



**GLEN WALTER WATER TREATMENT
Annual Report 2021**

(as per O. Reg. 170/03 – Section 11)

and

2021 Summary Report for Municipalities

(as per O. Reg. 170/03 – Schedule 22)

Reporting Period of January 1st – December 31st, 2021

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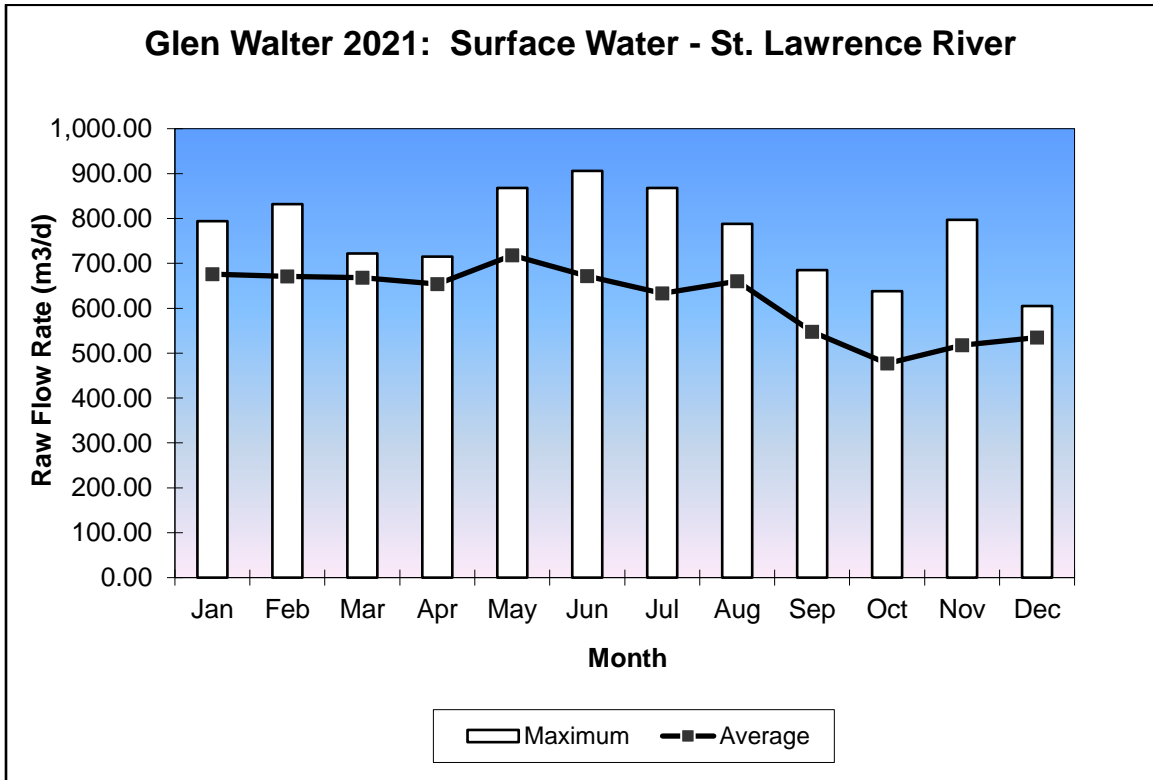
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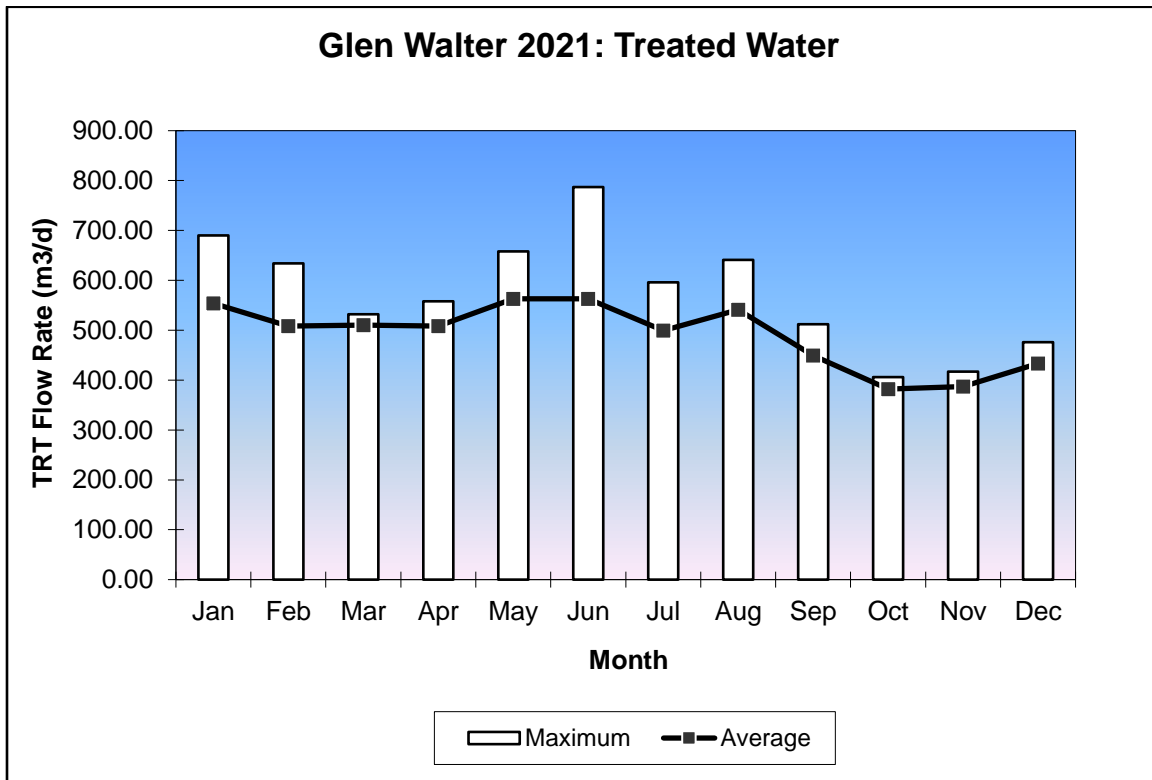


Permit To Take Water (3285-9TMQM2)

Max Allowable Raw Water Flow: 995m³/d

Year Max: 906 m³/day

Comparison of Daily Average and Maximum Treated Daily Flows for 2021



Municipal Drinking Water License Rated Capacity (185-102)

Rated Capacity: 995m³/d

Year Max flow: 787m³/d

The Corporation of the Township of South Glengarry Glen Walter Water Treatment Plant 2021 Annual Performance Report

Reporting

A written report is prepared annually. This report is available for viewing at the Township Of South Glengarry Municipal office, 6 Oak Street Lancaster or at the Glen Walter Water Treatment Plant located at 18352 County Road 2 in Glen Walter. A copy of the report is also available on the Townships web site. A copy of the report is available free of charge to any resident requesting a copy. For more information on your Municipal water supply contact the Township Of South Glengarry Water/Wastewater Division at 613-931-3036 or fax 613-931-3340.

The Township of South Glengarry commitment policy is to: Provide a safe and reliable supply of drinking water to all its customers, meet or exceed the requirements of all legislation and regulations applicable to drinking water and maintain and continually improve its quality management system.

Overview

The Township Of South Glengarry Glen Walter Water Treatment Plant is located approximately two kilometers east of Cornwall along County Road 2. The water plant is a surface water treatment facility serving the community of Glen Walter. The water treatment plant has a rated capacity of 995 cubic meters of water per day for a design population of 1,080 people.

The Township Of South Glengarry utilizes the following accredited laboratory to ensure safe and potable water to meet or exceed Ministry standards. Caduceon Laboratory Ottawa. We are also a participant in the Ministry Drinking Water Surveillance Program.

The Township Of South Glengarry Operators are all certified under the Ministry of Environment regulation 128/04 for Utility Operators Licensing Program.

The Township Of South Glengarry water system uses sodium hypochlorite chlorine for disinfection and Aluminum Sulphate for a coagulant.

Equipment

Raw water is consumed through a 300 millimeter intake pipe and intake crib approximately 390 meters off shore into the St. Lawrence River at a depth of approximately 12 meters. The water plant consists of two low lift pumps rated at 11.52 litres per second, one flocculation tank, two rapid sand filters, two carbon contactors, three compartment clear well reservoir, two high lift pumps rated at 16.44 litres per second and one backwash pump together with all associated piping, electrical and mechanical equipment, control and alarm systems all housed in a common building.

Process

Raw water is pumped from the low lift pumping chamber, which is pre-chlorinated. A liquid coagulant is introduced into an in line flash mixer, then flows under pressure into a flocculation tank. When the coagulation flocculation process is complete the water flows through rapid sand filters in parallel, then through the carbon contactor series, which removes any taste and odour in the drinking water. Chlorine is added after the carbon contactors for post disinfection. The chlorinated (potable) water enters the three compartment storage reservoir, which is pumped to the distribution via high lift pumps. To allow for safe and potable water sampling and testing to be completed on a regular basis.

Distribution

The distribution system is comprised of varying sized water pipes, valves, and fire hydrants all supplied from the two high lift pumps situated at the Glen Walter Water Plant. Fire flow cannot be utilized within the Glen Walter system.

Upgrades

Distribution Chlorine analyzer was connected to SCADA system through the upgrade on the Bray Street Pumping Station.

No upgrades at the plant were noted for the reporting year.

Operational Issues

Blocked water intake, during the winter season of 2021, the water intake was observed to be blocked for approximately 4 hours.

Incident Date: February 17th, 2021

Divers were hired to camera/ inspect and clean the line; no blockages were noted from the inspection. Both intake structure and low lift pump revisor cleaned.

Intake continues to work as designed.

Completion Date: May 11th, 2021

Major Maintenance

Month	Details
Jan.	New solenoids installed on low lift 1
Mar.	New LED lights generator room
May.	Dive inspection/cleaning
May.	Generator maintenance/tests
Jun.	Analytical calibrations
Jun.	Hydrant flushing
Jun.	Filter media addition
Sep.	ISI on site for Scada upgrades for turbidity requirements
Oct.	Flow meter calibrations
Oct.	Low lift 2 out for rebuild
Oct.	Generator over heating/ new water valves installed
Oct.	Winterize hydrants
Dec.	Generator maintenance/load test
Dec.	High lift 4 repaired/new solenoid and gaskets installed

Ontario Drinking Water License #185-102

The Township of South Glengarry Water Treatment Department operated the Glen Walter Water Treatment Plant for the year 2021.

Adverse Water Quality Incidents

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

Non-Compliance

During the reporting year, there was 2 non-compliance in regard to a regulatory requirement.

Incident Date: November 17th, 2021

Parameter: Low Pressure

Result: <20 psi

Corrective Action: Return pressure back to normal range, preventative boil water was issued until water samples could be tested.

Corrective Action Date: November 19th, 2021

Incident Date: December 17th, 2021

Parameter: Low Pressure

Result: <20 psi

Corrective Action: Return pressure back to normal range, no additional requirements

Non-Compliance Ministry Inspection

During the year 2021 non-compliance from a ministry inspection was noted within the Glen Walter Drinking Water System.

Legislation:

- Performance Criterion for Filtered Water Turbidity less than 0.3 NTU in 95% of measurements each month

Updates to SCADA to calculate filtered water turbidity was programmed to calculate the Filtered water turbidity on daily basis and monthly readings to comply with O. Reg 170/03

Status: Completed

Legislation:

- Failure to meet recording frequency due to data loss on Scada

Procedure created to meet minimum sampling, testing and recoding frequencies

Status: Completed

Legislation: O. Reg. 170/03

- Continuous monitoring equipment was not recording data with a prescribed format

Updates to the SCADA to record measurements with the prescribed format in the historian were completed to comply with O. Reg 170/03

Status: Completed

Legislation: O. Reg. 170/03

- Required Trends and Scaling

Updates to the SCADA included addition of filter run time trends and adjustments to the turbidity scaling.

Status: Completed

Legislation: SDWA

- Harmful algal bloom monitoring plan not in place

Harmful algal bloom plan posted, and training provided to comply with O. Reg 170/03

Status: Completed

Legislation: DWWP

- Form 1 Documents

Training Provided to confirm all Form 1 requirements are met prior to a watermain addition, modification or extension being placed into service.

Status: Completed

Statistics for Flow and Chemicals 2021

A total of 226,105m³ of raw water had been treated for the year 2021 with a monthly average of 619m³ per day and a maximum flow of 906m³/day for the year. Maximum flow is equivalent to 91% plant capacity.

The Glen Walter Water Treatment Plant uses sodium hypochlorite for disinfection. A total of 592.2kg of sodium hypochlorite had been utilized for the year at an average dosage rate of 2.6mg/litre.

The Glen Walter Water Treatment Plant also uses aluminum sulphate as a coagulant in the treatment process. A total of 2.78m³ of aluminum sulphate was used.

Attached is the data spread sheet, which identifies flows, laboratory results, number of samples taken and chemical use on a monthly basis.

Inorganic Parameters

GLEN WALTER WATER TREATMENT PLANT

INORGANIC PARAMETERS

PARAMETER	SAMPLE DATE	RESULT VALUE	MAC	UNIT OF MEASURE	EXCEEDANCE
ANTIMONY	Jan-04-21	0.0001	0.006	mg/L	No
ARSENIC	Jan-04-21	0.0003	0.025	mg/L	No
BARIUM	Jan-04-21	0.0170	1.0	mg/L	No
BORON	Jan-04-21	0.0220	5.0	mg/L	No
CADMIUM	Jan-04-21	0.000015	0.005	mg/L	No
CHROMIUM	Jan-04-21	0.0020	0.050	mg/L	No
LEAD	Year 2020	0.6400	10.0	ug/L	No
MERCURY	Jan-04-21	0.00002	0.001	mg/L	No
SELENIUM	Jan-04-21	0.0010	0.010	mg/L	No
SODIUM	Aug-8-17	19.20	200.0	mg/L	No
URANIUM	Jan-04-21	0.00019	0.020	mg/L	No
FLUORIDE	Aug-8-17	0.1000	1.5	mg/L	No
NITRITE	Year 2021	0.1500	1.0	mg/L	No
NITRATE	Year 2021	0.1750	10.0	mg/L	No

Eastern Ontario Health Unit MAC

Sodium	Aug-8-17	19.2	20	mg/L	No
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Organic Parameters

GLEN WALTER WATER TREATMENT PLANT					
ORGANIC PARAMETERS					
PARAMETER	SAMPLE DATE	RESULT VALUE	MAC	UNIT OF MEASURE	EXCEEDANCE
ALACHLOR	Jan-04-21	0.3	5	ug/L	No
ATRAZINE + N-DEALKYLATED METOBOLITES	Jan-04-21	0.5	5	ug/L	No
AZINPHOS-METHYL	Jan-04-21	1	20	ug/L	No
BENZO(A)PYRENE	Jan-04-21	0.006	0.01	ug/L	No
BENZENE	Jan-04-21	0.5	5	ug/L	No
BROMOXNYL	Jan-04-21	0.5	5	ug/L	No
CARBON TETRACHLORIDE	Jan-04-21	0.2	5	ug/L	No
CARBARYL	Jan-04-21	3	90	ug/L	No
CARBOFURAN	Jan-04-21	1	90	ug/L	No
CHLORPYRIFOS	Jan-04-21	0.5	90	ug/L	No
1,2-DICHLOROBENZENE	Jan-04-21	0.5	200	ug/L	No
1,4-DICHLOROBENZENE	Jan-04-21	0.5	5	ug/L	No
1,2-DICHLOROETHANE	Jan-04-21	0.5	5	ug/L	No
1,1-DICHOEOETHENE	Jan-04-21	0.5	1.4	ug/L	No
DICHLOROMETHANE	Jan-04-21	5	50	ug/L	No
DIAZINON	Jan-04-21	1	20	ug/L	No
DICAMBA	Jan-04-21	10	120	ug/L	No
2-4 DICHLOROPHENOL	Jan-04-21	0.2	900	ug/L	No
2,4-DICHLOROPHOXY ACETIC ACID(2,4-D)	Jan-04-21	10	100	ug/L	No
DICLOFOP-METHYL	Jan-04-21	0.9	9	ug/L	No
DIMETHOATE	Jan-04-21	1	20	ug/L	No
DIQUAT	Jan-04-21	5	70	ug/L	No
DIURON	Jan-04-21	5	150	ug/L	No
GLYPHOSATE	Jan-04-21	25	280	ug/L	No
MONOCHLOROBENZENE	Jan-04-21	0.5	80	ug/L	No
MALATHION	Jan-04-21	5	190	ug/L	No
METOLACHLOR	Jan-04-21	3	50	ug/L	No
METRIBUZIN	Jan-04-21	3	80	ug/L	No
PARAQUAT	Jan-04-21	1	10	ug/L	No
PENTACHLOROPHENOL	Jan-04-21	0.2	60	ug/L	No
PHORATE	Jan-04-21	0.3	2	ug/L	No
PICLORAM	Jan-04-21	15	190	ug/L	No
POLYCHLORINATED BIPHENYLS(PCB)	Jan-04-21	0.05	3	ug/L	No
PROMETRYNE	Jan-04-21	0.1	1	ug/L	No
SIMAZINE	Jan-04-21	0.5	10	ug/L	No
TETRACHLOROETHYLENE	Jan-04-21	0.5	30	ug/L	No
TRICHLOROETHYLENE	Jan-04-21	0.5	5	ug/L	No
TERBUFOS	Jan-04-21	0.5	1	ug/L	No
2,3,4,6-TETRACHOLOPHENOL	Jan-04-21	0.2	5	ug/L	No
TRIALATE	Jan-04-21	10	230	ug/L	No
2,4,6-TRICHLOROPHENOL	Jan-04-21	0.2	5	ug/L	No
TRIFLURALIN	Jan-04-21	0.5	45	ug/L	No
Vinyl Chloride	Jan-04-21	0.2	2	ug/L	No
THM (NOTE: SHOW LATEST ANNUAL AVERAGE)	Year 2021	39.7	100	ug/L	No
MCPA	Year 2021	10	100	ug/L	No
HAA	Year 2021	15.2	80	ug/L	No