
EGANVILLE SEWAGE SYSTEM

2022 PERFORMANCE REPORT

Township of Bonnechere Valley
Water and Sewage Department
February 2023



Eganville Sewage System – 2022 Performance Report

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Attachments

- Eganville Sewage & Sludge Monitoring Summary Report 2022
- Eganville STP Calibrations Reports 2022



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Executive Summary

The Eganville Sewage System continues to operate in a manner that provides for the collection, transmission and treatment of sewage that meets all Municipal, Provincial and Federal standards.

The Eganville Sewage Treatment Plant processed 185,346 cubic metres of sewage in 2022 and the treated effluent discharged to the Bonnechere River met the Provincial and Federal Effluent Limits 100% of the time. The average daily flow was 508 cubic metres.

The Biosolids Dewatering Facility processed 955 cubic metres of digested sludge in 2022 and 210 cubic metres of dewatered sludge was transported to the Snodrifters Road Landfill Site for utilization as a soil amendment to the final cover.

All reports required by applicable Acts, Regulations and Certificate of Approval have been prepared and submitted.

All operational and process monitoring has been conducted in accordance with the Certificate of Approval and the internal Process and Compliance Monitoring Procedure.



Introduction

The collection, transmission, treatment and disposal of sewage in Ontario is regulated by the Ministry of the Environment, Conservation and Parks (MECP) under the Environmental Protection Act (EPA), the Ontario Water Resources Act (OWRA) and associated Regulations, Policy and Guidelines.

The current Certificate of Approval for the Eganville Sewage Works issued under Section 53 of the OWRA prescribes specific operational 'Terms and Conditions'.

Condition 10 requires the Owner to prepare and submit to the MECP District Manager a performance report, on an annual basis. The report must contain, but shall not be limited to, the following information:

- ✚ A summary and interpretation of all monitoring data and a comparison to the effluent limits outlined in Condition 7, including an overview of the success and adequacy of the Works;
- ✚ A description of any operating problems encountered, and corrective actions taken;
- ✚ A summary of all maintenance carried out on any major structure, equipment, apparatus, mechanism or thing forming part of the Works;
- ✚ A summary of any effluent quality assurance or control measures undertaken in the reporting period;
- ✚ A summary of the calibration and maintenance carried out on all effluent monitoring equipment;
- ✚ A description of efforts made, and results achieved in meeting Effluent Objectives of Condition 6;
- ✚ A tabulation of the volume of sludge generated in the reporting period, an outline of anticipated volumes to be generated in the next reporting period and an outline of the proposed sludge handling methods;
- ✚ A summary of any complaints received during the reporting period and any steps taken to address the complaints;
- ✚ A summary of all By-pass, spill or abnormal discharge events; and
- ✚ Any other information the District Manager requires from time to time.



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Report Availability

A copy of this report shall be given, without charge, to every person who requests a copy from the Township of Bonnechere Valley Municipal Office at 49 Bonnechere St. E., Eganville, Ontario.

The report shall also be available on the Township of Bonnechere Valley website at www.bonnecherevalleytwp.com

Eganville Sewage System

The Eganville Sewage System is owned and operated by the Township of Bonnechere Valley and provides for the collection and treatment of sewage for the residents and businesses of the Village of Eganville. The system generally consists of a piped collection system, four sewage pumping stations and a sewage treatment plant including a Biosolids dewatering facility. The treated effluent is discharged into the Bonnechere River adjacent to the Eganville Sewage Treatment Plant located at 131 John Street, Eganville.

The Eganville Sewage System operates under an 'Amended Certificate of Approval issued on June 1, 2010, Number: 9566-85BHJK.

The Sewage Treatment Plant (STP) is an extended aeration secondary treatment process consisting of two circular package treatment units with a Rated Capacity of 1,080 cubic metres per day and a Peak Flow Rate of 2,700 cubic metres per day.

The Biosolids Dewatering Facility utilizes Geotubes to dewater, stabilize and store the sludge generated by the STP. The resultant Biosolids are removed and transported to one of the waste disposal sites within the Township of Bonnechere Valley to be utilized as a soil amendment to the final cover.



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Operations

By-pass / Upsets / Abnormal Discharge Events

During 2022 the Eganville Sewage System did not have any by-passes, upsets or abnormal discharge events.

Maintenance

Sewage Collection System

- Maintenance was undertaken on 5 sewer manholes to help reduce infiltration.

Sewage Pumping Stations

- All 4 Sewage Pumping Stations were inspected, washed down and the Bar Screens cleaned in 2022.
- They are all in good condition with no additional maintenance required.

Sewage Treatment Plant

- Maintenance on the biosolids winter dewatering building included:
 - Inspecting the metal frame for corrosion,
 - Replacing metal fasteners as necessary,
 - Replacing the double poly cover.
- Maintenance on Plant #1 included replacing the skimmer arm.
- Maintenance on Plant #2 included:
 - Taking the plant down for a complete inspection and cleaning,
 - Repairing and replacing air diffusers as required,
 - Repairing brackets on return and supernatant lines.
- General maintenance:
 - New exterior lights around Plant #1 and Plant #2,
 - Painting of catwalk and railings.

Calibration

The final effluent flow measuring devices for Plant #1 and Plant #2 were calibrated on October 31, 2022 by Franklin Empire. The calibration report indicates that the flow measuring devices passed the required accuracy of plus or minus 5% of actual rate of flow.



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All lab instrumentation was serviced, calibrated and verified with standards on December 7, 2022 by Hach Sales & Service Canada Ltd.

All calibration and maintenance activities were done by qualified Technicians using industry standards and calibrated equipment as detailed in the Eganville STP Calibration Reports for 2022.

Summary of Public Complaints

By-law 2021-043 being a by-law to establish a Municipal Complaint Policy for the Township of Bonnechere Valley was passed on June 22, 2021. The Policy is outlined in Schedule “A” of the by-law.

The Municipal Complaint Policy was integrated into the Operations and Maintenance Manual Procedures with the creation of Standard Operating Procedure 835.10.29

During 2022 no formal public complaints were submitted to the Water and Sewage Department.

Effluent Quality Assessment

The following table outlines the effluent objectives and limits as listed in the Certificate of Approval for the Eganville Sewage Treatment Plant:

Effluent Parameter	Effluent Objectives		Effluent Limits	
	Concentration mg/l	Loading kg/day	Concentration mg/l	Loading kg/day
CBOD ₅	15	16.2	25	27
Total Suspended Solids	15	16.2	25	27
Total Phosphorus	1.0	1.1	1.0	1.1
Total Ammonia Nitrogen	5.0	5.4	5.0	5.4
E. coli	200 CFU/100ml		200 CFU/100ml	
pH	6.5 to 8.5 at all times		6.0 to 8.5 at all times	



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The following table provides an overview of the monitoring results for the effluent parameters.

Effluent Parameter	Concentration mg/l	Loading kg/day
CBOD ₅	<3.0 - 6	1.15 – 4.51
Total Suspended Solids	7 – 10	2.67 – 6.44
Total Phosphorus	0.43 - 0.74	0.22 – 0.47
Total Ammonia Nitrogen	0.01 – 0.35	0.00 – 0.23
Un-ionized Ammonia	0.01 – 0.42 ug/l	
E. coli	0 - 5 CFU/100ml	
pH	6.56 - 7.69	

- The 'Eganville Sewage and Sludge Monitoring Report 2022' is appended and provides all the compliance related records.
- During 2022 all effluent 'Limits' and 'Objectives' were achieved 100% of the time

The efficiency of the sewage treatment process can be shown by the % removal of the following indicator parameters:

PARAMETER	AVERAGE % REMOVAL
BIOCHEMICAL OXYGEN DEMAND	97
TOTAL SUSPENDED SOLIDS	93
TOTAL PHOSPHORUS	91

Capacity Assessment

The Eganville Sewage Treatment Plant has an approved 'Rated Capacity' of 1,080 m³/day which is calculated as the 'Average Daily Flow' (total sewage flow for year / 365). During 2022 the 'Average Daily Flow' was 508 m³/day.

The Eganville Sewage Treatment Plant has a 'Peak Flow Rate' of 2,700 m³/day which is the maximum rate of sewage flow for which the plant was designed. During 2022 the maximum 'Peak Flow Rate' was 1,066 m³/day in April.



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MONTH	SEWAGE FLOWS (M ³)		
	TOTAL	AVG.DAY	MAX DAY
JAN.	12,783	412	562
FEB.	10,700	382	499
MAR.	17,569	577	925
APR.	22,515	751	1,066
MAY	19,966	644	804
JUN.	21,711	724	1,040
JUL.	15,313	490	674
AUG.	12,317	397	473
SEP.	13,691	534	763
OCT.	13,675	533	491
NOV.	12,169	406	458
DEC.	12,937	417	666
TOTAL	185,346		
AVERAGE	15,446	522	702
MAX	22,515	751	1,066
LIMITS		1,080	2,700

Sludge Management

Aerobically digested sludge is transferred from the digester to the Biosolids Dewatering Facility on a regular basis for processing. The sludge is mixed with a polymer and pumped into Geotubes for dewatering. The resultant filtrate is returned to the inlet of the Sewage Treatment Plant. Once the solids capacity of a Geotube is reached it is allowed to sit for several months before the contents are removed and transported to one of the waste disposal sites within the Township of Bonnechere Valley to be utilized as a soil amendment for final cover. The waste disposal sites have been approved for the receipt and utilization of dewatered sludge (Biosolids) as a final cover soil amendment.

The 'Eganville Sewage and Sludge Monitoring Report 2022' is appended and provides the volumes, analysis and disposition of the sludge.

It is anticipated that sludge generation and processing operations will be similar in 2023.