Renfrew Drinking Water System

Waterworks # 210001102
System Category – Large Municipal Residential

Annual Water Report

Prepared For: Municipality of the Town of Renfrew

Reporting Period of January 1st – December 31st 2024

Issued: February 28th 2025

Revision: 0

Operating Authority:

OCWA
ONTARIO CLEAN WATER AGENCY
AGENCE ONTARIENNE DES EAUX

This report has been prepared to satisfy the annual reporting requirements in O.Reg 170/03 Section 11 and Schedule 22

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Report Availability

This system does not serve more than 10,000 residences and the annual reports will be available to residents at the Town of Renfrew Municipal Office. Notification will be at the Municipal Office and copies provided free of charge if requested. The Town of Renfrew Municipal Office is located at 127 Raglan St. S., Renfrew, ON K7V 1P8.

Compliance Report Card

Compliance Event	# of Events
Ministry of Environment Inspections	1 - Ministry Inspection on September 4th 2024 • Report Received October 31, 2024 – 95.77% ○ 1 Non-Compliance noted in report
Ministry of Labour Inspections	0 - No MOL Inspections during the reporting period
QEMS External Audit	1 - External Surveillance Audit was completed
AWQI's	7 – See Summary of Non-Compliance for details
Non-Compliance	1 – See Summary of Non-Compliance for details
Spills	0 - No spills during the reporting period
Watermain Breaks	8 - See Distribution Maintenance for details

System Process Description

Raw Source

The source water for the Renfrew Drinking Water System (DWS) is the Bonnechere River. The low lift pumping station is constructed over the wet well, and is situated immediately next to the Bonnechere River, across the street from the Renfrew Water Treatment Plant. The wet well is equipped with a bar screen. Raw water is drawn from the wet well and discharged into a raw water header and conveyed to the plant for treatment. Turbidity, pH and temperature meters are installed at this point to collect raw water data.

Treatment

Raw water is treated with a coagulant (PAS-8) and coagulant aid (polymer). The powdered activated carbon (PAC) system is currently not in use. The raw water is directed to the flash mixers and proceeds through the Actiflo treatment system, which consists of coagulation, flocculation and sedimentation assisted by tube settlers.

Water then flows to three dual media (sand/anthracite) high-rate gravity filters. All three filters are connected to a common backwash system that includes filter-to-waste valves, backwash troughs and underdrain systems. The filters are equipped with one positive displacement air scour blower for backwashing purposes.

Filtered water is treated with chlorine gas (disinfection), hydrated lime (pH adjustment) and Hydrofluosilicic acid (fluoride) just prior to being directed to the clearwells. Two baffled clearwells are in used to provide treated water storage, which is then pumped from the clearwells to the distribution system.

There are two wastewater generating processes; filter backwashing and waste residuals from the Actiflo treatment system. Filter backwash effluent is directed to two settling tanks on the lower level of the plant, and Actiflo waste residuals to a separate tank on the upper level. Filter backwash and Actiflo residual supernatant from the settling tanks is discharged to the Bonnechere River via the municipal storm sewer and the sludge from the settling tanks is pumped to the municipal sanitary sewer system.

Treatment Chemicals used during the reporting year:

Chemical Name	Use	Supplier
PAS-8	Primary Coagulation	Kemira
Polymer	Coagulant Aid	Northland Chemical Inc.
Hydrated Lime	pH Adjustment	M&R Feeds (Sylvite)
Chlorine Gas	Disinfection	Brenntag
Hydrofluosilicic Acid	Fluoridation	Brenntag
Micro-Sand	Actiflo Process	Veolia

Distribution

The distribution for the Town of Renfrew serves a population of approximately 8,000 residents. The system includes a 6,820 m^3 capacity standpipe located on O'Brien Road, and an in-line booster station on Erindale Avenue.

Summary of Non-Compliance

Adverse Water Quality Incidents

Date	AWQI #	Details	Legislation	Corrective Action Taken
April 12th	164796	Sodium Aesthetic Objective Exceedance	O.Reg. 170/03	Resample below limit: 15.9 mg/L, under the MAC of 20 mg/L
April	164906	Filter #1 Performance: 93.41% of turbidity readings were <0.3NTU for the month of April	O.Reg. 170/03	Chemical adjustments were made to reduce turbidity, but did not reduce colour (Filter 1 only – combined filter performance was 97.66%
April-June	165054	Rolling annual average for Trihalomethane (THM)	O.Reg. 170/03	IPOT Team internal study initiated to determine cause and resolution
July 9th	165547	Total Coliform Distribution Sample	O.Reg. 170/03	Resamples were 0 Total Coliform, 0 E-Coli
July-September	166103	Rolling annual average for Trihalomethane (THM)	O.Reg. 170/03	IPOT Team internal study initiated to determine cause and resolution
October-December	167133	Rolling annual average for Trihalomethane (THM)	O.Reg. 170/03	IPOT Team internal study initiated to determine cause and resolution
October-December	166505	Rolling annual average for Haloacetic Acid (HAA)	O.Reg. 170/03	IPOT Team internal study initiated to determine cause and resolution

Non-Compliance

Legislation	Requirement(s) system failed to meet	Duration of the failure	Corrective Action	Status
MDWL, Schedule E	Exceeded Monthly Filter Performance Criteria, Turbidity was <0.3 NTU for 93.41% of the month	April 2024 Monthly Calculation	Filter #1 Performance was 93.41%. IPOT Team internal study initiated to determine cause and resolution	In progress

Non-Compliance Identified in a Ministry Inspection:

Legislation	Requirement(s) system failed to meet	Duration of the failure	Corrective Action	Status
O Reg. 170/03, DWWP, MDWL, Schedule E	Exceeded Monthly Filter Performance Criteria, Turbidity as <0.3 NTU for 93.41% of the month. The reported cause for the exceedance was colour caused by seasonal rise in manganese levels in the source water.	April 2024 Monthly Calculation	The Renfrew DWS is currently in the process of installing and commissioning of equipment for the addition of potassium permanganate to the drinking water for the purpose of manganese removal prior to the filtration process	No further actions required

Spill Incident

Date	Location	Details	Corrective Action
No spills during the reporting period			

Flows

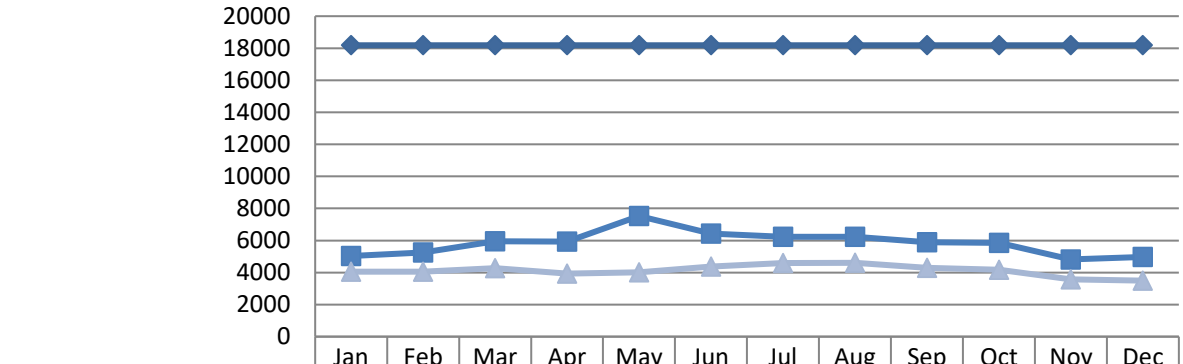
The Renfrew Drinking Water System is operating less than half the rated capacity on average.

Raw Water Flows

The Raw Water flows are regulated under the Permit to Take Water. 2024 Raw Flow Data was submitted to the Ministry electronically under permit #P-300-9214586220. The confirmation is attached in Appendix A.

Monthly Rated Flows (m³/d)

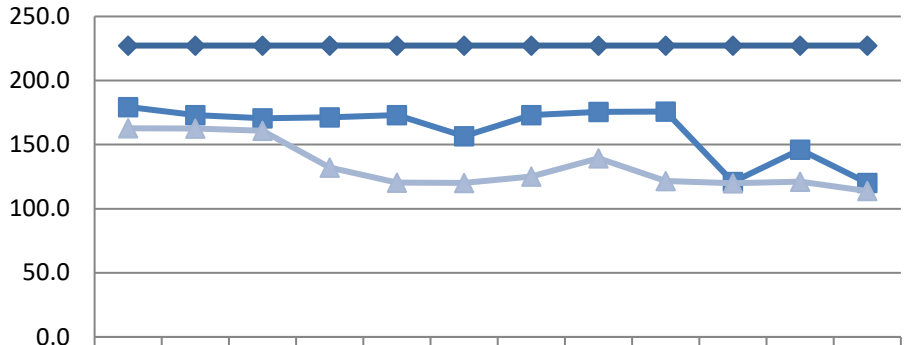
Max Allowable PTTW



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Max Allowable (m³/d)	18184	18184	18184	18184	18184	18184	18184	18184	18184	18184	18184	18184
Max Flow (m³/d)	5040	5257	5944	5923	7527	6431	6224	6234	5900	5857	4820	4976
Avg (m³/d)	4064	4060	4266	3936	4016	4366	4600	4607	4303	4170	3579	3496

Monthly Flow Rate (L/s)

Max allowable rate - PTTW



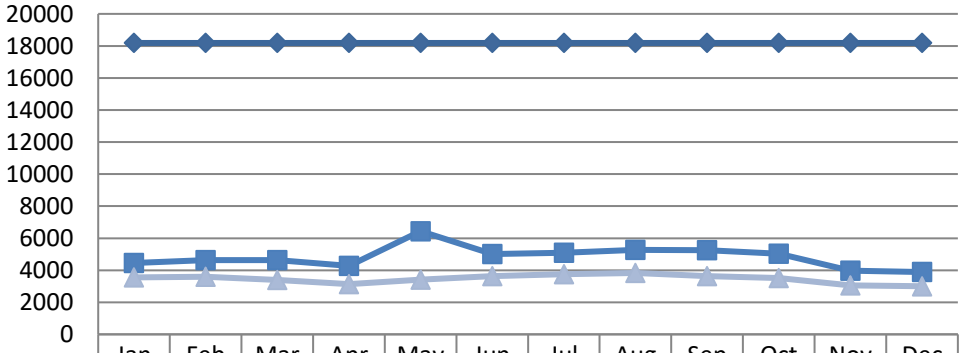
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Max Allowable Rate (L/sec)	227.3	227.3	227.3	227.3	227.3	227.3	227.3	227.3	227.3	227.3	227.3	227.3
Max Rate (L/s)	179	173	170	171	173	157	173	176	176	121	146	120
Ave Rate(L/s)	163	163	161	132	120	120	125	139	122	120	121	114

Treated Water Flows

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

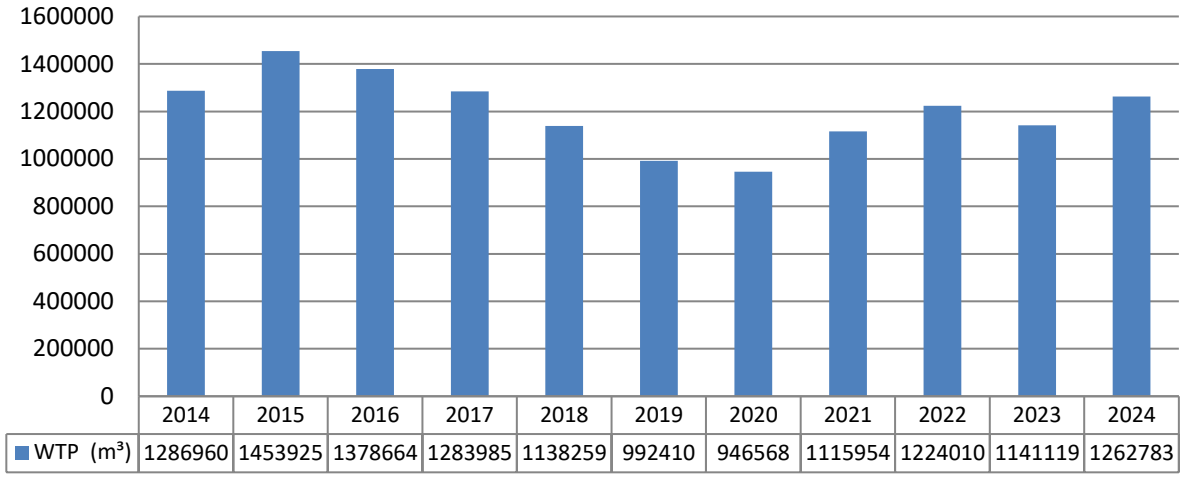
Monthly Rated Flows

Rated Capacity - MDWL



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Rated Capacity (m^3/d)	18184	18184	18184	18184	18184	18184	18184	18184	18184	18184	18184	18184
Max Daily Flow (m^3/d)	4461	4635	4628	4283	6439	5015	5084	5264	5249	5032	3980	3889
Avg (m^3/d)	3557	3596	3403	3132	3408	3633	3755	3831	3630	3511	3058	3004

Annual Total Flow Comparison



Regulatory Sample Results Summary

Microbiological Testing

	No. of Samples Collected	Range of E.coli Results		Range of Total Coliform Results		# of HPC Samples Collected	Range of HPC Results	
		Min	Max	Min	Max		Min	Max
Raw Water	53	0	197	10	7000			
Treated Water	52	0	0	0	0	52	2	6
Distribution Water	218	0	0	0	1	112	2	4

Operational Testing

	No. of Samples Collected	Range of Results	
		Minimum	Maximum
Turbidity, In-House (NTU) - RW	108	0.29	31
Turbidity, In-House (NTU) - TW	108	0.17	0.85
Turbidity, On-Line (NTU) - Filt1	8760	0.0	0.85
Turbidity, On-Line (NTU) - Filt2	8760	0.3	0.77
Turbidity, On-Line (NTU) - Filt3	8760	0.0	0.98
Free Chlorine Residual, On-Line (mg/L) - TW	8760	0.73	3.01
Free Chlorine Residual, In-House (mg/L) - TW	361	1.09	3.10
Free Chlorine Residual, TW Field (mg/L) Lab Upload - TW	60	1.09	2.70
Free Chlorine Residual, On-Line (mg/L) - DW	8760	0. 57	2.29
Free Chlorine Residual, DW Field (mg/L) Lab Upload - DW	218	0.21	2.03
Fluoride Residual, On-Line (mg/L) - TW	8760	0.36	0.99
Fluoride Residual, In-House (mg/L) - TW	108	0.44	1.15
Fluoride Residual, Lab Upload (mg/L) -TW	12	0.1	0.7

NOTE: spikes recorded by on-line instrumentation were a result of air bubbles and various maintenance/calibration activities. All spikes are reviewed for compliance with O.Reg 170/03

Laboratory Testing

Parameter	No. of Samples Collected	Range of Results (minimum- maximum)
Raw Water		
Alkalinity	12	54 - 135 mg/L
Colour	12	15 - 25 TCU
Dissolved Organic Carbon (DOC)	12	6.0 – 8.7 mg/L
Fluoride	12	0.1 mg/L
Iron	12	0.010 - 0.197 mg/L
Manganese	12	0.004 - 0.015 mg/L
pH	12	6.66 - 8.08
Treated Water		
Alkalinity	12	50 - 120 mg/L
Aluminum	12	70 - 360 ug/L
Colour	12	2 TCU
Conductivity	12	188 – 390 µS/cm
Dissolved Organic Carbon (DOC)	12	3.30 – 5.50 mg/L
Fluoride	12	0.1 – 0.7 mg/L
Iron	12	0.005 - 0.150 mg/L
Manganese	12	0.002 - 0.155 mg/L
pH	12	6.71 – 7.83
Hardness (as CaCO3)	12	64.2 – 144 mg/L as $CaCO_3$

Inorganic Parameters

These parameters are tested as a requirement under 170/03. Sodium and Fluoride are required to be tested every five (5) years, although Fluoride is monitored monthly as it is added to the process. Nitrate and Nitrite are tested quarterly and metals are tested annually. In the event any of the parameters exceed half of the maximum allowable concentration the parameter is required to be sampled quarterly

- MAC = Maximum Allowable Concentration as per O. Reg 169/03
- <MDL = Below the laboratory minimum detection level

Treated Water	Sample Date (yyyy/mm/dd)	Sample Result	MAC	No. of Exceedances	
				MAC	1/2 MAC
Inorganics					
Antimony: Sb (ug/L) - TW	2024/01/23	< MDL 0.1	6	No	No
Arsenic: As (ug/L) - TW	2024/01/23	< MDL 0.1	10	No	No
Barium: Ba (ug/L) - TW	2024/01/23	34	1000	No	No
Boron: B (ug/L) - TW	2024/01/23	6	5000	No	No
Cadmium: Cd (ug/L) - TW	2024/01/23	< MDL 0.015	5	No	No
Chromium: Cr (ug/L) - TW	2024/01/23	< MDL 1	50	No	No
Mercury: Hg (ug/L) - TW	2024/01/23	< MDL 0.02	1	No	No
Selenium: Se (ug/L) - TW	2024/01/23	< MDL 1	50	No	No
Uranium: U (ug/L) - TW	2024/01/23	< MDL 0.05	20	No	No
Additional Inorganics					
Nitrite (mg/L) - TW	2024/02/20	<MDL 0.05	1.0	No	No
Nitrite (mg/L) - TW	2024/05/21	<MDL 0.05	1.0	No	No

Treated Water	Sample Date (yyyy/mm/dd)	Sample Result	MAC	No. of Exceedances	
				MAC	1/2 MAC
Nitrite (mg/L) - TW	2024/08/20	<MDL 0.05	1.0	No	No
Nitrite (mg/L) - TW	2024/11/19	<MDL 0.05	1.0	No	No
Nitrate (mg/L) - TW	2024/02/20	0.19	10.0	No	No
Nitrate (mg/L) - TW	2024/05/21	0.13	10.0	No	No
Nitrate (mg/L) - TW	2024/08/20	0.05	10.0	No	No
Nitrate (mg/L) - TW	2024/11/19	< MDL 0.05	10.0	No	No
Sodium: Na (mg/L) - TW	2024/04/09	21.9	20*	Yes	Yes
Sodium: Na (mg/L) - TW	2024/04/12	15.9	20*	No	Yes

*There is no MAC for Sodium. The aesthetic objective for sodium in drinking water is 200 mg/L. The local Medical Officer of Health should be notified when the sodium concentration exceeds 20 mg/L so that this information may be communicated to local physicians for their use with patients on sodium restricted diets.

Schedule 15 Distribution Sampling:

Schedule 15 requires Lead Distribution samples be taken between December 15th to April 15th, and June 15th to October 15th every 3 years, with Alkalinity and pH taken yearly. The first set of lead samples for this period were collected in December 2023. The second set of samples were collected July 2024. Results are as follows:

	Number of Sampling Points	Number of Samples	Range of Results (mg/L)		MAC (ug/L)	Number of Exceedances
			Minimum	Maximum		
Alkalinity	3	3	73	84		
pH	3	3	7.19	7.28		
Lead	3	3	0.00005	0.00032	10	-

Organic Parameters

These parameters are tested annually as a requirement under O. Reg 170/03. In the event any of the parameters exceed half of the maximum allowable concentration the parameter is required to be sampled quarterly.

	Sample Date (yyyy/mm/dd)	Sample Result	MAC	Number of Exceedances	
				MAC	1/2 MAC
Treated Water					
1,1-Dichloroethylene (ug/L)	2024/01/23	< MDL 0.5	14	No	No
1,2-Dichlorobenzene (ug/L)	2024/01/23	< MDL 0.5	200	No	No
1,2-Dichloroethane (ug/L)	2024/01/23	< MDL 0.5	5	No	No
1,4-Dichlorobenzene (ug/L)	2024/01/23	< MDL 0.5	5	No	No
2,3,4,6-Tetrachlorophenol (ug/L)	2024/01/23	< MDL 0.2	100	No	No
2,4,6-Trichlorophenol (ug/L)	2024/01/23	< MDL 0.2	5	No	No
2,4-Dichlorophenol (ug/L)	2024/01/23	< MDL 0.2	900	No	No
2,4-Dichlorophenoxy acetic acid (2,4-D) (ug/L)	2024/01/23	< MDL 1	100	No	No
2-methyl-4-chlorophenoxyacetic acid (MCPA) (ug/L)	2024/01/23	< MDL 10	100	No	No

	Sample Date (yyyy/mm/dd)	Sample Result	MAC	Number of Exceedances	
				MAC	1/2 MAC
Alachlor (ug/L)	2024/01/23	< MDL 0.3	5	No	No
Atrazine + N-dealkylated metabolites (ug/L)	2024/01/23	< MDL 0.5	5	No	No
Azinphos-methyl (ug/L)	2024/01/23	< MDL 1	20	No	No
Benzene (ug/L)	2024/01/23	< MDL 0.5	1	No	No
Benzo(a)pyrene (ug/L)	2024/01/23	< MDL 0.006	0.01	No	No
Bromoxynil (ug/L)	2024/01/23	< MDL 0.5	5	No	No
Carbaryl (ug/L)	2024/01/23	< MDL 3	90	No	No
Carbofuran (ug/L)	2024/01/23	< MDL 1	90	No	No
Carbon Tetrachloride (ug/L)	2024/01/23	< MDL 0.2	2	No	No
Chlorpyrifos (ug/L)	2024/01/23	< MDL 0.5	90	No	No
Diazinon (ug/L)	2024/01/23	< MDL 1	20	No	No
Dicamba (ug/L)	2024/01/23	< MDL 1	120	No	No
Dichloromethane (Methylene Chloride) (ug/L)	2024/01/23	< MDL 5	50	No	No
Diclofop-methyl (ug/L	2024/01/23	< MDL 0.9	9	No	No
Dimethoate (ug/L)	2024/01/23	< MDL 1	20	No	No
Diquat (ug/L)	2024/01/23	< MDL 5	70	No	No
Diuron (ug/L)	2024/01/23	< MDL 5	150	No	No
Glyphosate (ug/L)	2024/01/23	< MDL 25	280	No	No
Malathion (ug/L)	2024/01/23	< MDL 5	190	No	No
Metolachlor (ug/L)	2024/01/23	< MDL 3	50	No	No
Metribuzin (ug/L)	2024/01/23	< MDL 3	80	No	No
Monochlorobenzene (Chlorobenzene) (ug/L)	2024/01/23	< MDL 0.5	80	No	No
Paraquat (ug/L)	2024/01/23	< MDL 1	10	No	No
PCB (ug/L)	2024/01/23	< MDL 0.05	3	No	No
Pentachlorophenol (ug/L)	2024/01/23	< MDL 0.2	60	No	No
Phorate (ug/L)	2024/01/23	< MDL 0.3	2	No	No
Picloram (ug/L)	2024/01/23	< MDL 5	190	No	No
Prometryne (ug/L)	2024/01/23	< MDL 0.1	1	No	No
Simazine (ug/L)	2024/01/23	< MDL 0.5	10	No	No
Terbufos (ug/L)	2024/01/23	< MDL 0.5	1	No	No
Tetrachloroethylene (ug/L)	2024/01/23	< MDL 0.5	10	No	No
Triallate (ug/L)	2024/01/23	< MDL 10	230	No	No
Trichloroethylene (ug/L)	2024/01/23	< MDL 0.5	5	No	No
Trifluralin (ug/L)	2024/01/23	< MDL 0.5	45	No	No
Vinyl Chloride (ug/L)	2024/01/23	< MDL 0.2	1	No	No
Distribution Water					
Trihalomethane: Total (ug/L) RAA	2024	122	100.00	Yes	Yes
Haloacetic Acid: HAA (ug/L) RAA	2024	78.85	80.0	No	Yes

MAC = Maximum Allowable Concentration as per O.Reg 169/03
<MDL = Below the laboratory minimum detection level
RAA = Running Annual Average

Additional Legislated Samples

Hazardous Algae Bloom (HAB) Sampling

Schedule C: System-Specific Conditions of Municipal Drinking Water License #183-101 requires the Renfrew Drinking Water System to have a Harmful Algal Bloom (HAB) plan. The HAB plan is implemented when the source water has a history of blooms or a potential harmful algal bloom is suspected or present. The HAB plan requires Raw and Treated water be sampled on a weekly basis for Microcystin during the Harmful Algal Bloom season, which occurs from June 1st to October 31st of each year. HAB sampling did not occur in 2024, as there were no present or suspected HABs in the Bonnechere River.

	No. of Samples Collected	Range of Results	
		Minimum	Maximum
Microcystin (ug/L) - RW	0	N/A	N/A
Microcystin (ug/L) - TW	0	N/A	N/A

<MDL = Below the laboratory minimum detection level

Filter Backwash Effluent

Schedule C: System-Specific Conditions of Municipal Drinking Water License #183-101 requires the Renfrew Drinking Water System to monitor effluent discharged to the natural environment.

Legal Document	Date of Issuance	Parameter	Date Sampled	Result	Unit of measure	Limit
Municipal Drinking Water License 183-101, Issue #3	03/30/2021	Actiflo Suspended Solids	Annual Avg.	10.08	mg/L	25.0
		Backwash Supernatant Suspended Solids	Annual Avg.	5.83	mg/L	25.0
		Actiflo Suspended Total Chlorine	Annual Avg.	0.00	mg/L	0.02
		Backwash Supernatant Total Chlorine	Annual Avg.	0.01	mg/L	0.02

Major Maintenance Summary

WO #	Description
3763050	Annual Tower Inspection
3765265	Chlorine Gas Detector Transmitter Replacement
3765281	Large UPS Replacements for PLC Panels
3765294	Small UPS Replacements for Outpost Panels
3806105	Filter 3 Valve Actuator Refurbish

WO #	Description
3806106	Chlorine Gas System Annual Service
3806111	Fluoride Pump Critical Spare
3806271	Turbidity Analyzer Verification Kit Recertification
3806828	Raw Water Tank Sludge Pump Replacement
3851247	Boiler PRV Replacement
3900103	Actiflo Recirculation Pump Rebuild
3902281	Annual Boiler Recirculation Pump Service
3948234	Plant Air handling Unit Motor Replacement
3949155	Fluoride Transfer Pump Replacement
3950682	Low Lift SCADA Communication Programming Repair
3951565	Lunchroom Air Conditioning Unit Repair
3952758	Treated and Pre Clearwell pH Probe Replacements
3952851	Raw Water pH Probe Replacement
3997345	Low Lift Pump #3 12" Discharge Valve Replacement
3997353	Polymer Area Backflow Preventer Replacement
4000501	Annual Boiler and Hot Water Tank Service
4001891	SCADA Tower Level Communication Programming Repair
4046338	Annual Flow Meter Calibrations
4046344	Low Lift Priming PRV Installed
4046346	Light Fixture Ballast Replacements
4046668	Backwash Tank 2 Supernatant Pump Electrical Repair
4046670	Annual Online and Handheld Analyzer Service, Calibration and Verification
4048530	Lime Auger Motor Rebuild
4049751	Lime Auger Motor Electrical Disconnect/reconnect
4050716	Filter 2 Actuator Communication Line and Program Repair
4092139	Generator Transfer Switch Controller Replacement
4094038	Replacement Contact Blocks For Generator Transfer Switch
4145623	Annual External Audit
4145911	Generator Auto Start Control Relays Replaced

Distribution Maintenance

Date	Location Reference	Category	Details
01/06/2024	Cross Avenue at Lochiel St.	1	6” Cast iron watermain circumferential break, repair sleeve installed. Air gap maintained, all parts disinfected with 12% Sodium Hypochlorite. Flushed post repair.
03/13/2024	452 Aberdeen at McAndrew	1	Circumferential break on 4” cast main, repair band installed. Air gap maintained, all parts disinfected with 12% Sodium Hypochlorite. Repair completed live.
04/10/2024	479 O’Brien Road	1	10” transite break, repair sleeve installed. Air gap maintained, all parts disinfected with 12% Sodium Hypochlorite. Flushed post repair.
04/11/2024	376 O’Brien Road	1	10” Valve break, replaced with new valve. Air gap maintained, all parts disinfected with 12% Sodium Hypochlorite. Flushed post repair
05/01/2024	Entire System	N/A	Seasonal flushing program started. 4 Week rotation until November.
05/20/2024	180 Airth Blvd.	1	8” to 6” transite reducer installed. Air gap maintained, all parts disinfected with 12% Sodium Hypochlorite. Flushed post repair.
07/25/2024	41 Mat-e-way Drive	1	Blow out on 8”ductile main, 4’ of pipe replaced. Air gap maintained, all parts disinfected with 12% Sodium Hypochlorite. Flushed post repair
08/04/2024	41-38 Mat-e-way Drive	1	Blow out on 8” ductile main, repair clamp installed. Air gap maintained, all parts disinfected with 12% Sodium Hypochlorite. Flushed post repair
08/15/2024	Argyle at Munroe Street	1	Longitudinal split in 10” ductile watermain, 10’ of pipe replaced. Air gap maintained, all parts disinfected with 12% Sodium Hypochlorite. Flushed post repair.
08/26/2024	Veterans Blvd.	N/A	New Hydrant installed
11/07/2024	Dead End of William St.	N/A	Hydrant repaired
11/15/2024	Entire System	N/A	Seasonal Flushing program completed
12/16/2024	183 Bonnechere St. South	N/A	Service line repair.

Appendix A

WTRS Data and Submission Confirmation

Certify Submission

Permit/EASR Registration Number:
P-300-9214586220

Permit Holder/Registrant Name:
CORPORATION OF THE TOWN OF RENFREW

All days with no data entered are considered as days when no water was taken.

I agree that days with no data entered are days when no water was taken.

Cancel

I, the undersigned, hereby declare that the information provided in this Report is complete and accurate.

First Name
Lauren

Last Name
Lacombe

Company Name
Ontario Clean Water Agency

Date
11/02/2025

Reporting Year
2024

Your data has been successfully submitted

RENFREW DRINKING WATER SYSTEM / Raw Water Yearly Summary (Flow) 2024

Annual Values and Summary **Units:** cubic meter per day

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	4654.20	5257.12	4663.92	3048.13	3501.57	4276.14	4122.13	5615.78	3350.49	5608.09	4780.28	3868.08
2	3128.41	2700.10	3442.87	3892.06	3645.19	5353.14	5406.77	3970.11	4208.93	4529.85	2380.64	3997.60
3	4032.73	4925.29	4247.21	4643.81	2787.17	4083.40	4136.14	4803.87	4175.47	4674.92	4133.30	3311.30
4	4318.80	3579.20	4768.30	2687.59	4458.81	5599.32	5063.40	5167.06	5866.21	3856.15	3317.54	3676.65
5	4219.16	3892.45	3916.89	4263.55	2820.46	4307.93	4951.31	4210.16	5405.45	4456.94	2931.69	3783.76
6	3588.47	4800.58	5388.41	4662.96	4522.44	3779.93	3137.23	4854.29	3416.00	4368.25	4672.97	3824.49
7	5039.51	2853.19	5943.58	4034.24	4200.56	3680.86	4547.82	3421.38	4432.36	3157.51	3255.22	3760.90
8	2620.73	4734.98	4172.62	3462.07	3003.36	4380.42	4680.94	6233.59	2902.47	5277.83	2699.04	3782.59
9	4707.29	3760.47	4855.33	4251.89	3141.08	4158.59	4193.09	3402.51	4749.85	4880.85	4339.70	3395.90
10	4420.46	4754.94	4929.23	4930.52	4145.15	4350.76	4803.87	4849.20	4035.16	3702.94	2717.94	3865.37
11	2879.34	3215.90	5386.02	5923.18	4744.46	3768.84	4647.35	3145.55	4888.66	5070.09	4069.73	2912.95
12	4693.21	4519.17	4214.92	3927.88	2825.87	3509.80	5042.38	5843.82	3170.57	2989.46	3278.92	2845.70
13	3759.52	4278.51	4247.03	5043.94	4041.36	5313.83	3775.02	5754.37	4871.92	4958.65	4530.58	2948.61
14	3885.05	4345.32	4562.96	3021.47	4786.92	2856.28	4407.80	4612.01	3023.34	3070.53	2649.68	4341.73
15	4843.22	3298.27	3555.37	3791.04	2663.45	4952.39	4560.12	5290.85	5039.41	4896.98	3176.99	2450.22
16	3308.12	4237.62	4664.76	4532.02	5378.64	3007.92	5727.13	5763.16	3237.69	4280.24	4172.27	3393.14
17	4059.53	3739.77	3880.52	3444.24	2596.80	5922.61	4336.25	2762.17	5506.11	5123.21	3336.79	3616.92
18	4986.56	4669.78	3503.85	3749.95	4651.04	3725.71	4623.82	4992.25	4148.07	3734.88	4024.44	3330.47
19	2988.98	3296.86	3816.56	3369.02	4172.89	6006.60	4857.91	3401.31	4859.96	4930.25	3508.97	3667.72
20	4637.22	4289.92	4377.87	3876.05	7526.68	3151.02	4246.05	5685.46	3292.13	3239.10	3363.44	2293.45
21	3467.84	4468.22	4654.41	3476.97	3318.63	6430.93	4353.74	5479.77	4219.34	4271.13	3704.03	3720.25
22	4359.17	3270.47	3684.42	3978.65	4201.49	4643.61	4791.00	3308.19	4786.88	5857.17	4033.31	3632.50
23	4531.09	3591.09	4194.62	4106.42	4566.65	3782.46	5960.45	5294.62	3752.08	3543.69	2557.06	3481.64
24	4640.75	4898.62	4300.14	3797.51	3773.98	4017.31	4199.12	3083.10	5899.65	3657.24	4820.10	2721.64
25	4021.61	4320.41	3775.50	3862.87	4098.12	4253.71	5248.93	5233.89	3679.43	3223.45	3175.33	3977.03
26	3281.12	3306.35	3805.43	3622.19	4188.76	5827.69	4991.14	3821.11	5775.80	4285.32	3298.04	3081.77
27	4791.23	4950.14	4352.68	3912.22	4252.00	3771.00	2791.18	5622.51	3944.24	2754.82	3618.28	2442.71
28	4036.40	3509.44	3611.47	3724.10	3048.82	3471.87	5302.80	5609.73	4228.60	4419.88	3869.52	4975.52
29	4198.48	4265.04	3716.45	3659.46	5430.98	4292.25	4508.68	4289.70	4668.64	3612.57	2967.04	2440.60
30	4129.67		3510.15	3390.70	3716.27	4301.06	6223.66	3590.68	3561.16	4353.64	3984.18	4348.58
31	3758.13		4100.85		4290.90		2975.73	3719.60		2483.44		4481.83
Min	2620.73	2700.10	3442.87	2687.59	2596.80	2856.28	2791.18	2762.17	2902.47	2483.44	2380.64	2293.45
Mean	4064.06	4059.63	4265.95	3936.22	4016.15	4365.91	4600.42	4607.48	4303.20	4169.97	3578.90	3495.86
Max	5039.51	5257.12	5943.58	5923.18	7526.68	6430.93	6223.66	6233.59	5899.65	5857.17	4820.10	4975.52

Legend: **'---' Missing Data**
'+' No Day