



**REDWOOD 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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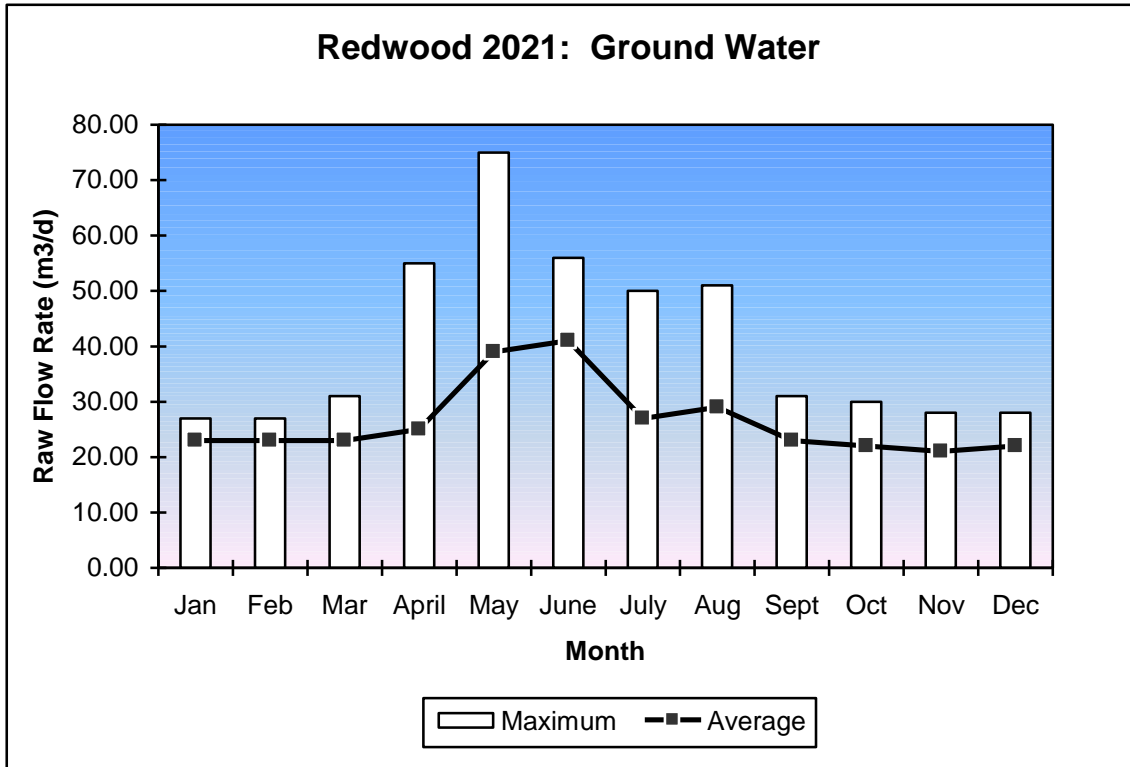
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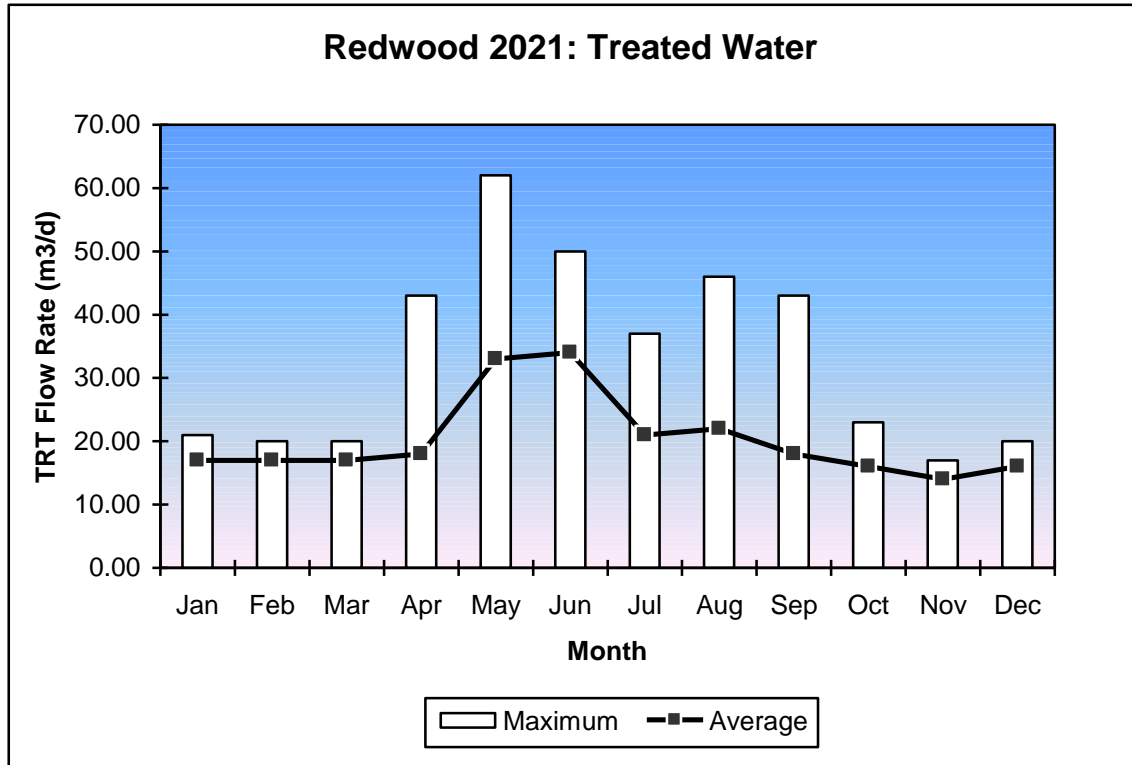


Permit To Take Water (8854-9GQQNL)

Max Allowable Raw Water Flow: 151.2m³/d

Year Max: 75m³/day

Comparison of Daily Average and Maximum Treated Daily Flows for 2021



Municipal Drinking Water License Rated Capacity (185-103)

Rated Capacity: 151.2m³/d

Year Max flow: 62m³/d

The Corporation of the Township of South Glengarry Redwood Estates 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, Redwood Estates Water Treatment Facility is located approximately 5 kilometers east of the Village of Lancaster. The water treatment plant is a ground water system serving the Redwood Estates subdivision. The water treatment plant has a rated capacity of 151 cubic meters per day for a design population of 140 people.

The Township Of South Glengarry utilizes the following accredited laboratories to ensure safe and potable water to meet or exceed Ministry standards. Caduceon Laboratory Ottawa.

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

The Township Of South Glengarry, Redwood water system uses Sodium Hypochlorite for disinfection.

Equipment

Raw water is drawn from a single well located within the pump house with a submersible pump capable of delivering 118 liters per minute. The water treatment plant consists of two Manganese greensand pressure filters, two hydro pneumatic tanks, two high lift pumps, one booster and one backwash pump. All pumps have a rated capacity of 303 liters per minute together with all associated piping, electrical equipment, controls and alarm systems all housed in a common building.

Process

Raw water is drawn from the single well where Sodium Hypochlorite is introduced, and flash mixed for disinfection. Following the disinfection period water then flows through the Greensand filters removing all other impurities. Water then flows to a 25 cubic meter underground storage reservoir to be pumped to the distribution system.

Distribution

The distribution system is comprised of one sized water pipe, valves, and two sample hydrants all supplied from the two high lift pumps that fill two hydro pneumatic tanks situated at the Redwood Water Plant. Fire flow cannot be supplied.

Upgrades

Addition of De-chlorination pucks to the backwash final effluent to meet the requirements under Schedule C of the municipal drinking water license. Director notification provided Nov 10, 2021.

Operational Issues

During the year 2021, the final effluent for backwash did not meet the Maximum discharge limit of 0.02mg/L.

Notification to the ministry was submitted on January 24th, 2022

Major Maintenance

Month	Details
May.	Generator maintenance/tests
Jun.	Analytical calibrations
Jun.	Hydrant flushing
Sep.	Re-build sodium Hypochlorite system (Pipework and Pump)
Oct.	Flow meter calibrations
Nov.	Addition of holding tank for de-chlorination pucks
Dec.	Generator maintenance/load test

Ontario Drinking Water License# 185-103

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

Adverse Water Quality Incidents

There was 1 adverse water quality incident reported during the reporting period.

Incident Date: January 7th, 2021

Parameter: High Sodium

Result: 254mg/L

Corrective Action: Re-Sample and Re-Test

Notices for High Sodium prepared and delivered to residents (Hand Delivered)

Corrective Action Date: January 11th, 2021

Non-Compliance

During the reporting year, there was 1 non-compliance in regard to the Municipal Drinking Water License

Under Schedule C: System-specific Conditions – Residuals Management. The max allowable annual concentration for chlorine is 0.02ppm.

Result: 0.80ppm

Reported: January 24th, 2022

Corrective Action: Addition of De-chlorination pucks to the backwash tank.

Non-Compliance Ministry Inspection

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

Legislation: SDWA

- Backwash sampling, testing and monitoring

Sample schedule updated to meet the requirements of the MDWL

Status: Completed

Legislation: O. Reg. 170/03

- Lead Sampling not met

Updated sampling schedule includes all requirements for lead sampling required for the Redwood Estates Drinking Water System. Training has been provided for all sampling.

Status: Completed

Statistics for Flow and Chemicals 2021

A total of 9,845 cubic meters of water had been treated for the year 2021 with a monthly average of 27m³ per day and a maximum flow of 75m³ /day for the year. Maximum flow is equivalent to 50% of the plant capacity.

The Redwood Estates Water Treatment Plant uses Sodium Hypochlorite for disinfection. A total of 72.2 kg of chlorine had been utilized for the year at an average of 7.3mg/liter.

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

REDWOOD WATER TREATMENT PLANT					
INORGANIC PARAMETERS					
PARAMETER	SAMPLE DATE	RESULT VALUE	MAC	UNIT OF MEASURE	EXCEEDANCE
<i>Antimony</i>	Jan-04-21	0.0001	0.006	mg/L	No
<i>Arsenic</i>	Jan-04-21	0.0001	0.025	mg/L	No
<i>Barium</i>	Jan-04-21	0.2740	1	mg/L	No
<i>Boron</i>	Jan-04-21	0.1820	5	mg/L	No
<i>Cadmium</i>	Jan-04-21	0.000015	0.005	mg/L	No
<i>Chromium</i>	Jan-04-21	0.0020	0.05	mg/L	No
<i>Lead</i>	Year 2014	0.9450	10	ug/L	No
<i>Mercury</i>	Jan-04-21	0.00002	0.001	mg/L	No
<i>Selenium</i>	Jan-04-21	0.0010	0.01	mg/L	No
<i>Sodium</i>	Jan-04-21	254	200	mg/L	Yes
<i>Uranium</i>	Jan-04-21	0.00006	0.02	mg/L	No
<i>Fluoride</i>	Apr-06-21	0.10	1.5	mg/L	No
<i>Nitrite</i>	Year 2021	0.10	1	mg/L	No
<i>Nitrate</i>	Year 2021	0.10	10	mg/L	No
Eastern Ontario Health Unit MAC					
Sodium	Jan-04-21	254	20	mg/L	Yes

Inorganic Parameters

REDWOOD 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
BROMOXYNIL	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-DICHOROETHENE	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	18.5	100	ug/L	No
MCPA	Year 2021	10	100	ug/L	No
HAA	Year 2021	6.4	80	ug/L	No

Organic Parameters