



2022
Annual Wastewater Report
Glen Walter Sewage Treatment
Version 2.0

Prepared by:



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Date

Approved by:



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Date

Table of Contents

1. Description of the Works	3
2. Effluent Objectives	5
3. Effluent Limits	5
4. Monitoring And Recording	6
5. Laboratory	6
6. 2022 Annual Effluent Quality	6
7. Inventory	7
8. Maintenance	7
9. Operational Issues	7
10. Biosolid (Sludge) Summary	7
11. Complaints	7
12. By-Pass Report(s)	8
13. Reports	8

Revision History

Date	Description	Revision	Author
February 6, 2023	Initial Issue for Council Receipt	1.0	D. Seguin
February 14, 2023	Final for Approval	2.0	D. Seguin

Glen Walter Sewage Treatment Plant

In accordance with the Amended Certificate of Approval, Number 3-0464-84-889, Notice 3 issue date March 23, 2015, the Water Pollution Control Plant (WPCP) is required to prepare an annual performance report. This document covers the reporting year January 01 to December 31, 2022; the facility performance report summarizes important information regarding the quality of the effluent wastewater, analytical test results, maintenance operations, and relevant activities of the WPCP.

1. Description of the Works

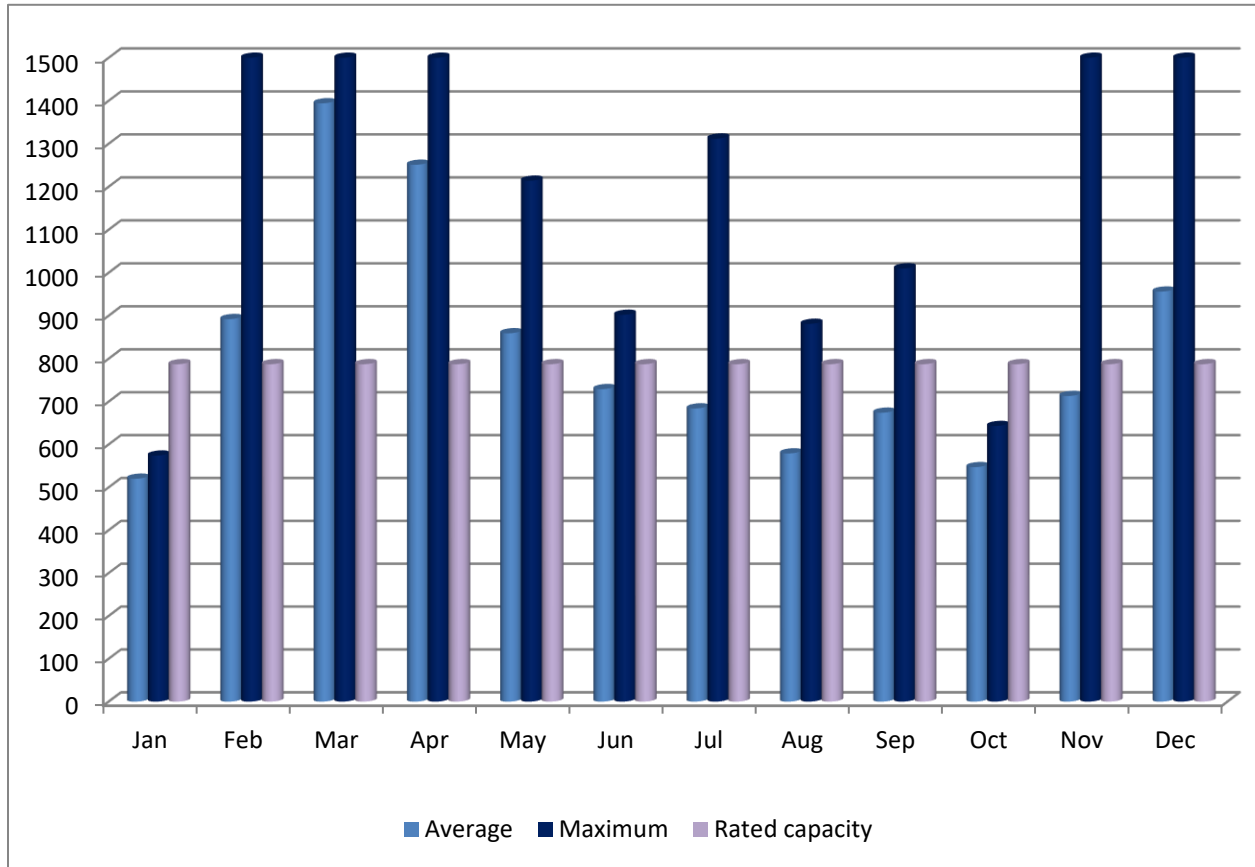
Capacity of Works	787 m ³ /day (average daily flow)
Service Area	Purcell subdivision, South Glengarry
Service Population	Approximately 875
Effluent Receiver	St. Lawrence River
Major Process	Secondary aeration treatment facility complete with a phosphorus removal system; ultra violet disinfection

The Glen Walter WPCP received and operates its operation under *Certificates of Approval (now referred to as Environmental Compliance Approval [ECA])* Number 3-0464-84-889, original, Notice #1 and Notice #2 and Notice #3 documents, in accordance with Section 53 of the Ontario Water Resources Act. The Certificate of Approval outlines the terms and conditions, and, the report captures these terms and conditions in the following sections. Rated Capacity

For the purposes of the ECA and the terms and conditions specified, the following definition applies: “*Rated Capacity*” means the *Average Daily Flow* for which the *Works* are approved to handle.

The rated capacity of the Glen Walter WPCP is 787 cubic meters per day (m³/day); that is raw influent (flow) into the plant for treatment. During the reporting year 2022, the Glen Walter WPCP exceeded the rated capacity of 787 m³/day, One hundred-forty-nine (141) days.

Monthly Average and Maximum Daily Flows for 2022 (Rated capacity 787 m³/day)



2. Effluent Objectives

The owner and/or operating authority shall use *best efforts* to design, construct and operate the *Works* with the objective that the concentrations and loadings of the materials named below (Table 1) as effluent parameters are not exceeded in the effluent from the *Works*.

Table 1. Effluent Best Efforts Limits as per ECA, condition 3.1

Effluent Parameter	Average Concentration (milligrams per litre unless otherwise indicated)	Average Loading Objective (kilograms per day unless otherwise indicated)
Column 1	Column 2	Column 3
CBOD ₅	15	-
Total Suspended Solids	15	-
Total Phosphorus	0.32	-
Total Ammonia Nitrogen: Summer – June 1 to November 30	2.0	-
Winter- December 1 to May 31	4.0	-
<i>E. Coli</i> – May 1 to September 31	100 organisms per 100 millilitres	-

3. Effluent Limits

The *Owner* shall operate and maintain the *Works* such that the concentrations and waste loadings of the materials named in Table 2 as effluent parameters are not exceeded in the effluent from the *Works*.

Table 2. Effluent Limits as per C of A, conditions 1.4

Effluent Parameter	Average Concentration (milligrams per litre unless otherwise indicated)	Average Loading Objective (kilograms per day unless otherwise indicated)
Column 1	Column 2	Column 3
CBOD ₅	25	19.7
Total Suspended Solids	25	19.7
Total Phosphorus	0.64	0.50
Total Ammonia Nitrogen: Summer – June 1 to November 30	4.0	3.2
Winter- December 1 to May 31	8.0	6.3
<i>E. Coli</i> – May 1 to September 31	200 organisms per 100 millilitres	-

4. Monitoring And Recording

The *Owner* shall, upon commencement of operation of the *Works*, carry out the following the monitoring program.

Effluent Monitoring - (samples to be collected at the outlet of the disinfection facilities or at the outfall sewer as close as possible at the treatment plant).

Parameters	Sample Type	Frequency
CBOD ₅	24-hr composite	Weekly
Total Suspended Solids	24-hr composite	Weekly
Total Phosphorus	24-hr composite	Weekly
Total Ammonia Nitrogen	24-hr composite	Weekly
<i>E. Coli</i>	Grab	Weekly

5. Laboratory

Caduceon Environmental laboratories is contracted to conduct the required analytical tests of the influent (raw) and effluent samples, as per the ECA.

6. 2022 Annual Effluent Quality

In the reporting year 2022, the *Works* were operated and maintained such that the concentrations and waste loadings of the materials named in Table 2 as effluent parameters were not exceeded in the effluent from the *Works*; in compliance with the ECA requirements for the effluent limits parameters.

In addition, *best efforts* were achieved with the objective that the concentrations and loadings of the materials named above in (Table 1) as effluent parameters were not exceeded in the effluent from the *Works*.

Parameters	Average Concentration mg/L	Criteria Concentration mg/L	Average Loading kg/d	Loading Criteria kg/d
CBOD ₅	3.0	25	2.47	15.63
Total Suspended Solids	6.5	25	5.96	15.63
Total Phosphorus	0.18	0.86	0.15	0.54
Total Ammonia Nitrogen:				
Summer – June 1 to Nov 30	1.79	4.0	1.2	2.5
Winter- Dec 1 to May 31	0.77	8.0	0.81	5.0
<i>E. Coli</i>	3.3	200 organisms per 100 millilitres	-	-

7. Inventory

Chemical	Annual Status	Units
Alum	9.8	Cubic meters

8. Maintenance

The Operators performed the routine operations and maintenance at the treatment plant and pumping stations in accordance with the preventative maintenance program (report on file at plant). The activities are highlighted as follows:

Monthly	<ul style="list-style-type: none"> Checked operations and performance of sewage pumps. Flushed Alum feed line
Treatment Plant	<ul style="list-style-type: none"> Changed oil on blower #1 and #2 Cleaned air diffusers in digester
Quarterly	<ul style="list-style-type: none"> N/A
Semi-Annually	<ul style="list-style-type: none"> Changed filters on blower #1 and #2. Greased comminutor and clarifier drive. Cleaned alum sensors
Annually	<ul style="list-style-type: none"> Annual calibration of monitoring equipment Annual calibration of flow meters
Major Maintenance	<ul style="list-style-type: none"> Comminutor sent out for repair and re-installed (Jun) Clean Digester Pit and replace steel cable (Jul) Pump station cleaning x 3 Stations (Sep) Check Valve cleaning Yacht Blvd. (Sep) UV bulb replacement x 20 (Sep) New impeller on pump 2 Sewage pump Yacht Blvd. (Sep) Flush 1,500' of Yacht Blvd Forcemain (Sep) Pull pump 2 Bray St. Debris (Nov)

9. Operational Issues

There were no operational issues noted during 2022.

10. Biosolid (Sludge) Summary

The Glen Walter WPCP has a program in place for the removal of biosolids transferred from the Glen Walter W.P.C.P *Works to the Lancaster lagoons*; volume totaling 406 m³ for the fiscal year 2022. Joseph Romeo René Goulet (Certificate of Approval Hauler # A 920463) is contracted and hauled/transported 406 m³ to the Lancaster Lagoons for disposal.

The *Works* maintains haulage records for biosolids transferred from the Glen Walter WPCP to the Lancaster Lagoons; available upon request.

11. Complaints

No complaints reported during the 2022 operational year.

12. By-Pass Report(s)

By-passing occurrences: 3

- March 20, 2022
- March 24, 2022
- April 8, 2022

13. Reports

- Appendix A – Lancaster Sewage Annual Performance Report 2022 (Attached)
- Caduceon Environmental Laboratories Analytical Reports - (on-file at plant)
- Lancaster Daily/Monthly Report Summary - (on-file at plant)
- Lancaster Bypass Incident Report – (on-file at plant)

APPENDIX – A –

Glen Walter Annual Performance Report

2022

Municipality: Township of South Glengarry
Project: Glen Walter W.P.C.P

Annual Report Data
2022

Water Course: St. Lawrence River
Design Capacity: 0.787 x 1000 m3/D

Description: 3 Sewage Pumping Stations - 1 Extended Aeration Plant - UV Effluent Disinfection

	Influent Flow			Effluent Flow Total X 1000 m3/D	Biochemical Oxygen Demand			Suspended Solids - Total			Phosphorus			Ammonium Average Effluent mg/L	Waste Loadings				Alum m3 Used	Effluent Flow Average m3/D	
	Total X 1000 m3	Average X 1000 m3	Maximum Daily X 1000 m3		Average Influent mg/L	Average Effluent mg/L	Removal Percent	Average Influent mg/L	Average Effluent mg/L	Removal Percent	Average Influent mg/L	Average Effluent mg/L	Removal Percent		BOD Kg/D	TSS Kg/D	TP Kg/D	N-NH3 Kg/D			
January	16.149	0.520	0.574	16.149	70	3.00	95.71	135	5.40	96.00	3.62	0.18	95.03	0.47	1.56	2.81	0.09	0.24	0.714	0.520	
February	24.994	0.892	2.174	24.994	59	3.00	94.92	135	9.00	93.33	3.75	0.18	95.20	1.16	2.68	8.03	0.16	1.03	0.725	0.892	
March	43.217	1.394	2.296	43.217	23	3.00	86.96	46	12.00	73.91	1.08	0.28	74.07	1.51	4.18	16.73	0.39	2.10	0.803	1.394	
April	37.539	1.251	1.976	37.539	34	3.00	91.18	82	11.50	85.98	1.36	0.21	84.56	1.38	3.75	14.39	0.26	1.73	0.777	1.251	
May	26.638	0.859	1.214	26.638	33	3.00	90.91	72	4.60	93.61	2.21	0.08	96.38	0.11	2.58	3.95	0.07	0.09	0.803	0.859	
June	21.899	0.729	0.902	21.899	52	3.00	94.23	110	3.50	96.82	3.80	0.07	98.16	1.87	2.19	2.55	0.05	1.36	0.777	0.729	
July	21.224	0.684	1.312	21.224	67	3.00	95.52	105	3.00	97.14	4.42	0.12	97.29	2.26	2.05	2.05	0.08	1.55	0.835	0.684	
August	17.972	0.579	0.881	17.972	72	3.40	95.28	88	5.80	93.41	4.14	0.17	95.89	1.88	1.97	3.36	0.10	1.09	0.804	0.579	
September	20.240	0.674	1.010	20.240	105	3.00	97.14	140	4.50	96.79	3.97	0.13	96.73	2.83	2.02	3.03	0.09	1.91	0.885	0.674	
October	16.964	0.547	0.643	16.964	51	3.00	94.12	92	4.60	95.00	3.81	0.17	95.54	0.28	1.64	2.52	0.09	0.15	0.915	0.547	
November	21.399	0.713	1.506	21.399	75	3.00	96.00	110	7.25	93.41	3.85	0.35	90.91	0.56	2.14	5.17	0.25	0.40	0.891	0.713	
December	29.656	0.956	2.265	29.656	43	3.00	93.02	78	7.25	90.71	2.79	0.22	92.11	0.03	2.87	6.93	0.21	0.03	0.856	0.956	
Total	297.891			297.891										14.34	29.63	71.51	1.85	11.69	9.785	9.80	
Average		0.817		24.824	57.0	3.0	93.7	99.4	6.5	92.2	3.23	0.18	92.66	1.20	2.47	5.96	0.15	0.97	0.815	0.82	
Criteria		0.787				25			25			0.64		(S) 4 W (8)	19.7	19.7	0.5	S 3.2			
																			W 6.3		
Maximum Compliance		0.817 No				3 Yes			6.5 Yes			0.35 Yes		(S) Y (W) Y Yes	Yes	Yes	Yes	Yes	Yes	Yes	

	Effluent E-Coli		
	Min	Max	Geo. Mean
January	2	3	2.4
February	2	2	2.0
March	4	8	5.7
April	2	6	3.5
May	2	1	1.4
June	2	1	1.4
July	2	3	2.4
August	2	1	1.4
September	2	54	10.4
October	2	7	3.7
November	2	2	2.0
December	2	5	3.2

Average	2.2	8	3.3
Criteria		200	

Maximum Compliance	Yes
	Yes