Victoria Place Drinking Water System

2024 Annual Water Report

Drinking Water System Number: 220011895

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

Drinking Water System Category: Large Municipal Residential

Reporting Period: January 1 – December 31, 2024

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Annual Drinking Water Report
City of Kawartha Lakes

Kawartha Lakes
Jump In

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2024 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: 220011895
Drinking Water System Name: Victoria Place Drinking Water System
Drinking Water System Owner: City of Kawartha Lakes
Drinking Water System Category: Large Municipal Residential
Reporting Period: January 1, 2024 – December 31, 2024

Compliance Summary

Table 1. Drinking Water Compliance Summary

	Number of Events	Date	Details
Ministry (MECP) Inspections	2	January 23, 2024 September 23, 2024	2023/2024 Announced Drinking Water Inspection, Final Report 100% 2024/2025 Announced, Focused Drinking Water Inspection, Final Report 100%
Adverse Water Quality Incidents (AWQIs)	0		
Non-Compliances	0		
Boil Water Advisories	0		

	Number of Events	Date	Details
Health and Safety	0		

Drinking Water System Description

The Victoria Place drinking water system is a large municipal residential drinking water system that serves the subdivision of Victoria Place near Bobcaygeon, in the City of Kawartha Lakes. The drinking water system is classified as a Class II Water Distribution and Supply subsystem under O. Reg. 128/04.

Source Water

The water supply for the system comes from four groundwater wells: Well #1, Well #2, Well #3 and Well #7. The system is divided into two well banks. In the present configuration, Bank No. 1 consists of Well #1, 2 and 3 and Bank No. 2 consists of Well #7. The wells are designated as non-GUDI (groundwater under the direct influence).

Water Treatment Facility

The treatment system consists of the following: a sodium hypochlorite disinfection system, and one (1) unbaffled reservoir (clearwell) with highlift pumps. Primary and secondary disinfection is achieved using sodium hypochlorite. There is online monitoring of chlorine.

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

Distribution System

The distribution system has approximately 5.4 kilometers of watermains and is not rated for fire protection. The watermains in the Victoria Place Distribution System are all PVC. There is no storage, chlorine boosting, secondary disinfection or pressure boosting capabilities within the control of the distribution system.

Table 2. Treatment Chemicals Used

Chemical Name	Use	Supplier
Sodium Hypochlorite	Disinfection	Jutzi

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.

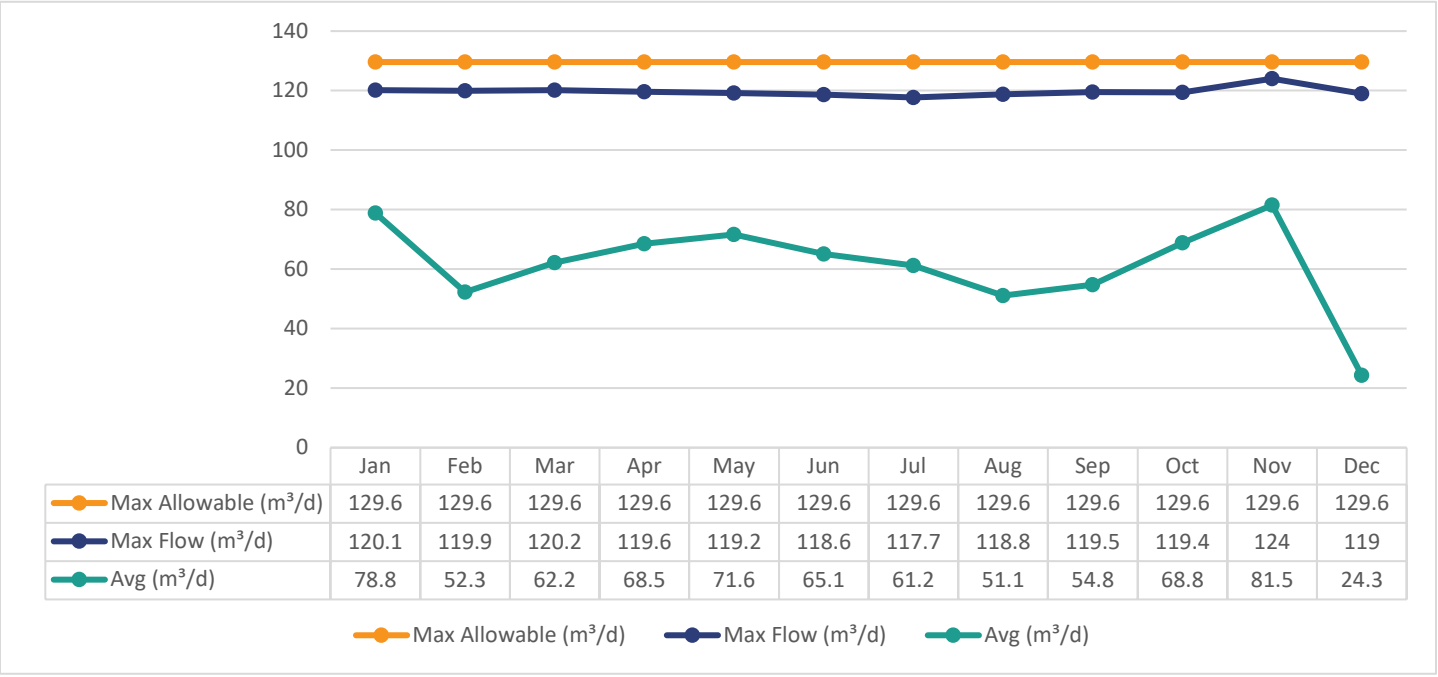
Flows

The Victoria Place Drinking Water System is operating on average under half the rated capacity. The rated capacity of the system (treated water flows) is 331 m^3/day.

Raw Water Flows

The raw water flows are regulated under the Permit to Take Water. Raw flow data for 2024 was submitted to the Ministry of Environment, Conservation and Parks (MECP) electronically under permit #5275-AY5Q6S. The confirmation of the data that was submitted is attached in Appendix A.

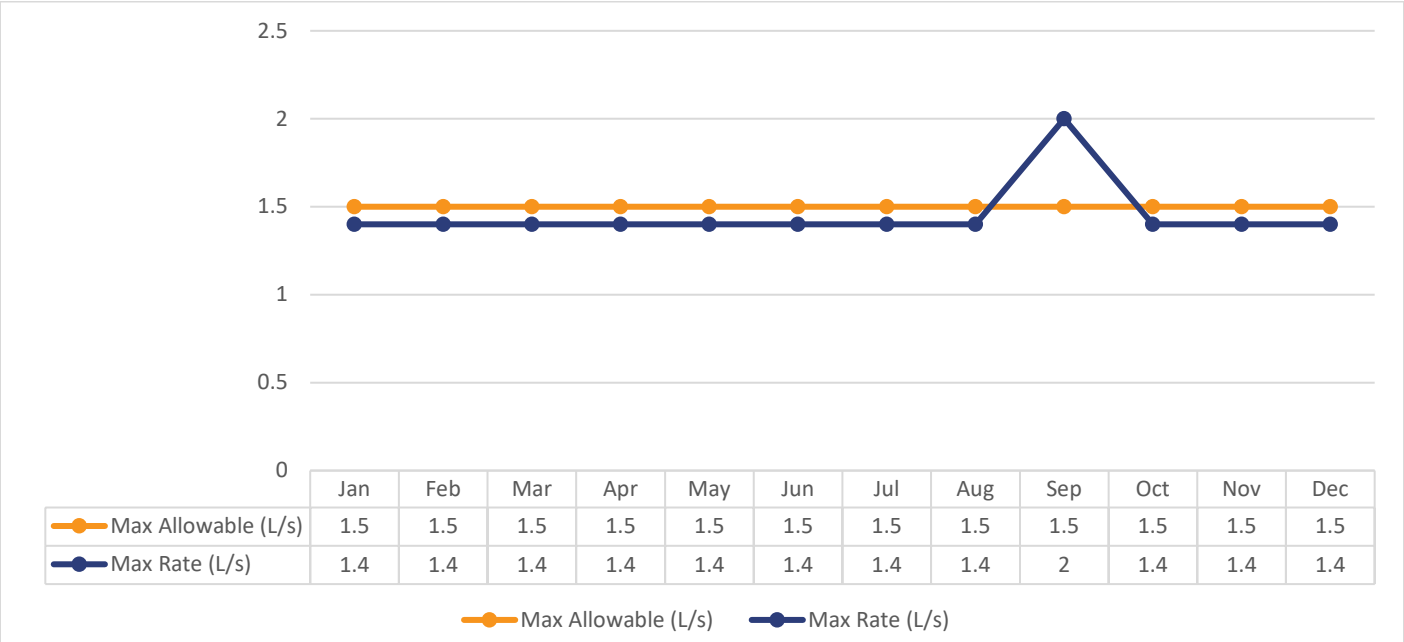
Graph 1. Total Monthly Flows (m³/d) – Well #1 (Max Allowable PTTW)



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Max Allowable (m³/d)	129.6	129.6	129.6	129.6	129.6	129.6	129.6	129.6	129.6	129.6	129.6	129.6
Max Flow (m³/d)	120.1	119.9	120.2	119.6	119.2	118.6	117.7	118.8	119.5	119.4	124	119
Avg (m³/d)	78.8	52.3	62.2	68.5	71.6	65.1	61.2	51.1	54.8	68.8	81.5	24.3

Max Allowable (m³/d) Max Flow (m³/d) Avg (m³/d)

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



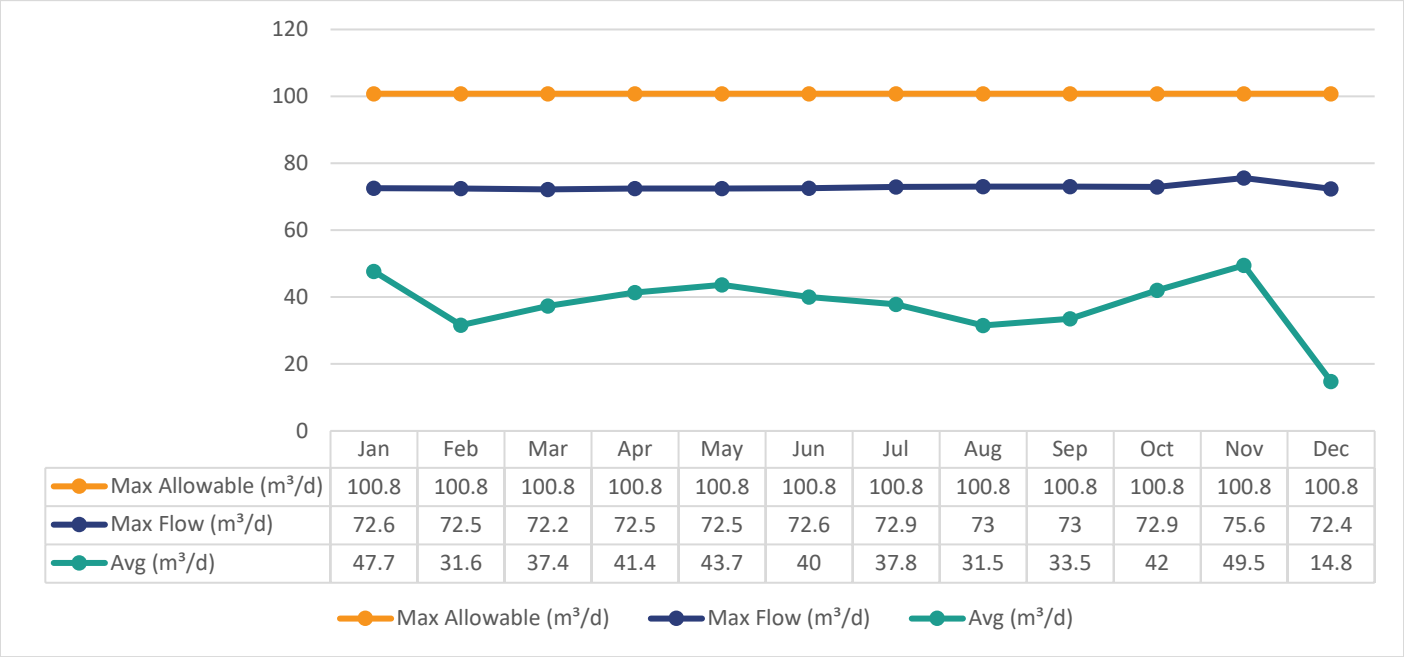
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Max Allowable (L/s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Max Rate (L/s)	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	2	1.4	1.4	1.4

Max Allowable (L/s) Max Rate (L/s)

Note: The above table shows there were exceedances in instantaneous peak flow rate (L/s) but these exceedances were short in duration. Spikes recorded by on-line instrumentation were a result of air bubbles and various maintenance/calibration activities. The significant spike in

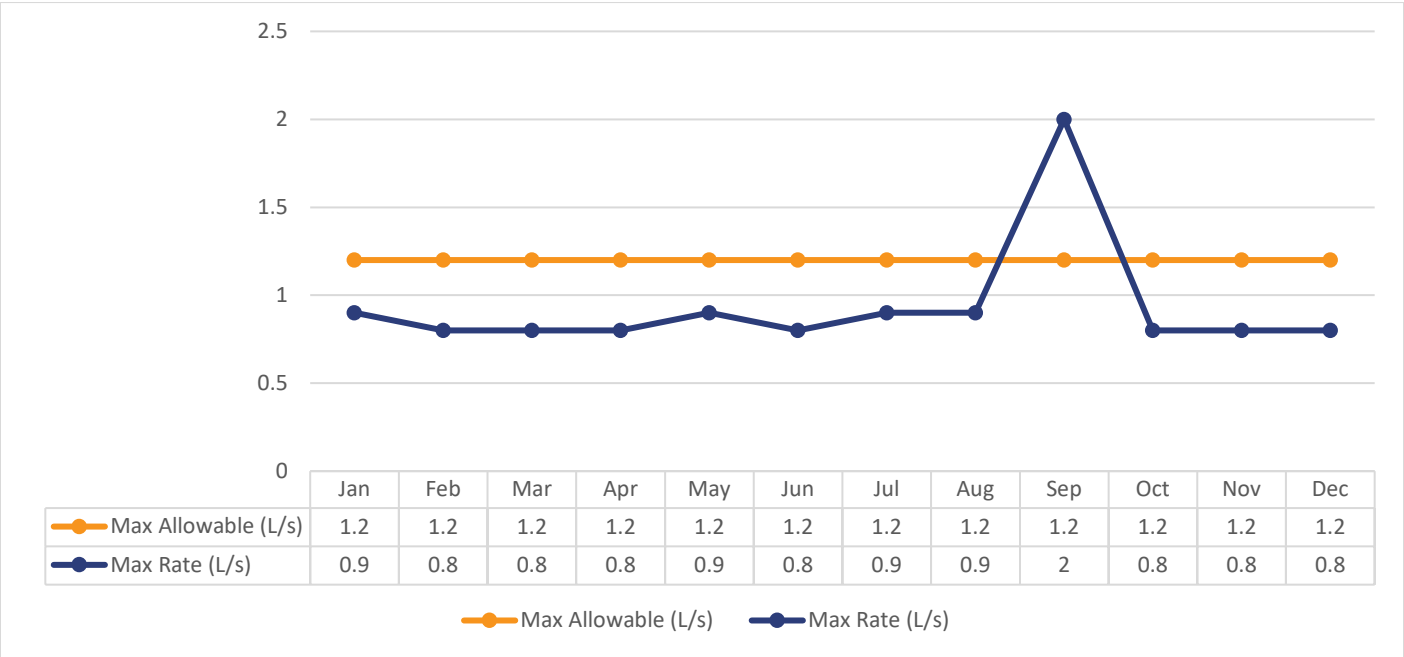
September was due to scheduled flow meter calibration. All spikes are reviewed for compliance with O. Reg. 170/03.

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)	100.8	100.8	100.8	100.8	100.8	100.8	100.8	100.8	100.8	100.8	100.8	100.8
Max Flow (m³/d)	72.6	72.5	72.2	72.5	72.5	72.6	72.9	73	73	72.9	75.6	72.4
Avg (m³/d)	47.7	31.6	37.4	41.4	43.7	40	37.8	31.5	33.5	42	49.5	14.8

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

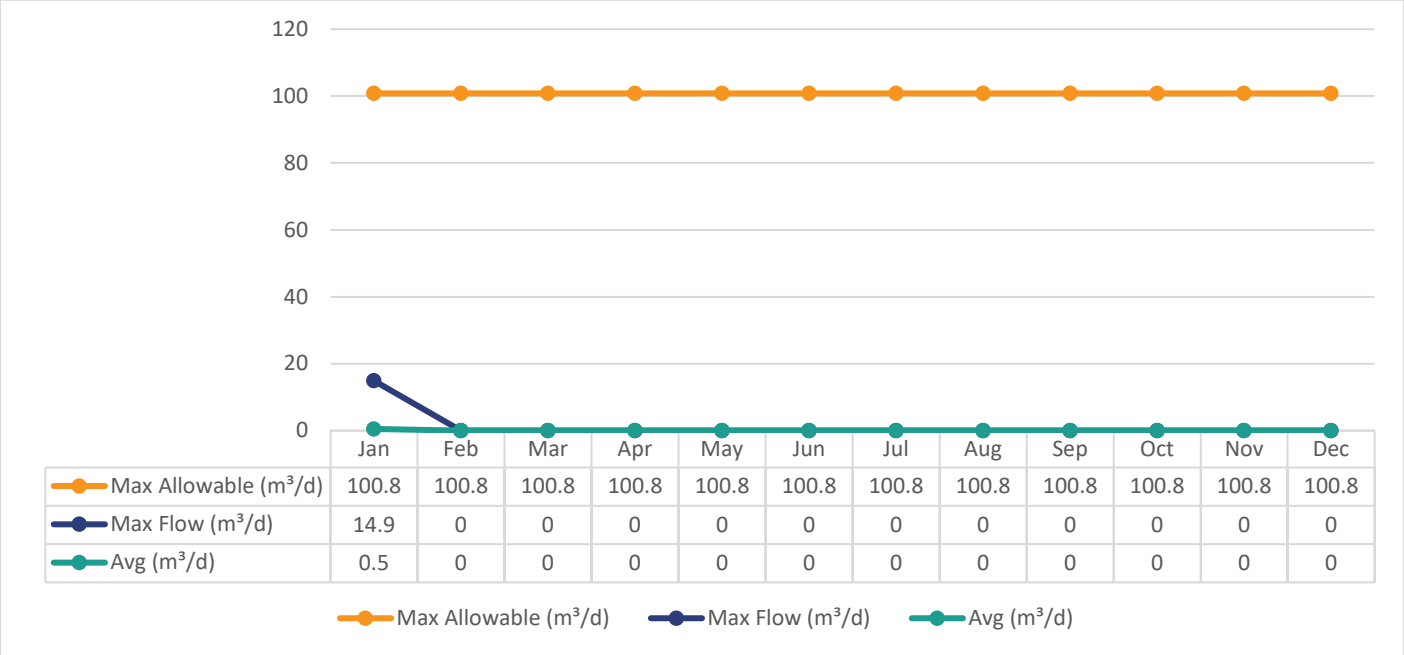


	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Max Allowable (L/s)	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Max Rate (L/s)	0.9	0.8	0.8	0.8	0.9	0.8	0.9	0.9	2	0.8	0.8	0.8

Note: The above table shows there were exceedances in instantaneous peak flow rate (L/s) but these exceedances were short in duration. Spikes recorded by on-line instrumentation were a

result of air bubbles and various maintenance/calibration activities. The significant spike in September was due to scheduled flow meter calibration. All spikes are reviewed for compliance with O. Reg. 170/03.

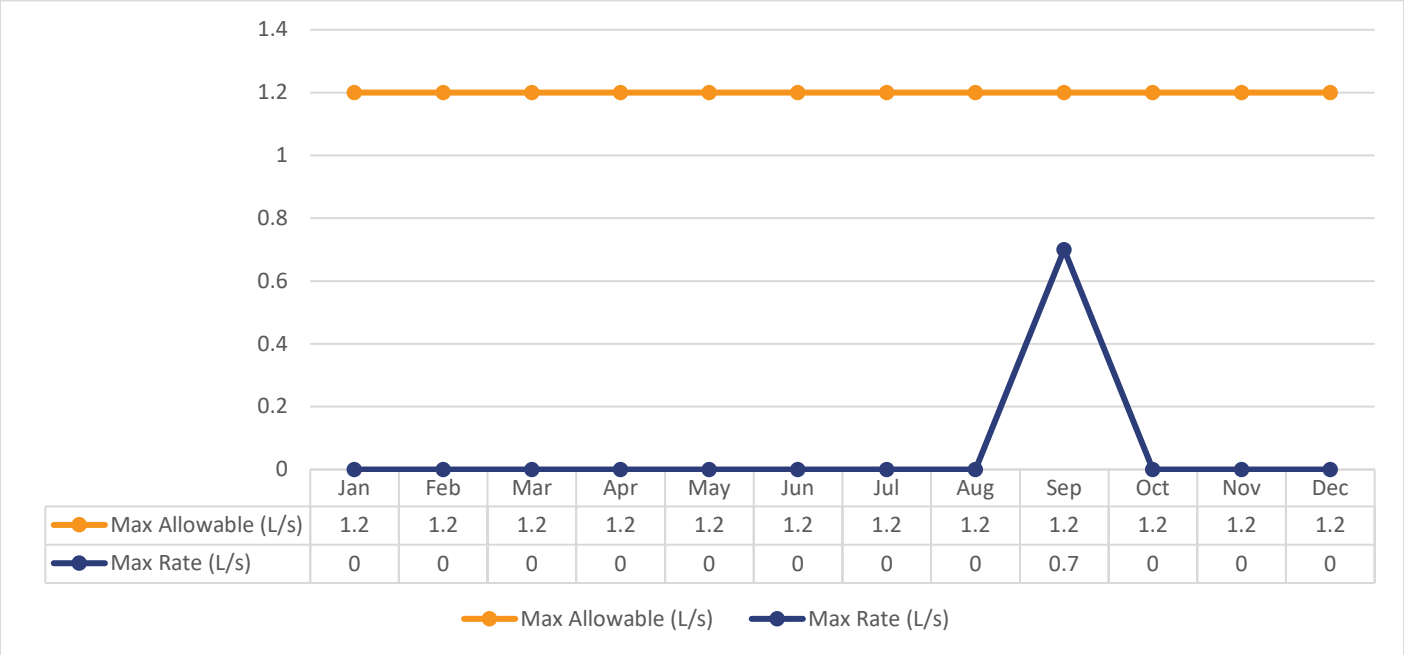
Graph 5. Total Monthly Flows (m³/d) – Well #3 (Max Allowable PTTW)



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Max Allowable (m³/d)	100.8	100.8	100.8	100.8	100.8	100.8	100.8	100.8	100.8	100.8	100.8	100.8
Max Flow (m³/d)	14.9	0	0	0	0	0	0	0	0	0	0	0
Avg (m³/d)	0.5	0	0	0	0	0	0	0	0	0	0	0

Note: Well #3 not in use following well casing collapse on September 28, 2023.

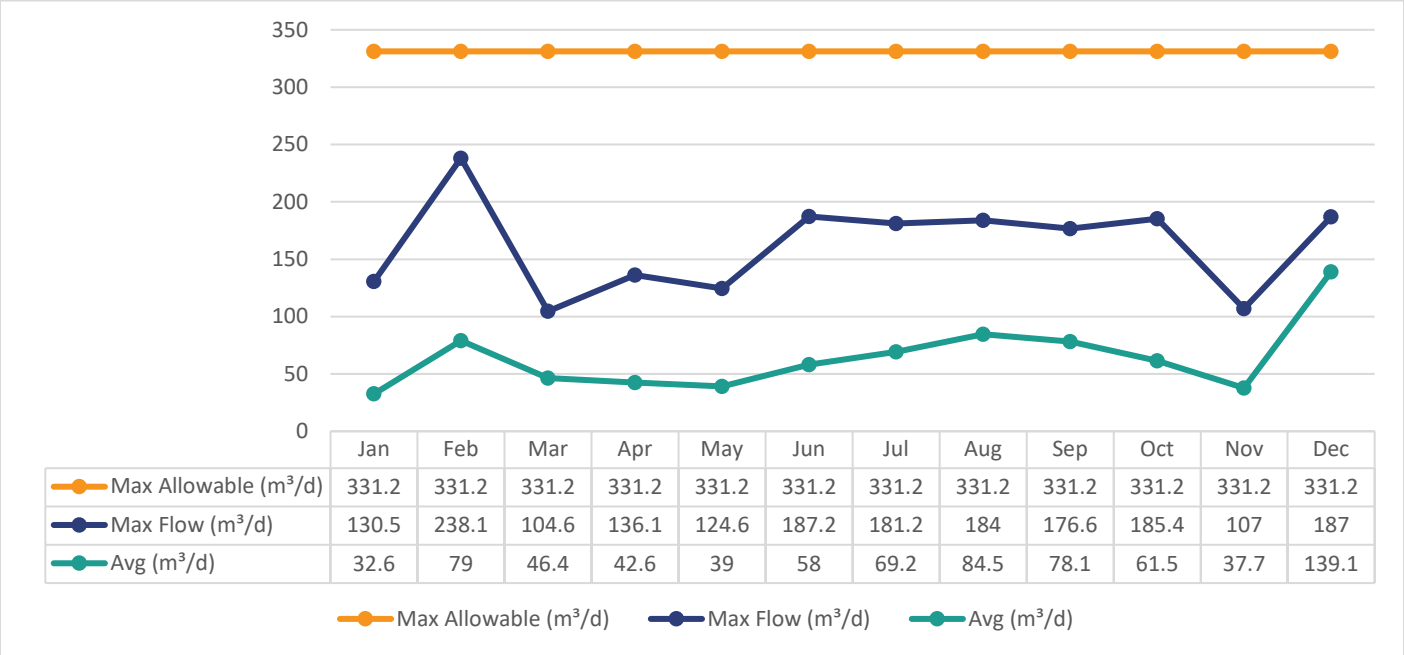
Graph 6. Monthly Rated Flows (L/s) – Well #3 (Max Allowable Rate PTTW)



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Max Allowable (L/s)	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Max Rate (L/s)	0	0	0	0	0	0	0	0	0.7	0	0	0

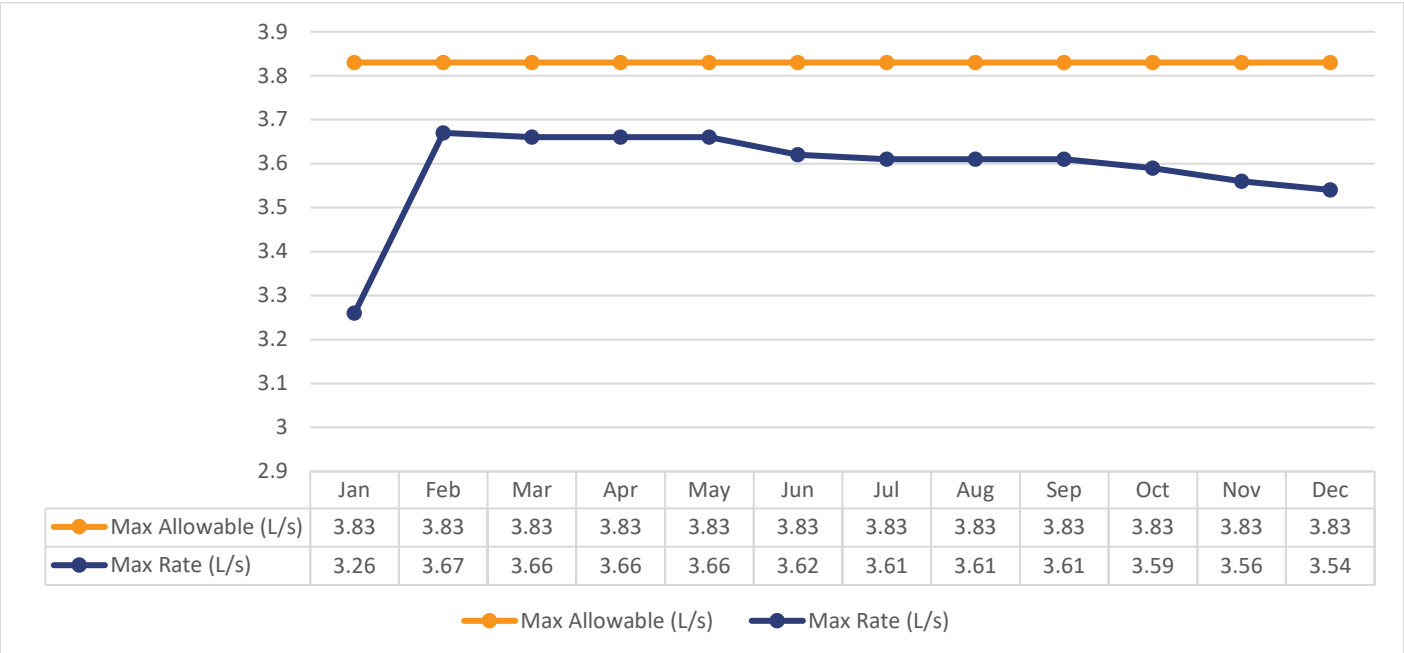
Note: Well #3 not in use following well casing collapse on September 28, 2023. The significant spike in September was due to schedule Flow Meter Calibration.

Graph 7. Total Monthly Flows (m³/d) – Well #7 (Max Allowable PTTW)



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Max Allowable (m³/d)	331.2	331.2	331.2	331.2	331.2	331.2	331.2	331.2	331.2	331.2	331.2	331.2
Max Flow (m³/d)	130.5	238.1	104.6	136.1	124.6	187.2	181.2	184	176.6	185.4	107	187
Avg (m³/d)	32.6	79	46.4	42.6	39	58	69.2	84.5	78.1	61.5	37.7	139.1

Graph 8. Monthly Rated Flows (L/s) – Well #7 (Max Allowable Rate PTTW)

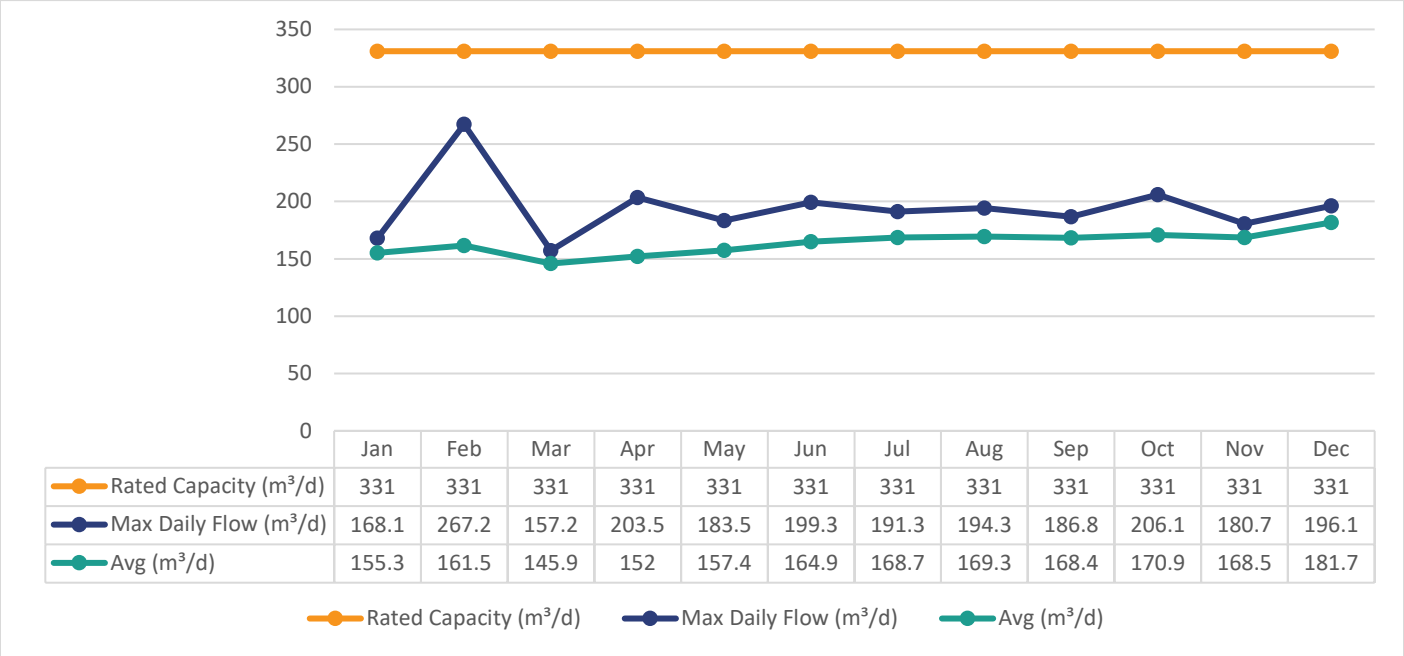


	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Max Allowable (L/s)	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83
Max Rate (L/s)	3.26	3.67	3.66	3.66	3.66	3.62	3.61	3.61	3.61	3.59	3.56	3.54

Treated Water Flows

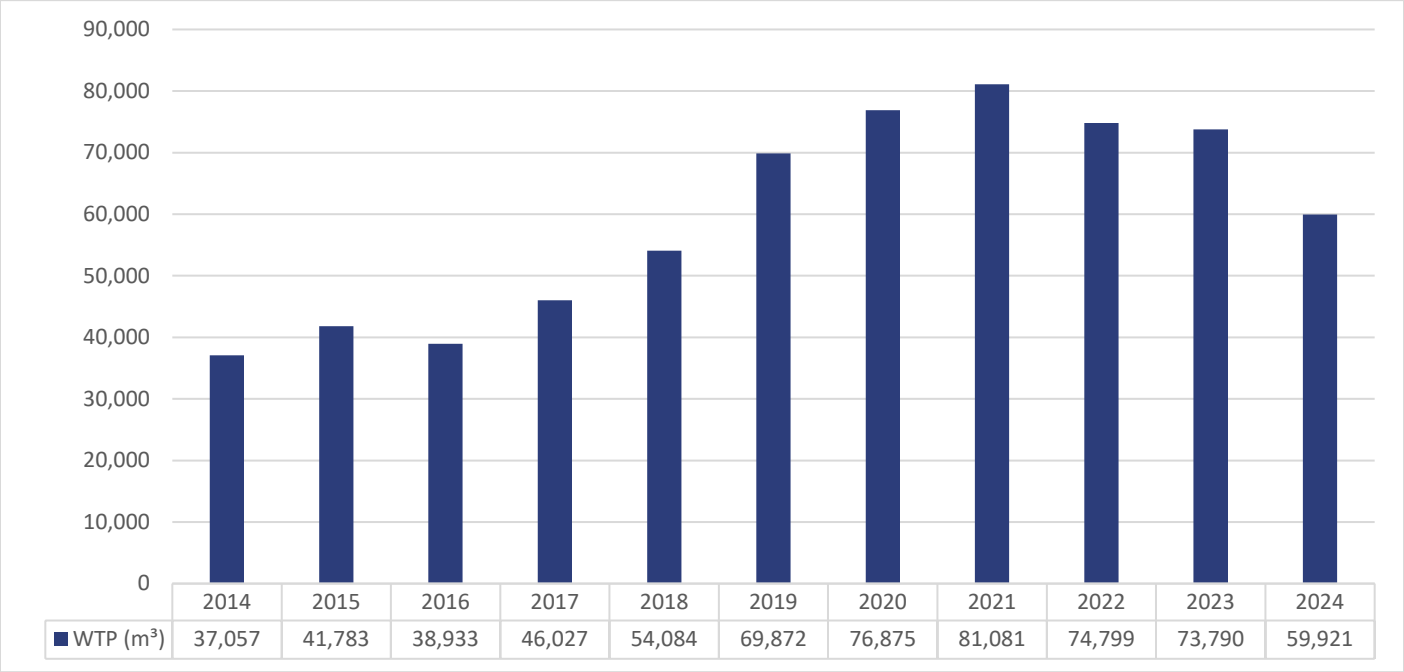
The Treated Water flows are regulated under the Municipal Drinking Water Licence 141-114.

Graph 9. Monthly Rated Flows (m³/d) – Rated Capacity - MDWL



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Rated Capacity (m³/d)	331	331	331	331	331	331	331	331	331	331	331	331
Max Daily Flow (m³/d)	168.1	267.2	157.2	203.5	183.5	199.3	191.3	194.3	186.8	206.1	180.7	196.1
Avg (m³/d)	155.3	161.5	145.9	152	157.4	164.9	168.7	169.3	168.4	170.9	168.5	181.7

Graph 10. Annual Total Flow Comparison (m³)



	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
WTP (m³)	37,057	41,783	38,933	46,027	54,084	69,872	76,875	81,081	74,799	73,790	59,921

Regulatory Sample Results Summary

Microbiological Testing

Table 3. Microbiological Test Results

	No. 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	53	0	0	0	0	N/A	N/A
Raw Well 2	53	0	0	0	0	N/A	N/A
Raw Well 3	0*	N/A	N/A	N/A	N/A	N/A	N/A
Raw Well 7	52	0	0	0	0	N/A	N/A
Treated	52	0	0	0	0	0	27
Distribution	156	0	0	0	0	0	2

OG = Overgrowth

HPC = Heterotrophic Plate Count

Note: Well #3 not in use following well casing collapse on September 28, 2023. Well #7 was out of service until January 11, 2024 for maintenance.

Operational Testing

Table 4. Operational Test Results

Parameter	Number of Samples Collected	Range of Results Minimum	Range of Results Maximum
Turbidity Well 1 (NTU)	12	0.10	0.69
Turbidity Well 2 (NTU)	12	0.09	0.71
Turbidity Well 3 (NTU)	0*	N/A	N/A
Turbidity Well 7 (NTU)	12	0.09	0.77
Chlorine	8760	1.13	2.02
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.

Note: Well #3 not in use following well casing collapse on September 28, 2023.

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 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 samples quarterly. Based on the latest test results no additional testing is required.

Table 5. Inorganic Parameters Test Results

	Sample Date (yyyy/mm/dd)	Sample Result	Unit of Measure	MAC	Exceedance
Treated Water					
Antimony	2023 01 09	<MDL 0.6	µg/L	6.0	No
Arsenic	2023 01 09	<MDL 0.2	µg/L	10.0	No
Barium	2023 01 09	118.0	µg/L	1000.0	No
Boron	2023 01 09	25.0	µg/L	5000.0	No
Cadmium	2023 01 09	0.003	µg/L	5.0	No
Chromium	2023 01 09	0.41	µg/L	50.0	No
Mercury	2023 01 09	<MDL 0.01	µg/L	1.0	No
Selenium	2023 01 09	0.5	µg/L	50.0	No
Uranium	2023 01 09	0.269	µg/L	20.0	No
Additional Organics					
Fluoride	2023 01 09	<MDL 0.06	mg/L	1.5	No
Nitrite	2024 01 08	0.004	mg/L	1.0	No
Nitrite	2024 04 02	<MDL 0.003	mg/L	1.0	No
Nitrite	2024 07 08	<MDL 0.003	mg/L	1.0	No
Nitrite	2024 10 07	<MDL 0.003	mg/L	1.0	No
Nitrate	2024 01 08	5.50	mg/L	10.0	No
Nitrate	2024 04 02	4.85	mg/L	10.0	No
Nitrate	2024 07 08	3.68	mg/L	10.0	No
Nitrate	2024 10 07	4.14	mg/L	10.0	No
Sodium	2024 01 08	32.2	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 6. 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)	2	4	254	291	N/A	N/A
pH	2	4	7.20	7.46	N/A	N/A
Lead (µg/L)	0	0			10.0	

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 7. Organic Parameters Test Results

	Sample Date (yyyy/mm/dd)	Sample Result	Unit of Measure	MAC	Exceedance
Treated Water					
Alachlor	2023 01 09	<MDL 0.02	µg/L	5.0	No
Atrazine + N-dealkylated metabolites	2023 01 09	<MDL 0.01	µg/L	5.0	No
Azinphos-methyl	2023 01 09	<MDL 0.05	µg/L	20.0	No
Benzene	2023 01 09	<MDL 0.32	µg/L	1.0	No
Benzo(a)pyrene	2023 01 09	<MDL 0.004	µg/L	0.01	No
Bromoxynil	2023 01 09	<MDL 0.33	µg/L	5.0	No
Carbaryl	2023 01 09	<MDL 0.05	µg/L	90.0	No
Carbofuran	2023 01 09	<MDL 0.01	µg/L	90.0	No

	Sample Date (yyyy/mm/dd)	Sample Result	Unit of Measure	MAC	Exceedance
Carbon Tetrachloride	2023 01 09	<MDL 0.17	µg/L	2.0	No
Chlorpyrifos	2023 01 09	<MDL 0.02	µg/L	90.0	No
Diazinon	2023 01 09	<MDL 0.02	µg/L	20.0	No
Dicamba	2023 01 09	<MDL 0.2	µg/L	120.0	No
1,2-Dichlorobenzene	2023 01 09	<MDL 0.41	µg/L	200.0	No
1,4-Dichlorobenzene	2023 01 09	<MDL 0.36	µg/L	5.0	No
1,2-Dichloroethane	2023 01 09	<MDL 0.35	µg/L	5.0	No
1,1-Dichloroethylene	2023 01 09	<MDL 0.33	µg/L	14.0	No
Dichloromethane (Methylene Chloride)	2023 01 09	<MDL 0.35	µg/L	50.0	No
2,4-Dichlorophenol	2023 01 09	<MDL 0.15	µg/L	900.0	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	2023 01 09	<MDL 0.19	µg/L	100.0	No
Diclofop-methyl	2023 01 09	<MDL 0.4	µg/L	9.0	No
Dimethoate	2023 01 09	<MDL 0.06	µg/L	20.0	No
Diquat	2023 01 09	<MDL 1.0	µg/L	70.0	No
Diuron	2023 01 09	<MDL 0.03	µg/L	150.0	No
Glyphosate	2023 01 09	<MDL 1.0	µg/L	280.0	No
Malathion	2023 01 09	<MDL 0.02	µg/L	190.0	No
2-Methyl-4chlorophenoxyacetic Acid (MCPA)	2023 01 09	<MDL 0.12	µg/L	100.0	No
Metolachlor	2023 01 09	<MDL 0.01	µg/L	50.0	No
Metribuzin	2023 01 09	<MDL 0.02	µg/L	80.0	No
Monochlorobenzene (Chlorobenzene)	2023 01 09	<MDL 0.3	µg/L	80.0	No
Paraquat	2023 01 09	<MDL 1.0	µg/L	10.0	No
PCB	2023 01 09	<MDL 0.04	µg/L	3.0	No
Pentachlorophenol	2023 01 09	<MDL 0.15	µg/L	60.0	No
Phorate	2023 01 09	<MDL 0.01	µg/L	2.0	No
Picloram	2023 01 09	<MDL 1.0	µg/L	190.0	No
Prometryne	2023 01 09	<MDL 0.03	µg/L	1.0	No
Simazine	2023 01 09	<MDL 0.01	µg/L	10.0	No
Terbufos	2023 01 09	<MDL 0.01	µg/L	1.0	No
Tetrachloroethylene	2023 01 09	<MDL 0.35	µg/L	10.0	No
2,3,4,6-Tetrachlorophenol	2023 01 09	<MDL 0.2	µg/L	100.0	No
Triallate	2023 01 09	<MDL 0.01	µg/L	230.0	No
Trichloroethylene	2023 01 09	<MDL 0.44	µg/L	5.0	No
2,4,6-Trichlorophenol	2023 01 09	<MDL 0.25	µg/L	5.0	No
Trifluralin	2023 01 09	<MDL 0.02	µg/L	45.0	No
Vinyl Chloride	2023 01 09	<MDL 0.17	µg/L	1.0	No

	Sample Date (yyyy/mm/dd)	Sample Result	Unit of Measure	MAC	Exceedance
Distribution Water					
Trihalomethane Total Annual Average Q1	2024 01 08	21.0	µg/L	100.0	No
Trihalomethane Total Annual Average Q2	2024 04 02	21.0	µg/L	100.0	No
Trihalomethane Total Annual Average Q3	2024 07 08	20.75	µg/L	100.0	No
Trihalomethane Total Annual Average Q4	2024 10 07	21.25	µg/L	100.0	No
HAA Total Annual Average Q1	2024 01 08	<MDL 5.3	µg/L	80.0	No
HAA Total Annual Average Q2	2024 04 02	<MDL 5.3	µg/L	80.0	No
HAA Total Annual Average Q3	2024 07 08	<MDL 5.3	µg/L	80.0	No
HAA Total Annual Average Q4	2024 10 07	<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

- Sodium hypochlorite pump #2 replacement
- Chemical room smoke detector replacement
- Alarm keypad replacement
- Soffit repair
- Repair alarm door contacts
- Outpost panel backup battery replacement

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