)	6,893	7,069	6,293	7,101	7,019	6,773	6,855	6,488	6,032	5,830	6,077

Regulatory Sample Results Summary

Microbiological Testing

Table 4. Microbiological Test Results

	Number of Samples Collected	Range of E. Coli Results	Range of E. Coli Results	Range of Total Coliform Results	Range of Total Coliform Results	Range of HPC Results	Range of HPC Results
		Min	Max	Min	Max	Min	Max
Raw Well 1	26	0	0	0	0	N/A	N/A
Raw Well 2	26	0	0	0	0	N/A	N/A
Treated	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Distribution	56	0	0	0	0	0	7

OG = Overgrowth
HPC = Heterotrophic Plate Count

Operational Testing

Table 5. Operational Test Results

Parameter	Number of Samples Collected	Range of Results Minimum	Range of Results Maximum
Turbidity Well 1 (NTU)	12	1.30	9.48
Turbidity Well 2 (NTU)	12	0.25	0.71
Turbidity – Filter (NTU)	8760	0.00	2.00
Chlorine	8760	0.00	5.00
Fluoride (If the DWS provides fluoridation)	N/A	N/A	N/A

Note: Record the unit of measurement if it is **not** milligrams per litre.
Note: For continuous monitors 8760 is used as the number of samples. Spikes recorded by online instrumentation were a result of air bubbles and various maintenance/calibration activities. All spikes are reviewed for compliance with O. Reg. 170/03, any true exceedance would be documented in this report.

Inorganic Parameters

These parameters are tested as a requirement under O. Reg. 170/03. Sodium and Fluoride are required to be tested every five years. Nitrate and Nitrate are tested quarterly and the metals are tested every five years as required under O. Reg. 170/03. In the event any of the parameters

listed in Schedule 23 or 24 of O. Reg. 170/03 exceed half of the maximum allowable concentration the parameter is required to be samples quarterly. Based on the latest test results no additional testing is required.

Table 6. Inorganic Parameters Test Results

	Sample Date (yyyy/mm/dd)	Sample Result	Unit of Measure	MAC	Exceedance
Treated Water					
Antimony	2025 01 13	<MDL 0.6	µg/L	6.0	No
Arsenic	2025 01 13	0.4	µg/L	10.0	No
Barium	2025 01 13	72.4	µg/L	1000.0	No
Boron	2025 01 13	9.0	µg/L	5000.0	No
Cadmium	2025 01 13	<MDL 0.003	µg/L	5.0	No
Chromium	2025 01 13	0.7	µg/L	50.0	No
Mercury	2025 01 13	<MDL 0.01	µg/L	1.0	No
Selenium	2025 01 13	0.2	µg/L	50.0	No
Uranium	2020 01 13	0.464	µg/L	20.0	No
Additional Organics					
Fluoride	2025 01 13	<MDL 0.06	mg/L	1.5	No
Nitrite	2025 01 13	<MDL 0.003	mg/L	1.0	No
Nitrite	2025 04 14	<MDL 0.003	mg/L	1.0	No
Nitrite	2025 07 14	<MDL 0.003	mg/L	1.0	No
Nitrite	2025 10 14	<MDL 0.003	mg/L	1.0	No
Nitrate	2025 01 13	0.602	mg/L	10.0	No
Nitrate	2025 04 14	0.482	mg/L	10.0	No
Nitrate	2025 07 14	1.08	mg/L	10.0	No
Nitrate	2025 10 14	0.436	mg/L	10.0	No
Sodium	2025 01 13	5.02	mg/L	20*	No

MAC = Maximum Allowable Concentration as per O. Reg. 169/03
MDL = Method Detection Limit
*There is no "MAC" for Sodium. The aesthetic objective for sodium in drinking water is 200 mg/L. Sodium results exceeding 20 mg/L are to be reported to the Medical Officer of Health as per Schedule 16-3 (8) of O. Reg. 170/03.

Schedule 15 Sampling (Lead)

The Schedule 15 sampling is required under O. Reg. 170/03. This system is under reduced sampling. Only distribution samples were collected, and no plumbing samples were collected.

Table 7. Schedule 15 Test Results (Lead)

	Number of Sampling Points	Number of Samples	Range of Results Minimum	Range of Results Maximum	MAC (µg/L)	Number of Exceedances
Alkalinity (mg/L)	1	2	201	210	N/A	N/A
pH	1	2	7.81	7.92	N/A	N/A
Lead (µg/L)	N/A	N/A	N/A	N/A	10.0	N/A

Organic Parameters

These parameters are tested as a requirement under O. Reg. 170/03. In the event any of the parameters listed in Schedule 23 or 24 of O. Reg. 170/03 exceed half of the maximum allowable concentration the parameter is required to be samples quarterly. Based on the latest test results no additional testing is required.

Table 8. Organic Parameters Test Results

	Sample Date (yyyy/mm/dd)	Sample Result	Unit of Measure	MAC	Exceedance
Treated Water					
Alachlor	2025 01 13	<MDL 0.02	µg/L	5.0	No
Atrazine + N-dealkylated metabolites	2025 01 13	<MDL 0.01	µg/L	5.0	No
Azinphos-methyl	2025 01 13	<MDL 0.05	µg/L	20.0	No
Benzene	2025 01 13	<MDL 0.32	µg/L	1.0	No
Benzo(a)pyrene	2025 01 13	<MDL 0.004	µg/L	0.01	No
Bromoxynil	2025 01 13	<MDL 0.33	µg/L	5.0	No
Carbaryl	2025 01 13	<MDL 0.05	µg/L	90.0	No
Carbofuran	2025 01 13	<MDL 0.01	µg/L	90.0	No
Carbon Tetrachloride	2025 01 13	<MDL 0.17	µg/L	2.0	No
Chlorpyrifos	2025 01 13	<MDL 0.02	µg/L	90.0	No
Diazinon	2025 01 13	<MDL 0.02	µg/L	20.0	No
Dicamba	2025 01 13	<MDL 0.2	µg/L	120.0	No
1,2-Dichlorobenzene	2025 01 13	<MDL 0.41	µg/L	200.0	No
1,4-Dichlorobenzene	2025 01 13	<MDL 0.36	µg/L	5.0	No
1,2-Dichloroethane	2025 01 13	<MDL 0.35	µg/L	5.0	No
1,1-Dichloroethylene	2025 01 13	<MDL 0.33	µg/L	14.0	No

	Sample Date (yyyy/mm/dd)	Sample Result	Unit of Measure	MAC	Exceedance
Dichloromethane (Methylene Chloride)	2025 01 13	<MDL 0.35	µg/L	50.0	No
2,4-Dichlorophenol	2025 01 13	<MDL 0.15	µg/L	900.0	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	2025 01 13	<MDL 0.19	µg/L	100.0	No
Diclofop-methyl	2025 01 13	<MDL 0.4	µg/L	9.0	No
Dimethoate	2025 01 13	<MDL 0.06	µg/L	20.0	No
Diquat	2025 01 13	<MDL 1.0	µg/L	70.0	No
Diuron	2025 01 13	<MDL 0.03	µg/L	150.0	No
Glyphosate	2025 01 13	<MDL 1.0	µg/L	280.0	No
Malathion	2025 01 13	<MDL 0.02	µg/L	190.0	No
2-Methyl-4-chlorophenoxyacetic Acid (MCPA)	2025 01 13	<MDL 0.12	µg/L	100.0	No
Metolachlor	2025 01 13	<MDL 0.01	µg/L	50.0	No
Metribuzin	2025 01 13	<MDL 0.02	µg/L	80.0	No
Monochlorobenzene (Chlorobenzene)	2025 01 13	<MDL 0.3	µg/L	80.0	No
Paraquat	2025 01 13	<MDL 1.0	µg/L	10.0	No
PCB	2025 01 13	<MDL 0.04	µg/L	3.0	No
Pentachlorophenol	2025 01 13	<MDL 0.15	µg/L	60.0	No
Phorate	2025 01 13	<MDL 0.01	µg/L	2.0	No
Picloram	2025 01 13	<MDL 1.0	µg/L	190.0	No
Prometryne	2025 01 13	<MDL 0.03	µg/L	1.0	No
Simazine	2025 01 13	<MDL 0.01	µg/L	10.0	No
Terbufos	2025 01 13	<MDL 0.01	µg/L	1.0	No
Tetrachloroethylene	2025 01 13	<MDL 0.35	µg/L	10.0	No
2,3,4,6-Tetrachlorophenol	2025 01 13	<MDL 0.2	µg/L	100.0	No
Triallate	2025 01 13	<MDL 0.01	µg/L	230.0	No
Trichloroethylene	2025 01 13	<MDL 0.44	µg/L	5.0	No
2,4,6-Trichlorophenol	2025 01 13	<MDL0.25	µg/L	5.0	No
Trifluralin	2025 01 13	<MDL 0.02	µg/L	45.0	No
Vinyl Chloride	2025 01 13	<MDL 0.17	µg/L	1.0	No
Distribution Water					
Trihalomethane Total Annual Average Q1	2025 01 13	8.20	µg/L	100.0	No
Trihalomethane Total Annual Average Q2	2025 04 14	8.00	µg/L	100.0	No
Trihalomethane Total Annual Average Q3	2025 07 14	9.60	µg/L	100.0	No

	Sample Date (yyyy/mm/dd)	Sample Result	Unit of Measure	MAC	Exceedance
Trihalomethane Total Annual Average Q4	2025 10 14	11.00	µg/L	100.0	No
HAA Total Annual Average Q1	2025 01 13	<MDL 5.3	µg/L	80.0	No
HAA Total Annual Average Q2	2025 04 14	<MDL 5.3	µg/L	80.0	No
HAA Total Annual Average Q3	2025 07 14	<MDL 5.3	µg/L	80.0	No
HAA Total Annual Average Q4	2025 10 14	<MDL 5.3	µg/L	80.0	No

MAC = Maximum Allowable Concentration as O. Reg. 169/03
MDL = Method Detection Limit

Additional Legislated Samples

There were no additional legislated samples required to report during this reporting period.

Minor Maintenance

- Diesel Generator, Water Pump, Replace
- Purchase UV Blubs for Stock

Major Maintenance Expense (above $10,000)

Under Section 11 of O. Reg. 170/03, a description of any major expenses incurred during this reporting period to install, repair or replace required equipment must be included in the annual report. The details of the major expenses for this drinking water system are as follows:

Nothing to report for the reporting period.

APPENDIX A

WTR Submission Confirmation