



**2024**  
**Annual Wastewater Report**  
**Green Valley Sewage Treatment**  
**Version 2.0**

Prepared by:

A handwritten signature in dark ink, appearing to read "Dillen Seguin", is written over a horizontal line.

**Dillen Seguin**  
Director of Water and Wastewater

February 18, 2025

Date

Approved by:

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**Sarah McDonald, P. Eng.**  
General Manager, Infrastructure Services

February 18, 2025

Date

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## Revision History

Date	Description	Revision	Author
February 4, 2025	Initial Issue for Council Receipt	1.0	D. Seguin
February 18, 2025	Issued for Council Acceptance	2.0	D. Seguin

## Green Valley Sewage Treatment Plant

In accordance with the Certificate of Approval, Number 3-2012-88-896, Issue date August 1, 1989 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, 2024; 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	300 m <sup>3</sup> /day (average daily flow)
Service Area	Hamlet of Green Valley
Service Population	Approximately 475
Effluent Receiver	Beaudette River
Major Process	Twin cell waste stabilization pond, with annual alum dosing for phosphorus and solids removal.

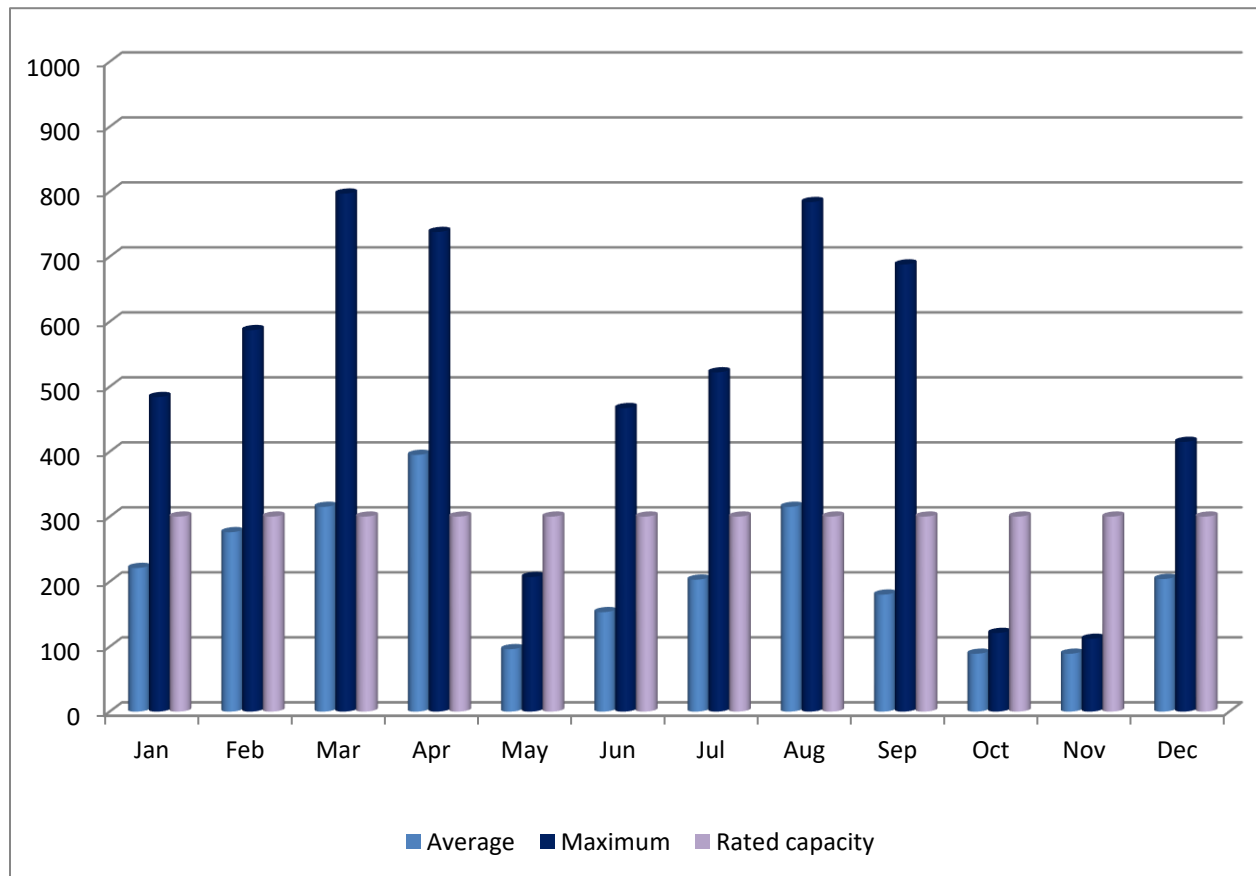
The Green Valley WPCP received and operates its operation under *Certificates of Approval (now referred to as Environmental Compliance Approval [ECA])* Number 3-2012-88-896, in accordance with Section 53 of the Ontario Water Resources Act. The Certificate of Approval outlines the terms and conditions, 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 Green Valley WPCP is 300 cubic meters per day (m<sup>3</sup>/day); that is raw influent (flow) into the lagoon for treatment. During the reporting year 2024, the Green Valley WPCP exceeded the rated average capacity of 300 m<sup>3</sup>/day, seventy-four (74) days.

### Monthly Average and Maximum Daily Flows for 2024 (Rated capacity 300 m<sup>3</sup>/day)



#### High Flow Events

March 2024 – Snow Melt

April 2024 – Snow Melt and Heavy Rain

August 2024 – Heavy Rain Event

## 2. Effluent Limits

The *Owner* shall operate and maintain the *Works* such that the concentrations and waste loadings of the materials named in Table 1 as effluent parameters are not exceeded in the effluent from the *Works*.

**Table 1. 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 <sub>5</sub>	30	214.3
Total Suspended Solids	30	214.3
Total Phosphorus	1.0	7.1

## 3. 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 <sub>5</sub>	Grab	Every 0.5 metres
Total Suspended Solids	Grab	Every 0.5 metres
Total Phosphorus	Grab	Every 0.5 metres

## 4. Laboratory

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

## 5. 2024 Annual Effluent Quality

In the reporting year 2024, 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.

Parameters	Average Concentration mg/L	Criteria Concentration mg/L	Average Loading kg/d	Loading Criteria kg/d
BOD	4.43	30	15.92	214.3
Total Suspended Solids	6.86	30	24.66	214.3
Total Phosphorus	0.14	1.0	0.49	7.1

## 6. Inventory

Chemical	Annual Status	Units
Alum	14	Cubic meters

## 7. 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"><li>Checked Operations and Performance of Sewage Pumps (Weekly)</li></ul>
Quarterly	<ul style="list-style-type: none"><li>N/A</li></ul>
Semi-Annually	<ul style="list-style-type: none"><li>N/A</li></ul>
Annually	<ul style="list-style-type: none"><li>Annual checks of monitoring equipment</li><li>Annual checks of flow meters</li><li>Re-grease grey-line unit probes in sewage pump stations</li></ul>
Major Maintenance	<ul style="list-style-type: none"><li>Dose Lagoon (Apr)</li><li>Discharge Lagoon (May)</li><li>Clean Pump Stations x 2 (Jul)</li><li>Mowed Lagoon (Jul)</li><li>Clean Bypass Ditch(s) and Install Overflow Sign(s) (Jun)</li><li>Ditch Work Around Lagoon (Nov)</li><li>Pump and Clean Effluent Chamber (Nov)</li><li>Fix Broken Valve at Discharge Chamber (Dec)</li></ul>

## 8. Operational Issues

There were no operational issues noted during 2024.

## 9. Complaints

No complaints reported during the 2024 operational year.

## 10. By-Pass Report(s)

By-passing occurrences: 1

*\*All by-pass/overflows for the collection system(s) have been moved to the Municipal sewer collection report. However, bypass/overflows may still occur for the wastewater system facility(s).*

Spill/Overflow 1

Date:	November 19th, 2024
Asset:	Green Valley Lagoon
Location:	Concession Road 8
Reference Number:	1-DKV6L5
Cause:	Mechanical Failure (Valves)
Volume:	12,500m3
Duration:	172 Days
Disinfection:	None
Adverse Impact:	None
Grab Samples:	Yes (East/West Lagoon)

Spill Reported to Spills Action Center on November 19<sup>th</sup>, 2024.

While onsite November 19<sup>th</sup>, 2024, operations staff observed a strong presence of sewage smell around the final effluent chamber ditch. Upon investigation, it was observed that a flow of effluent (Improperly Treated) was discharging from the final effluent valve.

Failure of the valves, allowing the flow of effluent, occurred because the valve was not properly seated within the chamber. One valve had a moving locking nut that created a false sense of closure. The gate valve was over tightened and had fallen below the shutting point allowing sewage to flow around the gate.

The flow control valve was fully shut upon observation of the issue(s) and a Contractor was hired to clean up the debris in the ditch around the spill.

*\*Valves have since been rectified and additional training for staff has been implemented.*

*\*No adverse impacts have been noted.*

## 11. Lagoon Performance

On April 23<sup>rd</sup>, 2024, the Township of South Glengarry Wastewater Department dosed the twin celled lagoon system with 14,000 litres of Alum for phosphorus removal. Each cell is equipped with a level marker which read approximately 1.60 meters (Avg.), that is equal to approximately 100,000 cubic meters of raw sewage.

On April 25<sup>th</sup>, 2024, at approximately 09:00, the lagoon discharge commenced, and the first set of samples were collected. The flow was set at approximately 3,600 cubic meters per day. On May 21<sup>st</sup>, 2024, the discharge was terminated as per C of A 3-2012-88-896 which states: the sewage works shall be operated on an annual discharge basis with the effluent discharge commencing not earlier than March 15th or terminating not later than May 25th of each year. A total of 100,678 cubic meters have been recorded on the Manta Ray Level Velocity Logger.

### Lab Results

Attached you will find the laboratory results of samples collected for the lagoon discharge period. (See Appendix. A)

### Reports

- Appendix A – Green Valley Sewage Annual Performance Report 2024 (Attached)
- Caduceon Environmental Laboratories Analytical Reports - (on-file at plant)
- Green Valley Daily/Monthly Report Summary - (on-file at plant)
- Green Valley Bypass Incident Report – (on-file at plant)



Municipality: Township of South Glengarry Project: Green Valley Lagoons					Annual Report Data 2024					Water Course: Beaudette River Design Capacity: 0.300 x 1000 m3/D					
Description: 2 Sewage Pumping Stations - 2 Facultative Cells - Annual Discharge															
Influent Flow			Effluent	Biochemical Oxygen Demand			Suspended Solids - Total			Phosphorus		Waste Loadings			Alum
Total X 1000 m3	Average X 1000 m3	Maximum Daily X 1000 m3	Flow - Total X 1000 m3/D	Average Effluent mg/L	Year Avg. Influent mg/L	Average Influent mg/L	Average Effluent mg/L	Year Avg. Influent mg/L	Average Influent mg/L	Year Avg. Influent mg/L	BOD Kg/D	TSS Kg/D	TP Kg/D	m3 Used	
January	6.851	0.221	0.484	0	101	0	120	0	3.88	0	0.00	0.00	0.00	0	
February	8.015	0.276	0.587	0	75	0	102	0	2.32	0	0.00	0.00	0.00	0	
March	9.791	0.315	0.797	0	38	0	50	0	2.02	0	0.00	0.00	0.00	0	
April	11.869	0.395	0.738	22.951	35	4	136.00	8	184.45	0.08	15.92	24.66	0.49	14	
May	2.979	0.096	0.207	77.727	4.6	6.4	0	53	1.75	0.16	0.00	0.00	0.00	0	
June	4.608	0.153	0.467	0	223	0	340	0	5.96	0	0.00	0.00	0.00	0	
July	6.302	0.203	0.522	0	50	0	82	0	2	0	0.00	0.00	0.00	0	
August	9.757	0.315	0.784	0	252	0	245	0	5.81	0	0.00	0.00	0.00	0	
September	5.401	0.180	0.688	0	159	0	182	0	5.74	0	0.00	0.00	0.00	0	
October	2.760	0.890	0.121	0	202	0	280	0	3.44	0	0.00	0.00	0.00	0	
November	2.682	0.089	0.112	0	177	0	220	0	7.22	0	0.00	0.00	0.00	0	
December	6.339	0.204	0.415	0	184	0	355	0	8.73	0	0.00	0.00	0.00	0	
Total	77.354		100.678								15.92	24.66	0.49	0	
Average	6.446	0.278	0.494	3.596	136.0	4.3	184.5	7	4.44	0.12	15.92	24.66	0.49	0	
Criteria		0.300			30			30		1.0	214.3	214.3	7.10	0	
Maximum			0.797												
Compliance	Yes	Yes	Yes	3.596	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Influent				Effluent		Sample Date		Effluent							
BOD Average mg/L	TKN Average mg/L	TP Average mg/L	NH3 Average mg/L	Average Flow X1000 m3/D	Discharge Sampling	BOD mg/L	TSS mg/L	TP mg/L	NH3 mg/L	pH	TKN mg/L	NO2 mg/L	NO3 mg/L	E. Coli cfu/100ml	T. Coli cfu/100ml
January	101	33.00	3.88	16.00	0.000										
February	75	18.60	11.50	0.000	25-Apr-24	5	11	0.14	0.22	8.04	2.1	0.05	1.59	280	8000
March	38	21.70	2.02	15.30	29-Apr-24	3	5	0.01	0.19	7.92	0.6	0.05	0.58	280	2600
April	35	17.00	1.75	11.00	02-May-24	4	8	0.12	0.23	7.89	2	0.05	0.3	420	2700
May					06-May-24	3	7	0.14	0.15	8.01	1.9	0.05	0.15	80	1000
June	223	44.60	5.96	29.20	10-May-24	4	3	0.18	0.05	8.04	2	0.05	0.05	30	300
July	50	16.40	2.00	13.50	16-May-24	6	8	0.27	0.75	7.96	2.9	0.05	0.05	260	1400
August	252	50.60	5.81	38.20	21-May-24	6	6	0.09	0.13	9.7	1.6	0.05	0.05	10	2000
September	159	54.30	5.74	48.70											
October	202	39.10	3.44	35.20											
November	177	80.80	7.22	66.30											
December	184	56.20	8.73	31.90											
Average	136.00	39.30	5.92	28.80		4.43	6.86	0.14	0.25	8.22	1.87	0.05	0.40	194	2571