Western Trent Drinking Water System

2024 Annual Water Report

Drinking Water System Number: 220008131

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: 220008131
Drinking Water System Name: Western Trent 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	1	January 10, 2024	Announced Detailed Drinking Water Inspection – Final Inspection Rating was 100%
Adverse Water Quality Incidents (AWQIs)	0		
Non-Compliances	0		
Boil Water Advisories	0		
Health and Safety	0		

Drinking Water System Description

The Western Trent drinking water system is a large municipal residential drinking water system that serves the Western Trent and Palmina subdivisions located in the community of Bolsover, in the City of Kawartha Lakes. The drinking water system is classified as a Class I Water Treatment and Class I Water Distribution subsystem under O. Reg. 128/04.

Source Water

The water supply for the system comes from two groundwater wells: Well #1 (Palmina Well) and Well #2 (Western Trent Well). The wells are designated as GUDI (groundwater under the direct influence of surface water).

Water Treatment Facility

The treatment system consists of the following: cartridge filtration, a disinfection system using sodium hypochlorite for primary and secondary disinfection and a contact tank followed by a dual cell reservoir and high lift pump clearwells with two vertical turbine highlift pumps.

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 4.73 kilometers of watermains and is not rated for fire protection. The watermains in the Western Trent 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.

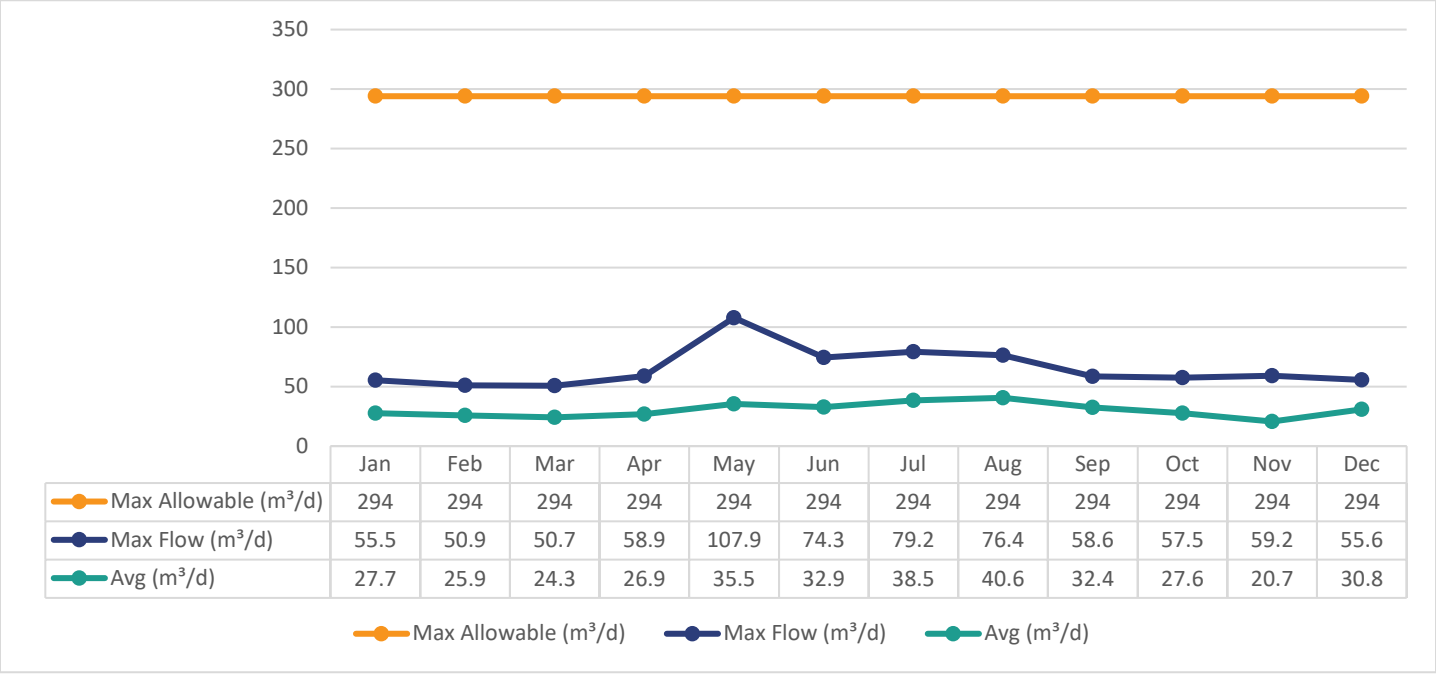
Flows

The Western Trent Drinking Water System is operating on average under half the rated capacity. The rated capacity of the system (treated water flows) is 293.8 m³/day.

Raw Water Flows

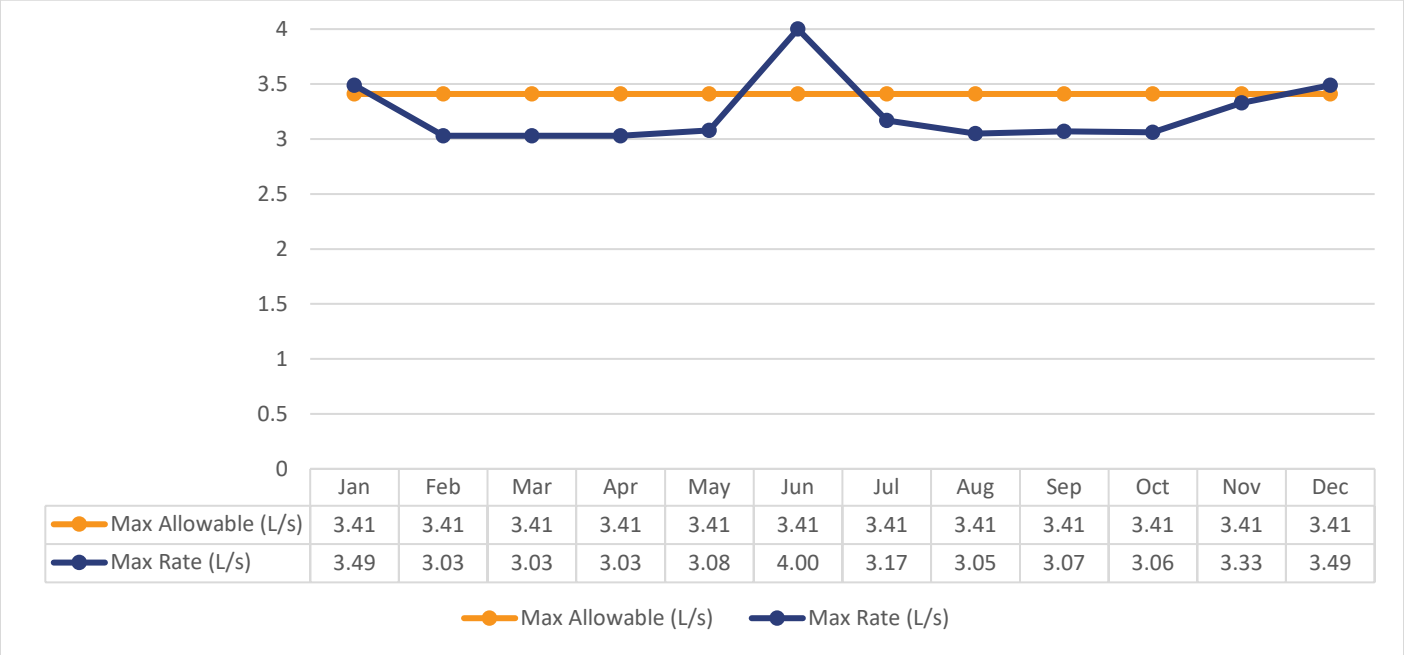
The raw water flows are regulated under the Permit to Take Water. Raw flow data for 2024 was submitted to the Ministry of Environment, Conservation and Parks (MECP) electronically under permit #2180-B4CKK3. The Permit to Take Water compliance criteria is in litres per minute (L/min) but for the purposes of this report the flow rate is reported in litres per second (L/sec) based on industry standard for flow monitoring recording. 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)	294	294	294	294	294	294	294	294	294	294	294	294
Max Flow (m³/d)	55.5	50.9	50.7	58.9	107.9	74.3	79.2	76.4	58.6	57.5	59.2	55.6
Avg (m³/d)	27.7	25.9	24.3	26.9	35.5	32.9	38.5	40.6	32.4	27.6	20.7	30.8

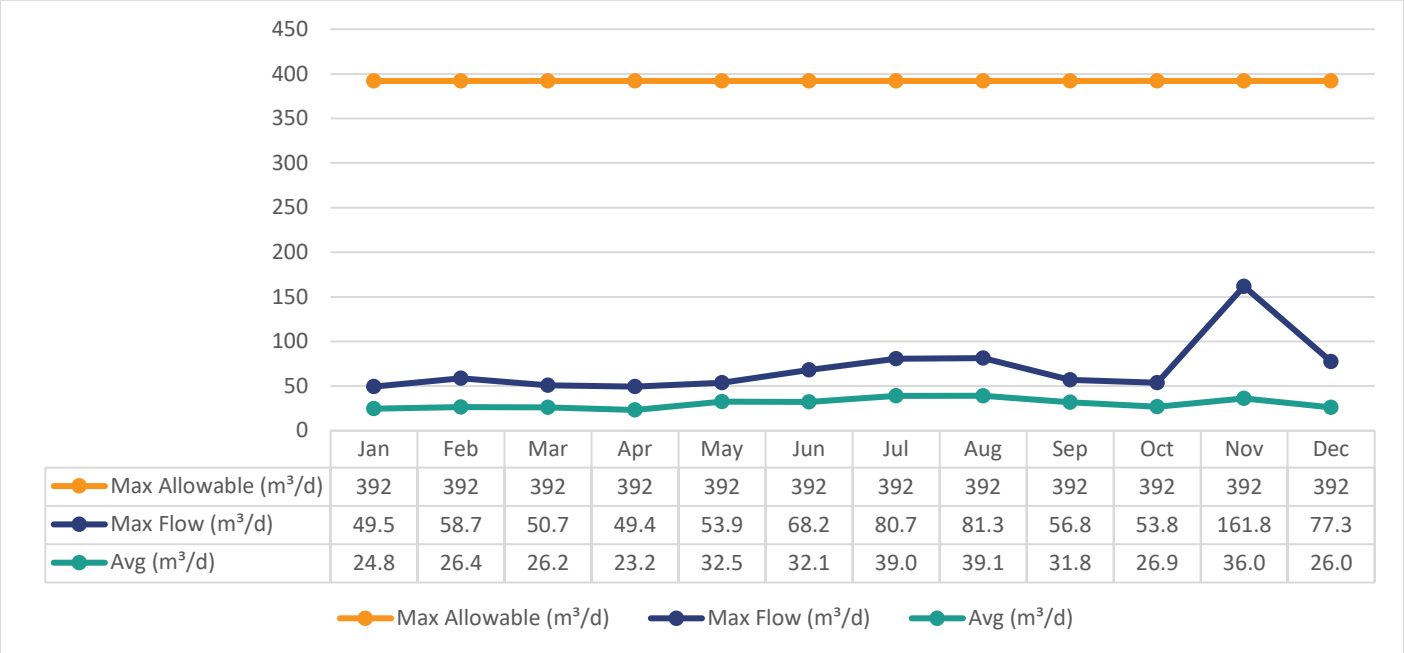
Graph 2. Monthly Rated Flows (L/s) – Well #1 (Max Allowable Rate PTTW)



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Max Allowable (L/s)	3.41	3.41	3.41	3.41	3.41	3.41	3.41	3.41	3.41	3.41	3.41	3.41
Max Rate (L/s)	3.49	3.03	3.03	3.03	3.08	4.00	3.17	3.05	3.07	3.06	3.33	3.49

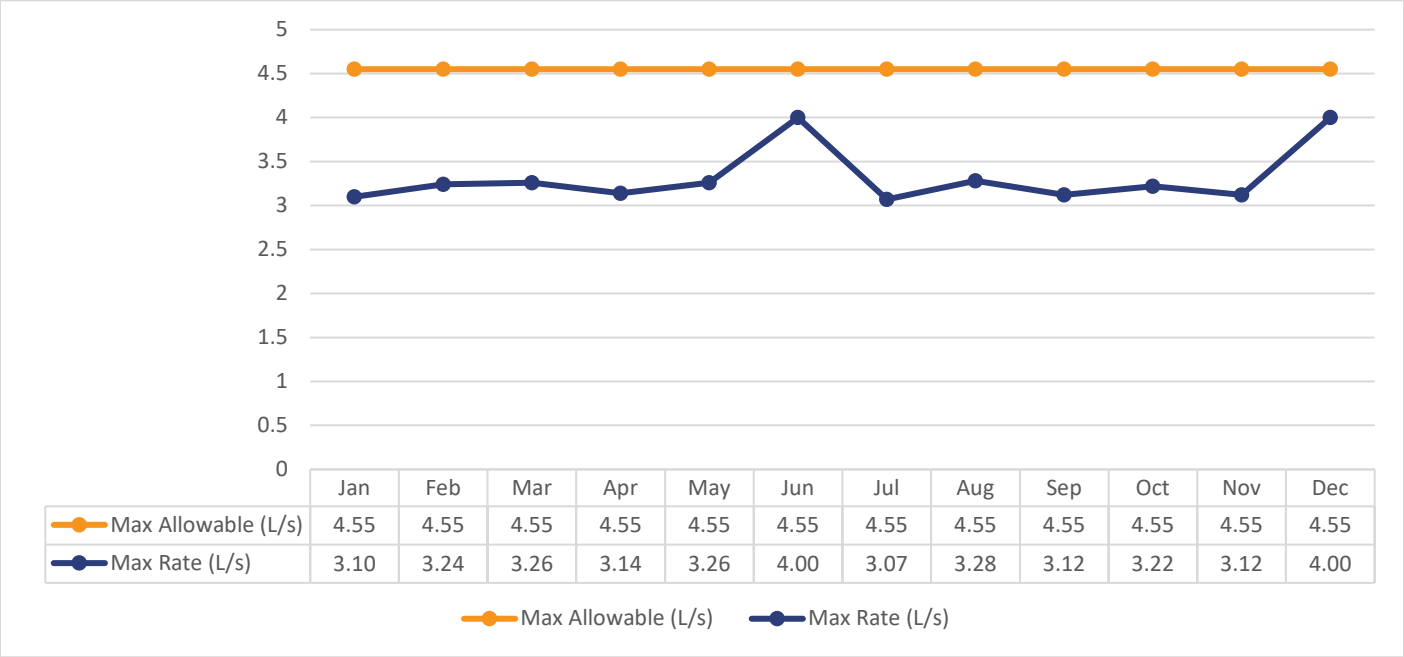
Note: The above table shows exceedances in instantaneous peak flow rate (L/s) in January, June, and December. The actual limit in the PTTW is 205 L/min. The significant spike in June was due to scheduled flow meter calibration. January and December brief spikes occurred due to filter replacement. All 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)	392	392	392	392	392	392	392	392	392	392	392	392
Max Flow (m³/d)	49.5	58.7	50.7	49.4	53.9	68.2	80.7	81.3	56.8	53.8	161.8	77.3
Avg (m³/d)	24.8	26.4	26.2	23.2	32.5	32.1	39.0	39.1	31.8	26.9	36.0	26.0

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

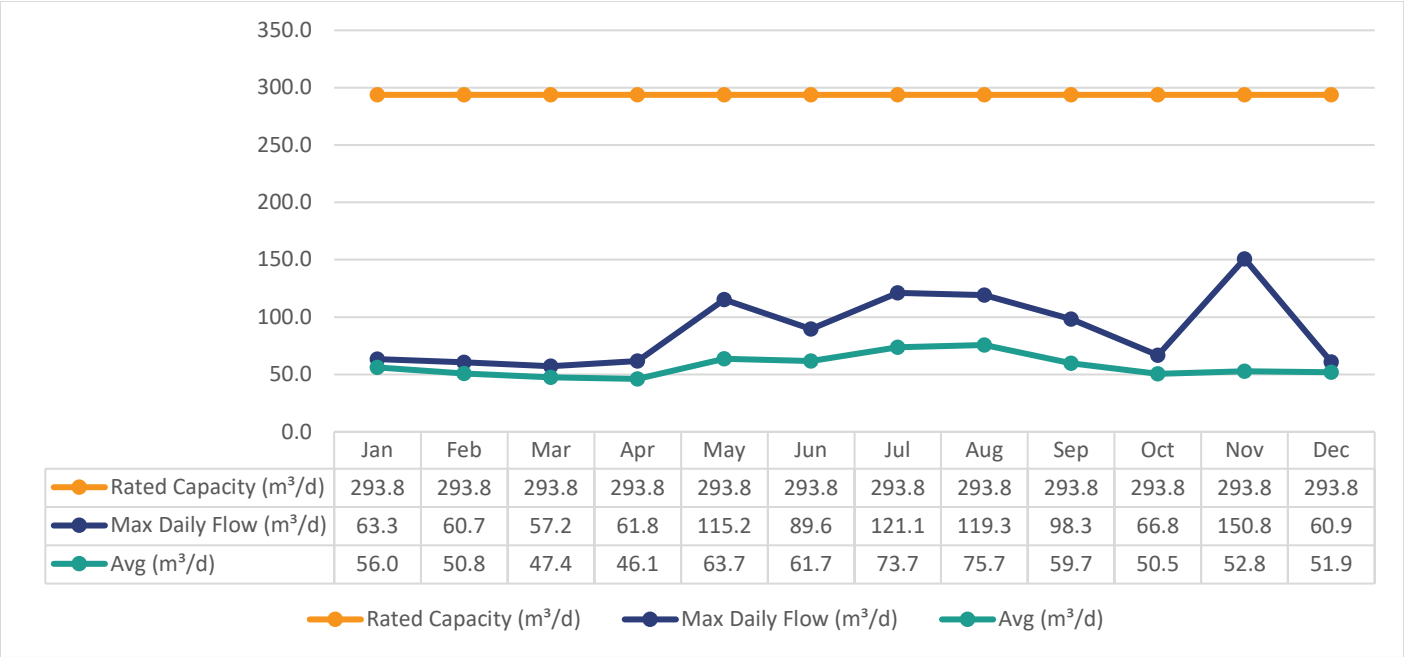


	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Max Allowable (L/s)	4.55	4.55	4.55	4.55	4.55	4.55	4.55	4.55	4.55	4.55	4.55	4.55
Max Rate (L/s)	3.10	3.24	3.26	3.14	3.26	4.00	3.07	3.28	3.12	3.22	3.12	4.00

Treated Water Flows

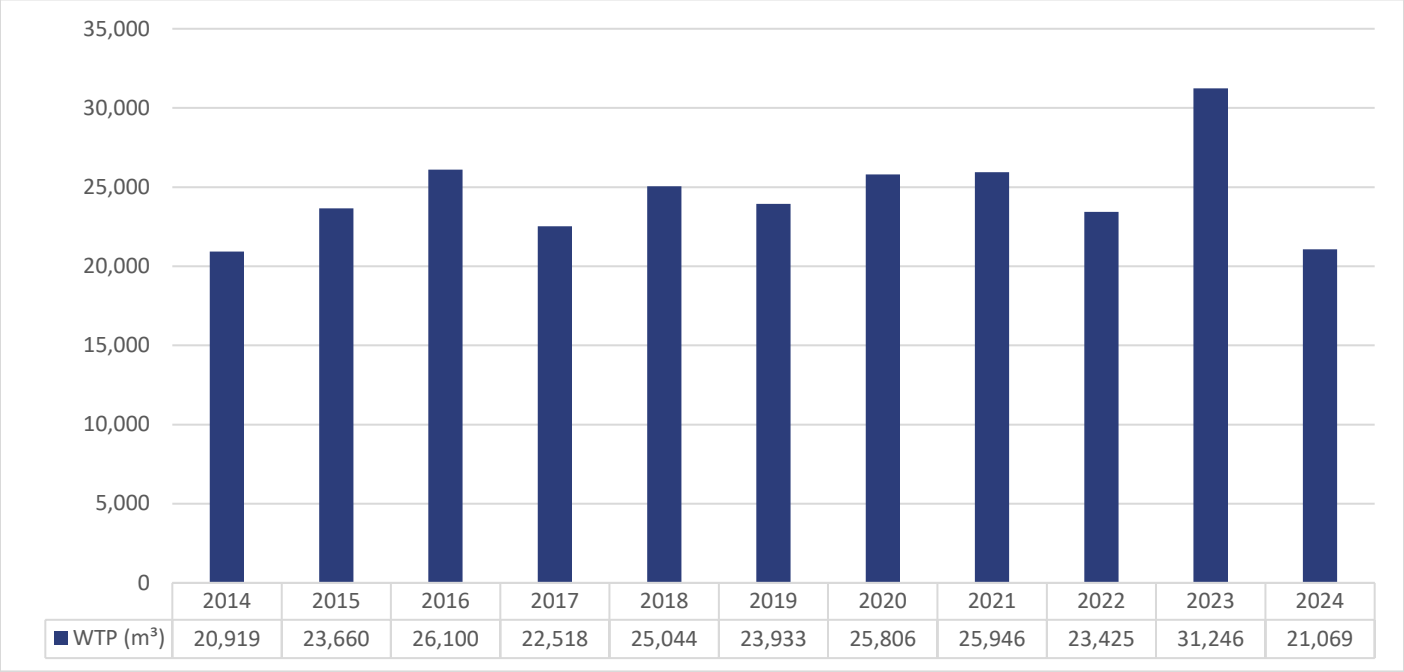
The Treated Water flows are regulated under the Municipal Drinking Water Licence 141-102.

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)	293.8	293.8	293.8	293.8	293.8	293.8	293.8	293.8	293.8	293.8	293.8	293.8
Max Daily Flow (m³/d)	63.3	60.7	57.2	61.8	115.2	89.6	121.1	119.3	98.3	66.8	150.8	60.9
Avg (m³/d)	56.0	50.8	47.4	46.1	63.7	61.7	73.7	75.7	59.7	50.5	52.8	51.9

Graph 6. Annual Total Flow Comparison (m³)



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	56	0	1	0	6	N/A	N/A
Raw Well 2	56	0	2	0	20	N/A	N/A
Treated	56	0	0	0	0	0	3
Distribution	159	0	0	0	0	0	3

OG = Overgrowth

HPC = Heterotrophic Plate Count

Operational Testing

Table 4. Operational Test Results

Parameter	Number of Samples Collected	Range of Results Minimum	Range of Results Maximum
Turbidity Filter 1 (NTU)	8760	0.00	1.50
Turbidity Filter 2 (NTU)	8760	0.00	1.50
Chlorine	8760	1.37	4.25
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 Nitrate are tested quarterly and the metals are tested annually 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	2024 09 03	<MDL 0.6	µg/L	6.0	No
Arsenic	2024 09 03	<MDL 0.2	µg/L	10.0	No
Barium	2024 09 03	46.1	µg/L	1000.0	No
Boron	2024 09 03	44.0	µg/L	5000.0	No
Cadmium	2024 09 03	0.006	µg/L	5.0	No
Chromium	2024 09 03	0.66	µg/L	50.0	No
Mercury	2024 09 03	<MDL 0.01	µg/L	1.0	No
Selenium	2024 09 03	0.08	µg/L	50.0	No
Uranium	2024 09 03	0.232	µg/L	20.0	No

	Sample Date (yyyy/mm/dd)	Sample Result	Unit of Measure	MAC	Exceedance
Additional Organics					
Fluoride	2024 12 04	0.13	mg/L	1.5	No
Nitrite	2024 01 02	<MDL 0.003	mg/L	1.0	No
Nitrite	2024 04 03	<MDL 0.003	mg/L	1.0	No
Nitrite	2024 07 02	<MDL 0.003	mg/L	1.0	No
Nitrite	2024 10 15	<MDL 0.003	mg/L	1.0	No
Nitrate	2024 01 02	0.147	mg/L	10.0	No
Nitrate	2024 04 03	0.058	mg/L	10.0	No
Nitrate	2024 07 02	0.066	mg/L	10.0	No
Nitrate	2024 10 15	0.311	mg/L	10.0	No
Sodium	2023 12 11	21.5	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)	1	2	215	238	N/A	N/A
pH	1	2	7.27	7.32	N/A	N/A
Lead (µg/L)	0	0	N/A	N/A	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	2024 09 03	<MDL 0.02	µg/L	5.0	No
Atrazine + N-dealkylated metabolites	2024 09 03	<MDL 0.01	µg/L	5.0	No
Azinphos-methyl	2024 09 03	<MDL 0.05	µg/L	20.0	No
Benzene	2024 09 03	<MDL 0.32	µg/L	1.0	No
Benzo(a)pyrene	2024 09 03	<MDL 0.004	µg/L	0.01	No
Bromoxynil	2024 09 03	<MDL 0.33	µg/L	5.0	No
Carbaryl	2024 09 03	<MDL 0.05	µg/L	90.0	No
Carbofuran	2024 09 03	<MDL 0.01	µg/L	90.0	No
Carbon Tetrachloride	2024 09 03	<MDL 0.17	µg/L	2.0	No
Chlorpyrifos	2024 09 03	<MDL 0.02	µg/L	90.0	No
Diazinon	2024 09 03	<MDL 0.02	µg/L	20.0	No
Dicamba	2024 09 03	<MDL 0.2	µg/L	120.0	No
1,2-Dichlorobenzene	2024 09 03	<MDL 0.41	µg/L	200.0	No
1,4-Dichlorobenzene	2024 09 03	<MDL 0.36	µg/L	5.0	No
1,2-Dichloroethane	2024 09 03	<MDL 0.35	µg/L	5.0	No
1,1-Dichloroethylene	2024 09 03	<MDL 0.33	µg/L	14.0	No
Dichloromethane (Methylene Chloride)	2024 09 03	<MDL 0.35	µg/L	50.0	No
2,4-Dichlorophenol	2024 09 03	<MDL 0.15	µg/L	900.0	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	2024 09 03	<MDL 0.19	µg/L	100.0	No
Diclofop-methyl	2024 09 03	<MDL 0.4	µg/L	9.0	No
Dimethoate	2024 09 03	<MDL 0.06	µg/L	20.0	No
Diquat	2024 09 03	<MDL 1.0	µg/L	70.0	No
Diuron	2024 09 03	<MDL 0.03	µg/L	150.0	No
Glyphosate	2024 09 03	<MDL 1.0	µg/L	280.0	No
Malathion	2024 09 03	<MDL 0.02	µg/L	190.0	No
2-Methyl-4chlorophenoxyacetic Acid (MCPA)	2024 09 03	<MDL 0.12	µg/L	100.0	No

	Sample Date (yyyy/mm/dd)	Sample Result	Unit of Measure	MAC	Exceedance
Metolachlor	2024 09 03	<MDL 0.01	µg/L	50.0	No
Metribuzin	2024 09 03	<MDL 0.02	µg/L	80.0	No
Monochlorobenzene (Chlorobenzene)	2024 09 03	<MDL 0.3	µg/L	80.0	No
Paraquat	2024 09 03	<MDL 1.0	µg/L	10.0	No
PCB	2024 09 03	<MDL 0.04	µg/L	3.0	No
Pentachlorophenol	2024 09 03	<MDL 0.15	µg/L	60.0	No
Phorate	2024 09 03	<MDL 0.01	µg/L	2.0	No
Picloram	2024 09 03	<MDL 1.0	µg/L	190.0	No
Prometryne	2024 09 03	<MDL 0.03	µg/L	1.0	No
Simazine	2024 09 03	<MDL 0.01	µg/L	10.0	No
Terbufos	2024 09 03	<MDL 0.01	µg/L	1.0	No
Tetrachloroethylene	2024 09 03	<MDL 0.35	µg/L	10.0	No
2,3,4,6-Tetrachlorophenol	2024 09 03	<MDL 0.2	µg/L	100.0	No
Triallate	2024 09 03	<MDL 0.01	µg/L	230.0	No
Trichloroethylene	2024 09 03	<MDL 0.44	µg/L	5.0	No
2,4,6-Trichlorophenol	2024 09 03	<MDL0.25	µg/L	5.0	No
Trifluralin	2024 09 03	<MDL 0.02	µg/L	45.0	No
Vinyl Chloride	2024 09 03	<MDL 0.17	µg/L	1.0	No
Distribution Water					
Trihalomethane Total Annual Average Q1	2024 01 02	38.75	µg/L	100.0	No
Trihalomethane Total Annual Average Q2	2024 04 03	39.75	µg/L	100.0	No
Trihalomethane Total Annual Average Q3	2024 07 02	41.25	µg/L	100.0	No
Trihalomethane Total Annual Average Q4	2024 10 15	41.25	µg/L	100.0	No
HAA Total Annual Average Q1	2024 01 02	9.18	µg/L	80.0	No
HAA Total Annual Average Q2	2024 04 03	7.95	µg/L	80.0	No
HAA Total Annual Average Q3	2024 07 02	8.18	µg/L	80.0	No
HAA Total Annual Average Q4	2024 10 15	8.93	µg/L	80.0	No

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

Additional Legislated Samples

Under Schedule D of MDWL 141-102 Issue number 6 dated May 10, 2022, Regulatory Relief from ANSI/NSF Standard 53 certification or equivalent was granted for the 1 micron absolute cartridge filters as there are no remaining stock of certified cartridge filters for this drinking water system. Subject to this approval, bacteriological sampling twice per week for all raw sources and treated water is required when the non-certified filters are in use.

As of June 8, 2022, non ANSI/NSF Standard 53 certified 1 micron absolute cartridge filters, as approved by MECP, were installed and twice per week bacteriological sampling for all raw sources and treated water was initiated. The results for this additional sampling are included in the Microbiological Testing table under the Regulatory Sample Results Summary section of this report.

In 2023, cartridge filter testing was completed in consultation with the MECP. The MECP accepted granting the use of Graver QCR 0.8 mircon cartridge for the pathogen removal credits as stated in the Municipal Drinking Water License – Schedule E for the systems specified in the letter only. The letter is dated January 9, 2024.

Minor Maintenance

- Alarm panel replacement
- Generator transfer switch controller replacement
- Hot water tank replacement

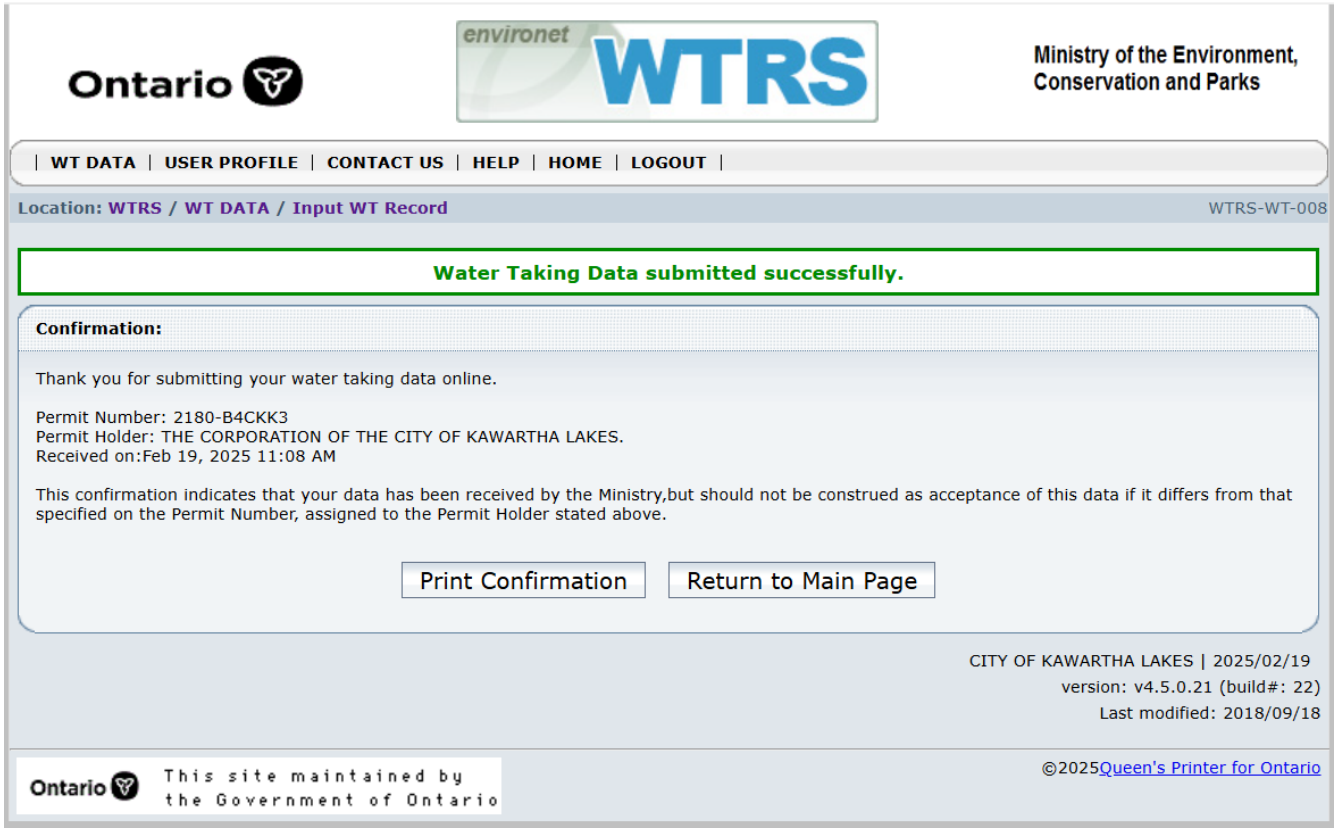
Major Maintenance Expense (above $10,000)

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



Ontario

environet WTRS

Ministry of the Environment, Conservation and Parks

| WT DATA | USER PROFILE | CONTACT US | HELP | HOME | LOGOUT |

Location: WTRS / WT DATA / Input WT Record WTRS-WT-008

Water Taking Data submitted successfully.

Confirmation:

Thank you for submitting your water taking data online.

Permit Number: 2180-B4CKK3
Permit Holder: THE CORPORATION OF THE CITY OF KAWARTHA LAKES.
Received on:Feb 19, 2025 11:08 AM

This confirmation indicates that your data has been received by the Ministry,but should not be construed as acceptance of this data if it differs from that specified on the Permit Number, assigned to the Permit Holder stated above.

Print Confirmation Return to Main Page

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Last modified: 2018/09/18

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