Birch Point Drinking Water System

2025 Annual Water Report

Drinking Water System Number: 220012572

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

Drinking Water System Category: Large Municipal Residential

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

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Annual Drinking Water Report
City of Kawartha Lakes

Kawartha Lakes
Jump In

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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: 220012572
Drinking Water System Name: Birch Point Drinking Water System
Drinking Water System Owner: City of Kawartha Lakes
Drinking Water System Category: Large 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 10 22	Announced, Focused Drinking Water Inspection, Final Report 100%
Adverse Water Quality Incidents (AWQIs)	0		
Non-Compliances	0		
Boil Water Advisories	0		
Health and Safety	0		

Drinking Water System Description

The Birch Point drinking water system is a large municipal residential drinking water system serving the Birch Point and Highview Acres subdivisions near Ennismore, Ontario, within the City of Kawartha Lakes. The drinking water system is classified as a Class I Water Treatment and Class I Water Distribution subsystems in accordance with O. Reg. 128/04

Source Water

The water supply for the system is obtained from three groundwater wells identified as Well #3, Well #4 and Well #5. These wells are designated as non-GUDI, meaning they are not considered groundwater under the direct influence.

Water Treatment Facility

The treatment system includes a sodium hypochlorite feed system, a cartridge filtration system for iron removal consisting of two treatment trains, an underground treated water storage reservoir comprised of clearwells and a contact chamber, three centrifugal high lift pumps, four hydropneumatic tanks, and raw and treated water flow meters.

Treatment is achieved through a pre-chlorination phase followed by cartridge filtration for iron removal. The filtered water enters the clearwell in series. Post-chlorination is applied prior to distribution, and treated water is stored within the underground clearwells and contact chamber. The clearwell provides the required chlorine contact time as well as treated water storage. From there, water is pumped directly to the distribution system.

Continuous monitoring is provided through chlorine analyzers that measure chlorine residual as treated water enters the contact chamber and again as it leaves the clearwells. A turbidity analyzer continuously monitors turbidity levels as treated water exits the clearwell. In the Highview Acres Subdivision, a remote monitoring station continuously monitors distribution system chlorine residual using a regulatory chlorine analyzer equipped with alarm setpoints to ensure compliance with minimum residual requirements. 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 three kilometres of PVC watermain and is not rated for fire protection. There is no additional treated water storage, chlorine boosting, secondary disinfection or pressure boosting infrastructure within the control of the distribution system.

At 3 Cardinal Road in Highview Acres, a prefabricated structure serves as the distribution system’s remote monitoring station. This station continuously monitors the distribution chlorine residual using a regulatory chlorine analyzer that is alarmed to meet a pre-set chlorine residual.

Table 2. Treatment Chemicals Used

Chemical Name	Use	Supplier
Sodium Hypochlorite	Disinfection	Jutzi Water Technologies

Summary of Non-Compliance

Adverse Water Quality Incidents

There were no adverse water quality incidents reported during the reporting period.

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.

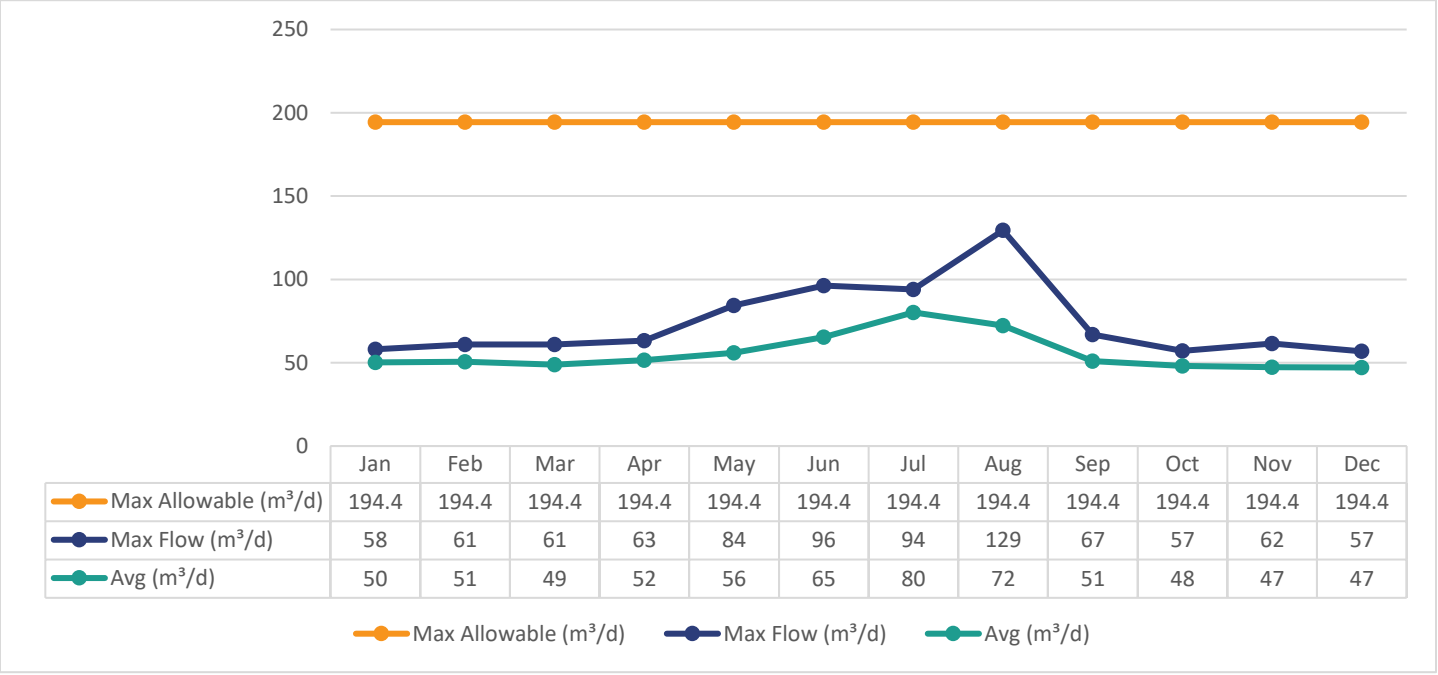
Flows

The Birch Point Drinking Water System is operating on average under half the rated capacity. The rated capacity of the system (treated water flows) is 324 m^3/day.

Raw Water Flows

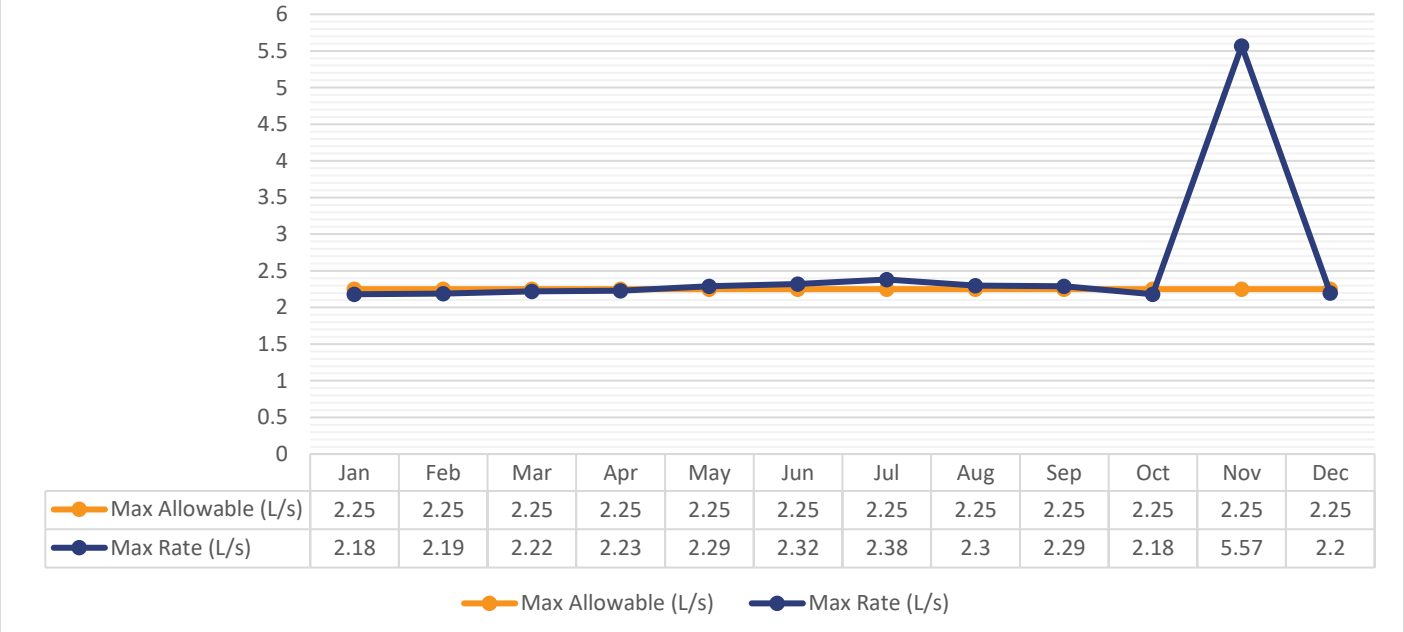
The raw water flows are regulated under the Permit to Take Water. Raw flow data for 2025 was submitted to the Ministry of Environment, Conservation and Parks (MECP) electronically under permit #7147-9Y7HWV and #2232-DGUPWD. The confirmation of the data that was submitted is attached in Appendix A.

Graph 1. Total Monthly Flows (m³/d) – Well #3 (Max Allowable PTTW)



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Max Allowable (m³/d)	194.4	194.4	194.4	194.4	194.4	194.4	194.4	194.4	194.4	194.4	194.4	194.4
Max Flow (m³/d)	58	61	61	63	84	96	94	129	67	57	62	57
Avg (m³/d)	50	51	49	52	56	65	80	72	51	48	47	47

Graph 2. Monthly Rated Flows (L/s) – Well #3 (Max Allowable Rate PTTW)

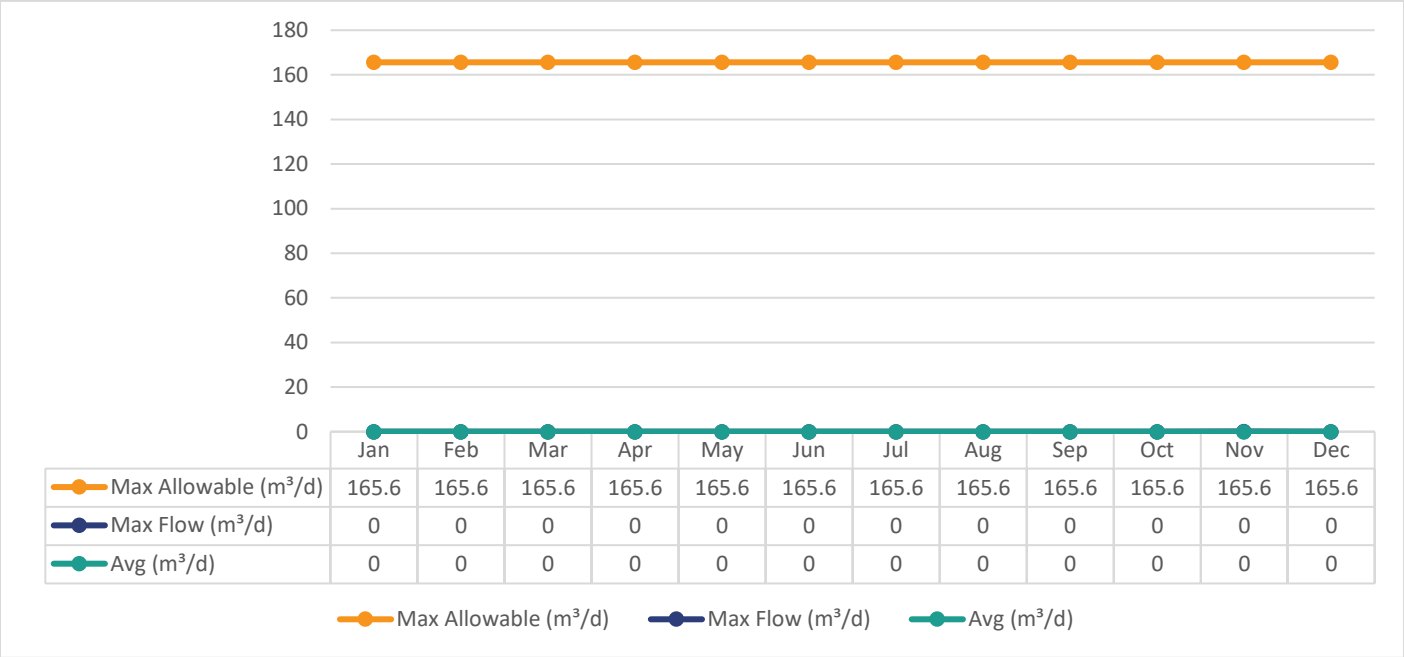


	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Max Allowable (L/s)	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25
Max Rate (L/s)	2.18	2.19	2.22	2.23	2.29	2.32	2.38	2.3	2.29	2.18	5.57	2.2

Note: Certain operational circumstances could cause results to be temporarily outside of the allowable rates. In November 2025, the allowable rate was momentarily surpassed due to annual calibration of the flow meter and did not indicate a true exceedance. In the other months where

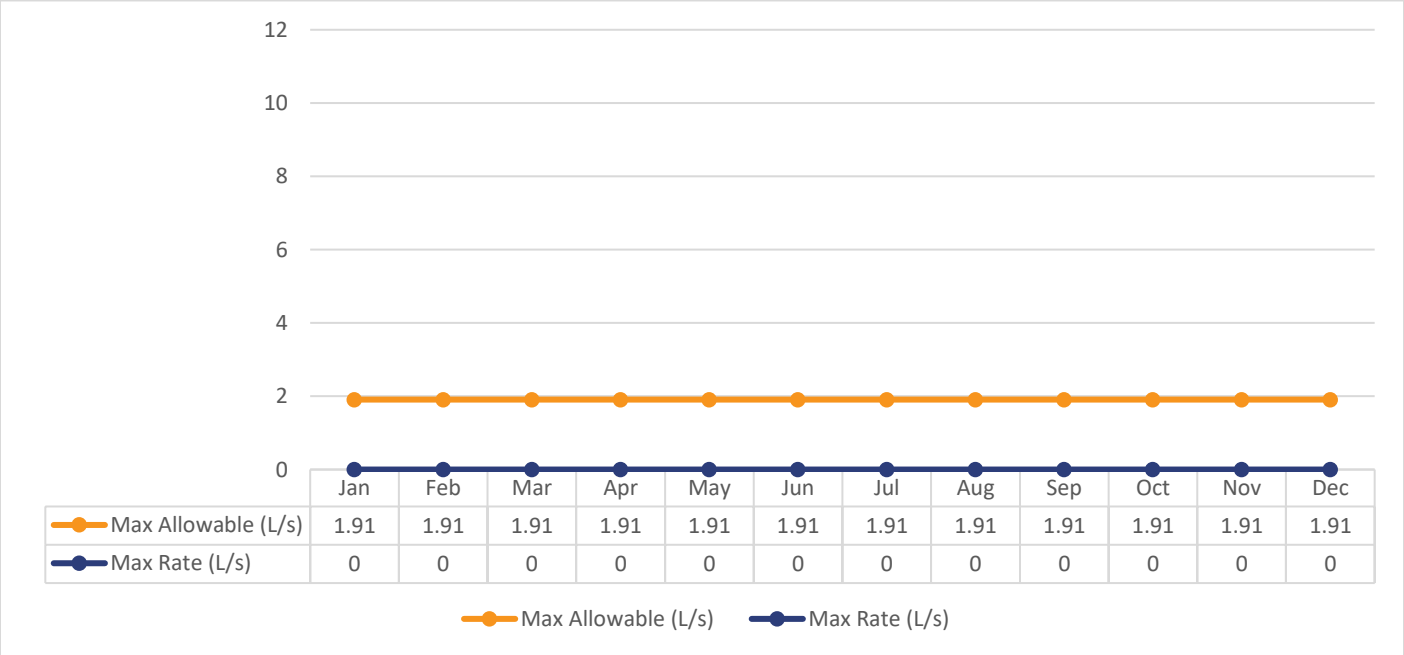
the allowable rate was momentarily surpassed, it was due to brief spikes caused by well pump start up. All spikes are reviewed for compliance with O. Reg. 170/03.

Graph 3. Total Monthly Flows (m³/d) – Well #4 (Max Allowable PTTW)



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Max Allowable (m³/d)	165.6	165.6	165.6	165.6	165.6	165.6	165.6	165.6	165.6	165.6	165.6	165.6
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

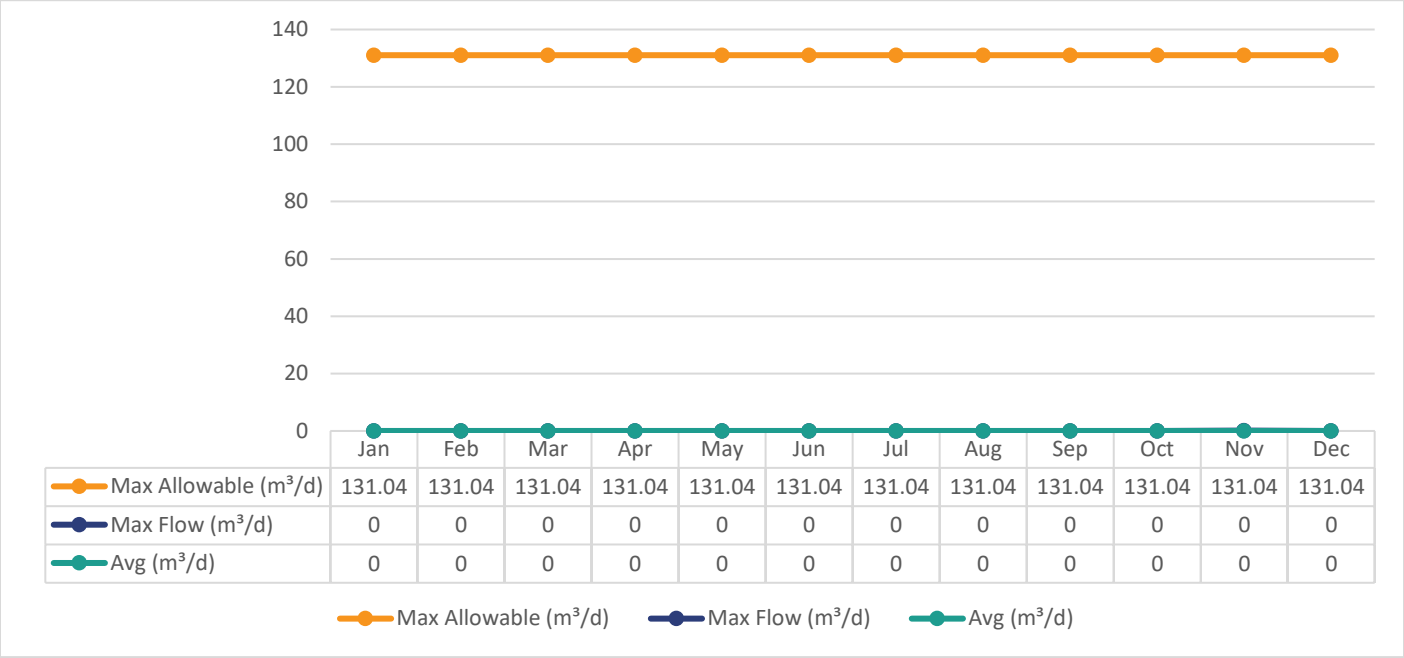
Graph 4. Monthly Rated Flows (L/s) – Well #4 (Max Allowable Rate



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Max Allowable (L/s)	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91
Max Rate (L/s)	0	0	0	0	0	0	0	0	0	0	0	0

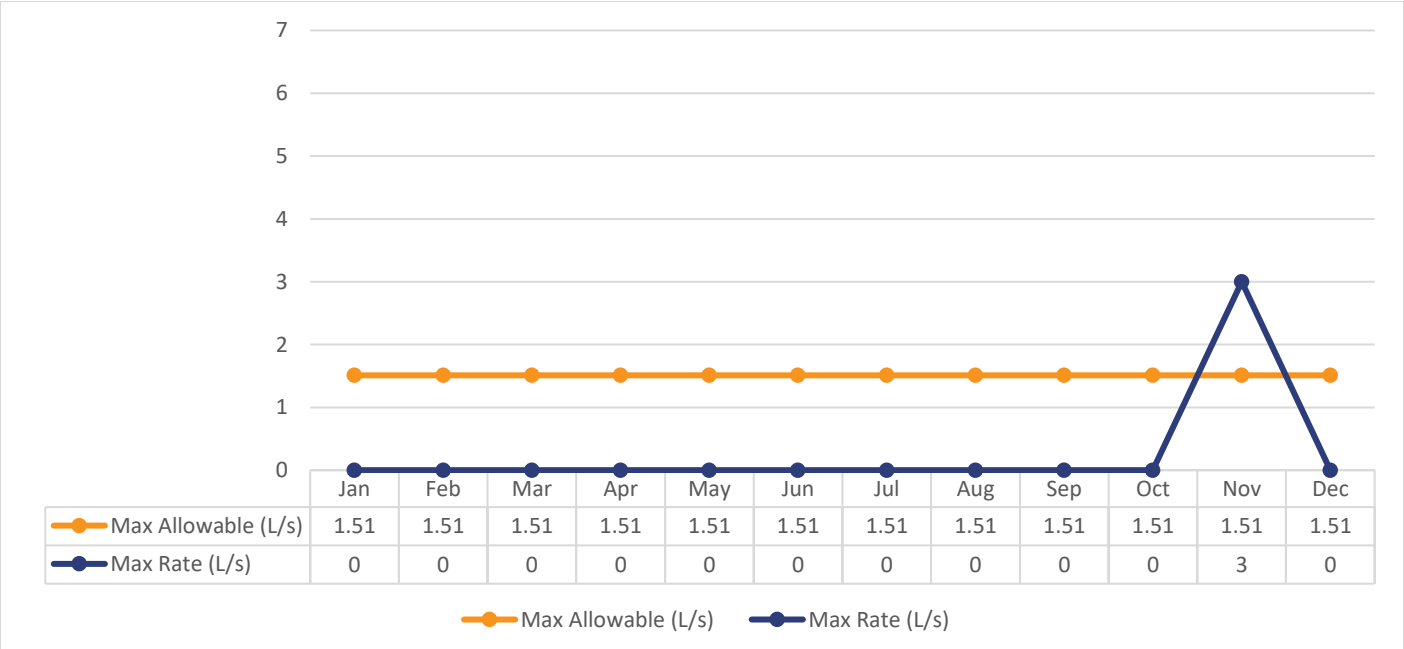
Note: Well #4 is being reserved for standby use only due to high iron levels.

Graph 5. Total Monthly Flows (m³/d) – Well #5 (Max Allowable PTTW)



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Max Allowable (m³/d)	131.04	131.04	131.04	131.04	131.04	131.04	131.04	131.04	131.04	131.04	131.04	131.04
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 6. Monthly Rated Flows (L/s) – Well #5 (Max Allowable Rate



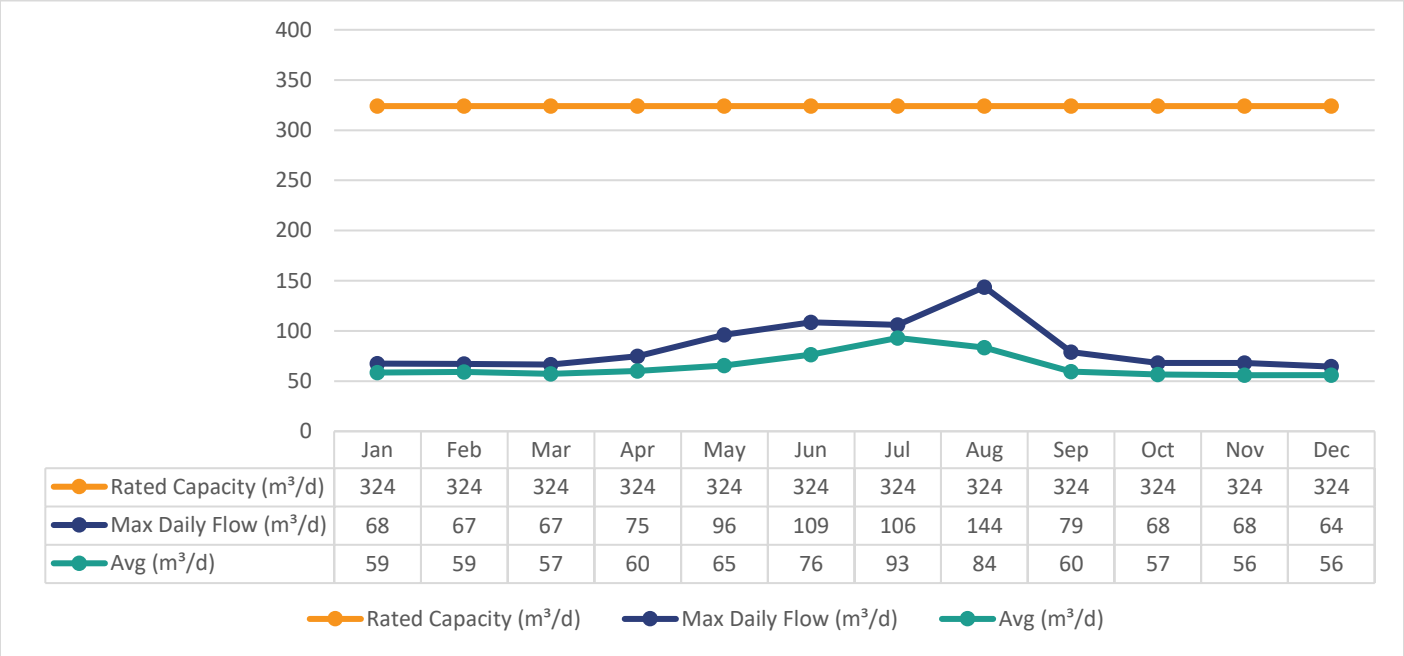
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Max Allowable (L/s)	1.51	1.51	1.51	1.51	1.51	1.51	1.51	1.51	1.51	1.51	1.51	1.51
Max Rate (L/s)	0	0	0	0	0	0	0	0	0	0	3	0

Note: Well #5 is not in production rotation. Certain operational circumstances could cause results to be temporarily outside of the allowable rates. In November 2025, the allowable rate was momentarily surpassed due to annual calibration of the flow meter and did not indicate a true exceedance. All spikes are reviewed for compliance with O. Reg. 170/03.

Treated Water Flows

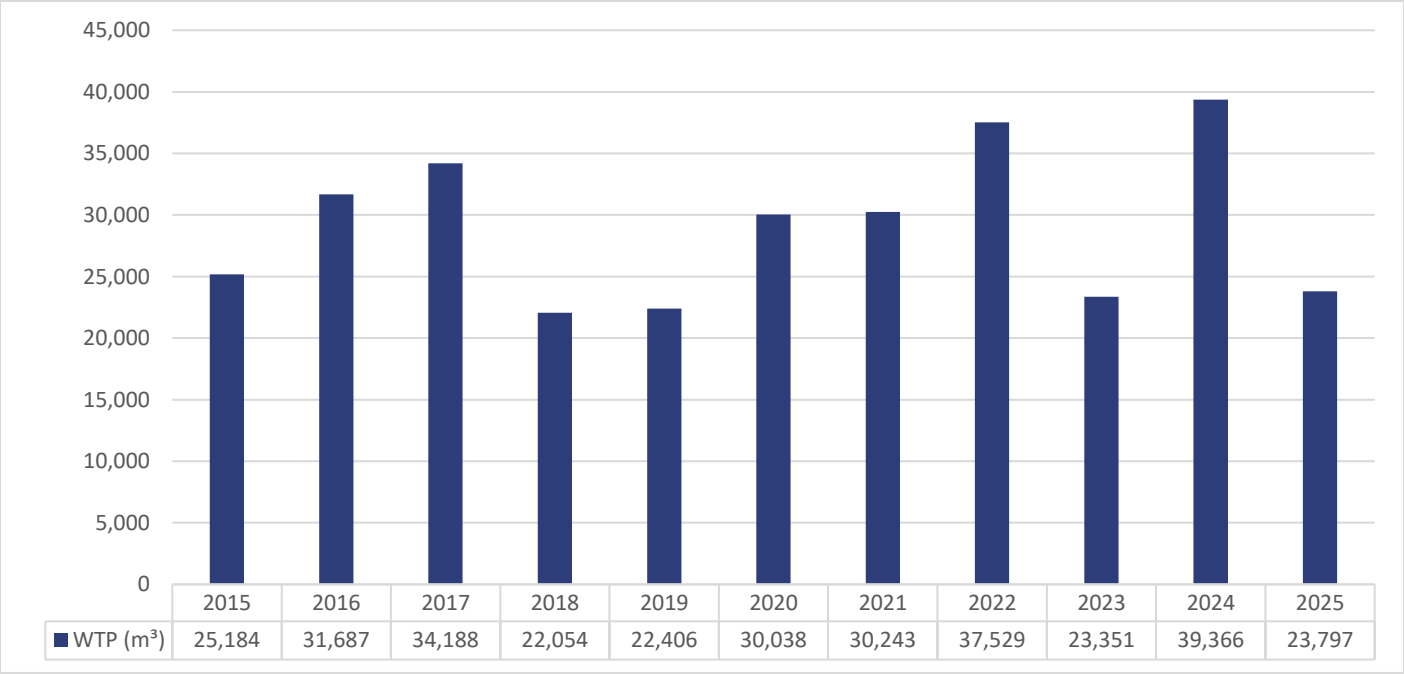
The Treated Water flows are regulated under the Municipal Drinking Water Licence 141-109.

Graph 7. Monthly Rated Flows (m³/d) – Rated Capacity - MDWL



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Rated Capacity (m³/d)	324	324	324	324	324	324	324	324	324	324	324	324
Max Daily Flow (m³/d)	68	67	67	75	96	109	106	144	79	68	68	64
Avg (m³/d)	59	59	57	60	65	76	93	84	60	57	56	56

Graph 8. Annual Total Flow Comparison (m³)



	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
WTP (m³)	25,184	31,687	34,188	22,054	22,406	30,038	30,243	37,529	23,351	39,366	23,797

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 3	52	0	0	0	0	N/A	N/A
Raw Well 4	52	0	0	0	0	N/A	N/A
Raw Well 5	52	0	0	0	1	N/A	N/A
Treated	52	0	0	0	0	0	1
Distribution	156	0	0	0	0	0	3

OG = Overgrowth

HPC = Heterotrophic Plate Count

Note: Well #4 was not in production rotation during the reporting period due to high iron levels. Well #5 was not in production rotation during the reporting period.

Operational Testing

Table 5. Operational Test Results

Parameter	Number of Samples Collected	Range of Results Minimum	Range of Results Maximum
Turbidity Well 3 (NTU)	12	0.10	0.62
Turbidity Well 4 (NTU)	12	0.20	0.78
Turbidity Well 5 (NTU)	12	0.24	1.84
Chlorine	8760	0.66	2.73
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.

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 Nitrite are tested quarterly and the metals are tested every three 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 sampled 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	2023 01 04	<MDL 0.6	µg/L	6.0	No
Arsenic	2023 01 04	<MDL 0.2	µg/L	10.0	No
Barium	2023 01 04	201.0	µg/L	1000.0	No
Boron	2023 01 04	88.0	µg/L	5000.0	No
Cadmium	2023 01 04	0.016	µg/L	5.0	No
Chromium	2023 01 04	0.16	µg/L	50.0	No
Mercury	2023 01 04	<MDL 0.01	µg/L	1.0	No
Selenium	2023 01 04	0.04	µg/L	50.0	No
Uranium	2023 01 04	0.929	µg/L	20.0	No
Additional Organics					
Fluoride	2023 12 04	0.12	mg/L	1.5	No
Nitrate	2025 01 07	2.87	mg/L	10.0	No
Nitrate	2025 04 08	2.86	mg/L	10.0	No
Nitrate	2025 07 08	3.00	mg/L	10.0	No
Nitrate	2025 10 07	2.71	mg/L	10.0	No
Nitrite	2025 01 07	<MDL 0.003	mg/L	1.0	No
Nitrite	2025 04 08	<MDL 0.003	mg/L	1.0	No
Nitrite	2025 07 08	<MDL 0.003	mg/L	1.0	No
Nitrite	2025 10 07	<MDL 0.003	mg/L	1.0	No
Sodium	2025 01 07	60.7	mg/L	20*	Yes

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	294	311	N/A	N/A
pH	1	2	7.18	7.32	N/A	N/A
Lead (µg/L)	N/A	N/A	N/A	N/A	10	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 sampled 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	2023 01 04	<MDL 0.02	µg/L	5.0	No
Atrazine + N-dealkylated metabolites	2023 01 04	<MDL 0.01	µg/L	5.0	No
Azinphos-methyl	2023 01 04	<MDL 0.05	µg/L	20.0	No
Benzene	2023 01 04	<MDL 0.32	µg/L	1.0	No
Benzo(a)pyrene	2023 01 04	<MDL 0.004	µg/L	0.01	No
Bromoxynil	2023 01 04	<MDL 0.33	µg/L	5.0	No
Carbaryl	2023 01 04	<MDL 0.05	µg/L	90.0	No
Carbofuran	2023 01 04	<MDL 0.01	µg/L	90.0	No
Carbon Tetrachloride	2023 01 04	<MDL 0.17	µg/L	2.0	No
Chlorpyrifos	2023 01 04	<MDL 0.02	µg/L	90.0	No
Diazinon	2023 01 04	<MDL 0.02	µg/L	20.0	No

	Sample Date (yyyy/mm/dd)	Sample Result	Unit of Measure	MAC	Exceedance
Dicamba	2023 01 04	<MDL 0.2	µg/L	120.0	No
1,2-Dichlorobenzene	2023 01 04	<MDL 0.41	µg/L	200.0	No
1,4-Dichlorobenzene	2023 01 04	<MDL 0.36	µg/L	5.0	No
1,2-Dichloroethane	2023 01 04	<MDL 0.35	µg/L	5.0	No
1,1-Dichloroethylene	2023 01 04	<MDL 0.33	µg/L	14.0	No
Dichloromethane (Methylene Chloride)	2023 01 04	<MDL 0.35	µg/L	50.0	No
2,4-Dichlorophenol	2023 01 04	<MDL 0.15	µg/L	900.0	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	2023 01 04	<MDL 0.19	µg/L	100.0	No
Diclofop-methyl	2023 01 04	<MDL 0.4	µg/L	9.0	No
Dimethoate	2023 01 04	<MDL 0.06	µg/L	20.0	No
Diquat	2023 01 04	<MDL 1.0	µg/L	70.0	No
Diuron	2023 01 04	<MDL 0.03	µg/L	150.0	No
Glyphosate	2023 01 04	<MDL 1.0	µg/L	280.0	No
Malathion	2023 01 04	<MDL 0.02	µg/L	190.0	No
2-Methyl-4chlorophenoxyacetic Acid (MCPA)	2023 01 04	<MDL 0.12	µg/L	100.0	No
Metolachlor	2023 01 04	<MDL 0.01	µg/L	50.0	No
Metribuzin	2023 01 04	<MDL 0.02	µg/L	80.0	No
Monochlorobenzene (Chlorobenzene)	2023 01 04	<MDL 0.3	µg/L	80.0	No
Paraquat	2023 01 04	<MDL 1.0	µg/L	10.0	No
PCB	2023 01 04	<MDL 0.04	µg/L	3.0	No
Pentachlorophenol	2023 01 04	<MDL 0.15	µg/L	60.0	No
Phorate	2023 01 04	<MDL 0.01	µg/L	2.0	No
Picloram	2023 01 04	<MDL 1.0	µg/L	190.0	No
Prometryne	2023 01 04	<MDL 0.03	µg/L	1.0	No
Simazine	2023 01 04	<MDL 0.01	µg/L	10.0	No
Terbufos	2023 01 04	<MDL 0.01	µg/L	1.0	No
Tetrachloroethylene	2023 01 04	<MDL 0.35	µg/L	10.0	No
2,3,4,6-Tetrachlorophenol	2023 01 04	<MDL 0.2	µg/L	100.0	No
Triallate	2023 01 04	<MDL 0.01	µg/L	230.0	No
Trichloroethylene	2023 01 04	<MDL 0.44	µg/L	5.0	No
2,4,6-Trichlorophenol	2023 01 04	<MDL 0.25	µg/L	5.0	No
Trifluralin	2023 01 04	<MDL 0.02	µg/L	45.0	No
Vinyl Chloride	2023 01 04	<MDL 0.17	µg/L	1.0	No
Distribution Water					
Haloacetic Acids Running Annual Average Q1	2025 01 07	<MDL 5.3	µg/L	80.0	No

	Sample Date (yyyy/mm/dd)	Sample Result	Unit of Measure	MAC	Exceedance
Haloacetic Acids Running Annual Average Q2	2025 04 08	<MDL 5.3	µg/L	80.0	No
Haloacetic Acids Running Annual Average Q3	2025 07 08	<MDL 5.3	µg/L	80.0	No
Haloacetic Acids Running Annual Average Q4	2025 10 07	<MDL 5.3	µg/L	80.0	No
Trihalomethane Running Annual Average Q1	2025 01 07	25.50	µg/L	100.0	No
Trihalomethane Running Annual Average Q2	2025 04 08	25.50	µg/L	100.0	No
Trihalomethane Running Annual Average Q3	2025 07 08	25.25	µg/L	100.0	No
Trihalomethane Running Annual Average Q4	2025 10 07	24.50	µg/L	100.0	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

- High lift pump, check valves, replace
- Pressure tank 4 piping leak, repair
- Temporary extension cord for sump pump, investigate/remove
- Monitoring battery failure, replace
- Facility diesel engine repair
- Alarm DSC keypad, replacement
- Analyzer feed pump gearbox, replacement
- Replace faulty light switch in hut

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