

# 2025 ANNUAL SEWAGE REPORT

MAPLETON WASTEWATER  
POLLUTION CONTROL  
PLANT & COLLECTION  
SYSTEM



For the period of  
January 1<sup>st</sup>, 2025 to December 31<sup>st</sup>, 2025

Prepared for the Corporation of the Township of Mapleton by the Ontario Clean Water Agency



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## 1. System Description

The Mapleton Wastewater Pollution Control Plant (WPCP) is a Lagoon Treatment System consisting of five lagoons which receives residential and commercial wastewater and provides a level of treatment to meet the Amended Environmental Compliance Approval (ECA) #1391-B38PLA. Owned by the Township of Mapleton, the works is operated on behalf of the Owner by the Ontario Clean Water Agency (OCWA) for the treatment of sanitary sewage and disposal of effluent to Conestogo River. The Rated Capacity of the works is 900 m<sup>3</sup>/day.

The major process units consist of: inlet works, preliminary treatment (aeration cell), a biological treatment stabilization cell, supplementary treatment system for phosphorus removal, three (3) final effluent polishing cells, two effluent pumping station, post-secondary treatment through sand filtration and UV disinfection. The WPCP discharges the treated effluent via its outfall into the Conestogo River.

An overview of Mapleton Wastewater Pollution Control Plant can be found in Table 1:

**Table 1.** Mapleton Wastewater Pollution Control Plant Overview

<b>Facility Name</b>	Mapleton Wastewater Pollution Control Plant
<b>Facility Type</b>	Facultative Lagoons, Aerated Lagoon (Cell #2), Alum addition/phosphorous removal, sand filters, sewer system and UV Disinfection, and two pumping stations.
<b>Plant Classification</b>	WWT I, WWC I
<b>Works Number</b>	120001782
<b>Design Capacity</b>	900 m <sup>3</sup> /day
<b>Receiving Water</b>	Conestogo River
<b>Environmental Compliance Approval</b>	ECA# 1391-B38PLA, issued August 2, 2018

## 2. Influent and Effluent Monitoring and Comparison to Effluent Objectives and Effluent Limits

As per Section 11(4)(a) of ECA 1391-B38PLA, a summary and interpretation of all Influent monitoring data, and a review of the historical trend of the sewage characteristics and flow rates is required.

### 2.1 Influent (Raw Sewage)

As per Section 11(4)(a) of ECA 1391-B38PLA, a summary and interpretation of all Influent monitoring data, and a review of the historical trend of the sewage characteristics and flow rates is required.

#### 2.1.1 Sampling Frequency: Influent

Samples of raw sewage (influent) are collected and analyzed on a regular basis. The sampling types and frequencies are summarized in Table 2. The sampling frequencies meet the requirements set out in Schedule D of ECA 1391-B38PLA.

**Table 2.** Influent Water Quality Monitoring Program and Sampling Points

Parameter	Sample Type	Minimum Frequency
BOD <sub>5</sub> <sup>2A</sup>	Grab	Bi-Weekly
Total Suspended Solids <sup>2A</sup>	Grab	Bi-Weekly
Total Phosphorous <sup>2A</sup>	Grab	Bi-Weekly
Total Kjeldahl Nitrogen <sup>2A</sup>	Grab	Bi-Weekly

<sup>2A</sup>Refer to **Appendix A** for monthly sample results.

### 2.1.2 Influent (Raw Sewage) Monitoring Data

The following parameters in Table 3 are not reportable as they do not have limits or objectives but are monitored on a regular basis (see Section 2.1.1 for sampling frequency) as required by Schedule D of ECA 1391-B38PLA. Table 3 summarizes the influent monitoring data for the reporting period.

Laboratory analysis of the influent throughout the year indicated that BOD<sub>5</sub>, Total Suspended Solids, Total Phosphorus and Total Kjeldahl Nitrogen averages peaked in August 2025 at 394.00 mg/L, 492.00 mg/L, 13.60 mg/L and 119.15 mg/L respectively. Overall, there were no notable fluctuations to influent contents for the reporting year.

**Table 3.** Raw Sewage Monitoring Parameters as required by ECA 1391-B38PLA for Mapleton Wastewater Pollution Control Plant, 2025

Parameter	Average (mg/L)	Minimum (mg/L)	Maximum (mg/L)
BOD <sub>5</sub> <sup>3A</sup>	311.58	58.00	663.00
Total Suspended Solids <sup>3A</sup>	329.90	100.00	612.00
Total Phosphorous <sup>3A</sup>	8.39	1.20	16.80
Total Kjeldahl Nitrogen <sup>3A</sup>	73.87	7.50	145.00

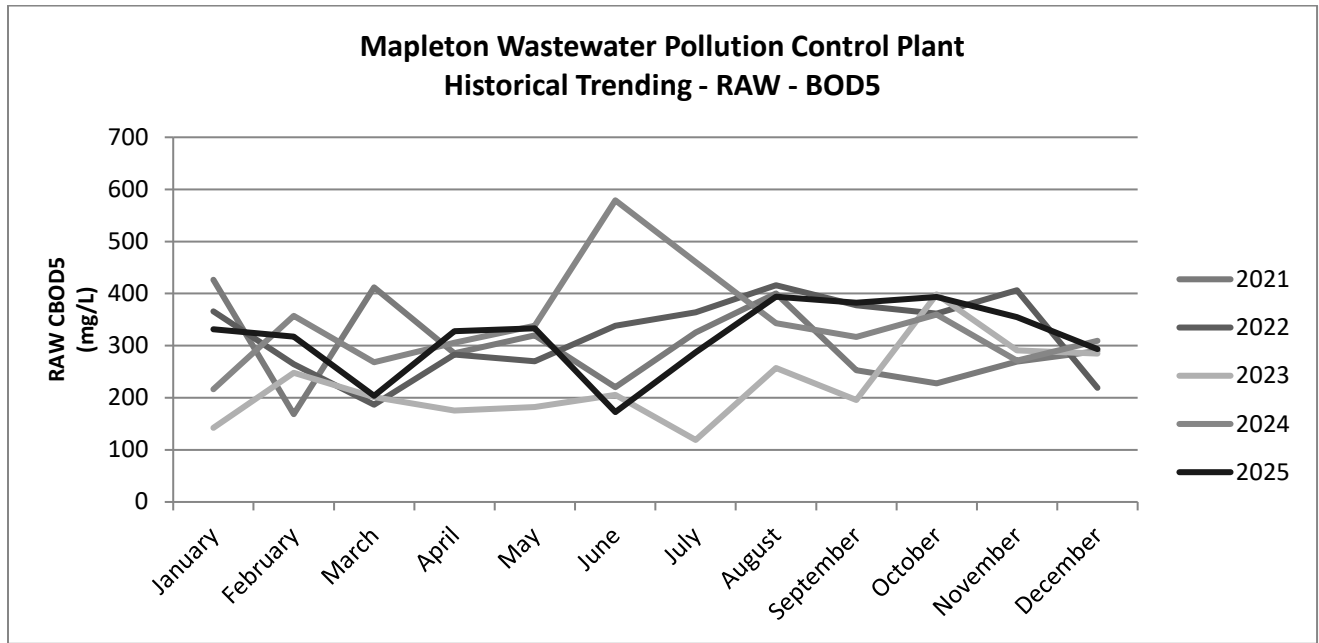
<sup>3A</sup>Refer to **Appendix A** for monthly sample results.

### 2.1.3 Historical Trends of Influent (Sewage) Characteristics and Influent Flowrates

#### *Sewage Characteristics*

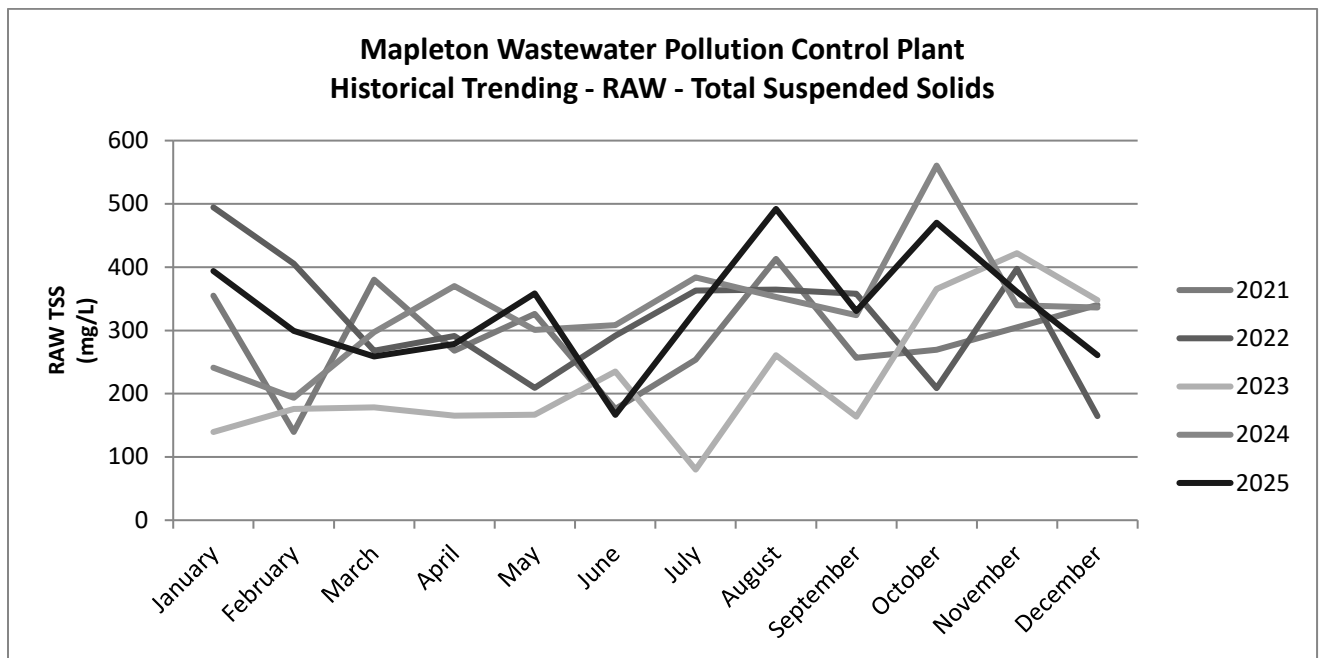
The below graph shows historical raw Biochemical Oxygen Demand (BOD<sub>5</sub>) trending from 2021 to 2025. A review of the trends from the last 4 years for BOD<sub>5</sub> shows that the average BOD<sub>5</sub> concentration in the raw sewage fluctuates year to year with no consistent observable trend. An overall slight decrease in BOD<sub>5</sub> concentration was observed in 2025 compared to previous years. The BOD<sub>5</sub> annual average was 343.71 mg/L in 2024 and decreased in 2025 at 311.58 mg/L.

**Graph 1. Raw Sewage (Influent) BOD<sub>5</sub> Historical Trending for 2021-2025**



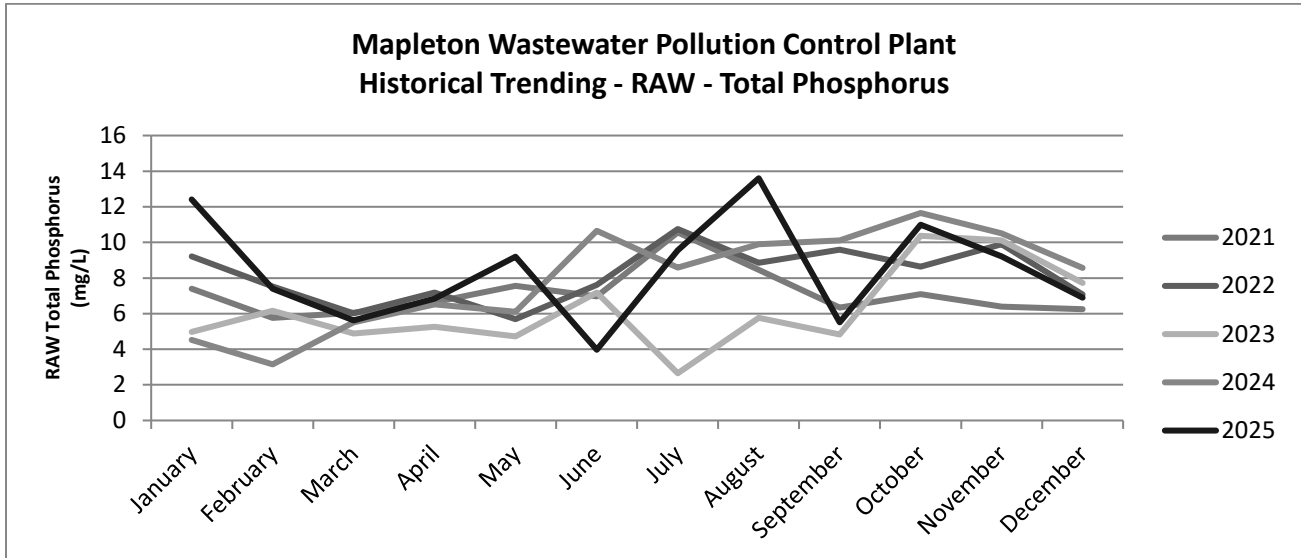
The below graph shows the historical raw Total Suspended Solids trending from 2021 to 2025. A review of the current 2025 trends versus the last 4 years has shown an increase in concentrations of Total Suspended Solids for the majority of the year. TSS annual average was 334.00 mg/L in 2024 and has slightly decreased in 2025 to 329.90 mg/L.

**Graph 2. Raw Sewage (Influent) Total Suspended Solids Historical Trending for 2021-2025**



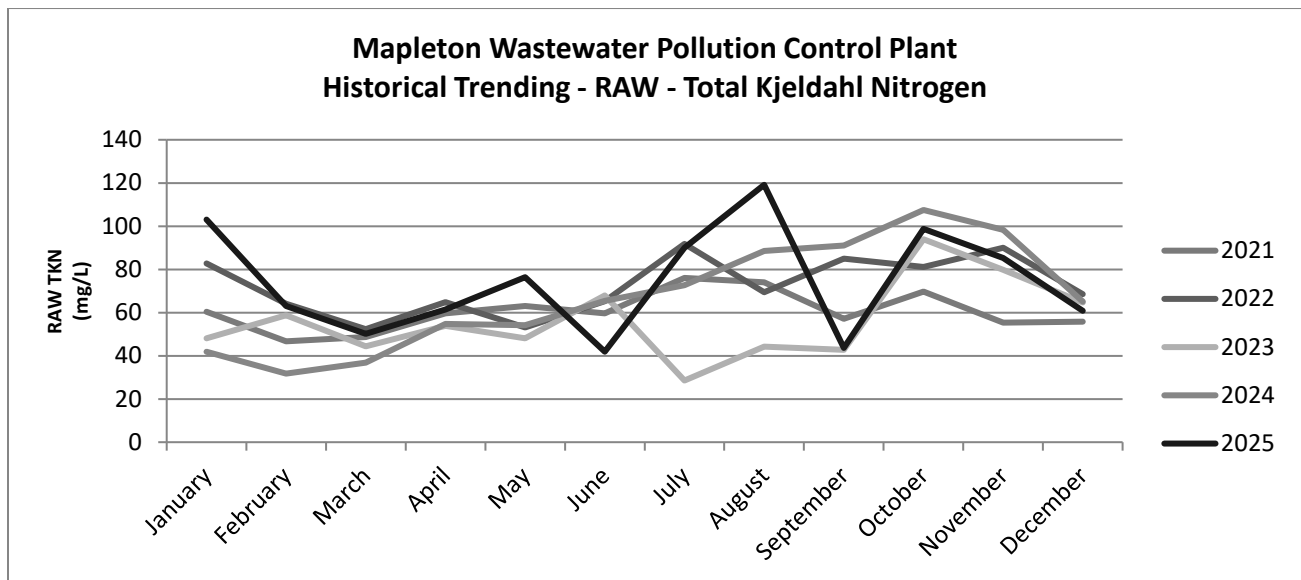
The below graph shows the historical raw Total Phosphorus trending from 2021 to 2025. A review of the current 2025 trends versus the last 4 years has shown an increase in concentrations of phosphorus for the majority of the year. TP annual average was 7.98 mg/L in 2024 and has increased in 2025 to 8.39 mg/L.

**Graph 3. Raw Sewage (Influent) Total Phosphorus Historical Trending for 2021-2025**



The below graph shows the historical raw Total Kjeldahl Nitrogen trending from 2021 to 2025. A review of the 2025 trends versus the last 4 years for TKN has shown an increase in concentrations in the majority of the year. The TKN annual average was 67.34 mg/L in 2024 and has increased in 2025 to 73.87 mg/L.

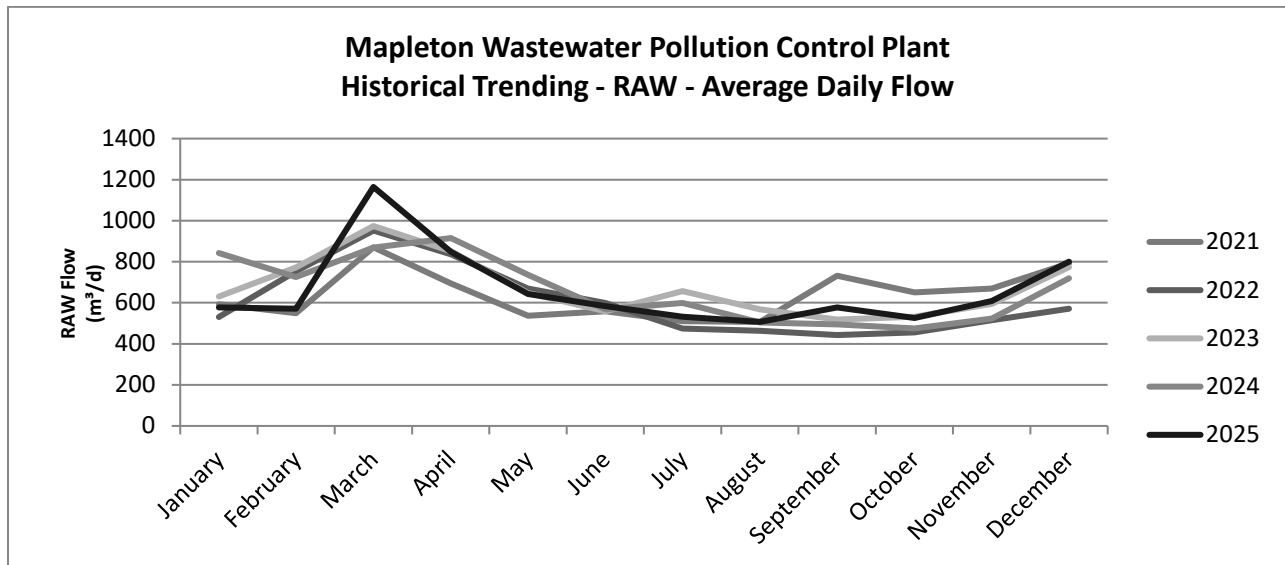
**Graph 4. Raw Sewage (Influent) Total Kjeldahl Nitrogen Historical Trending for 2021-2025**



*Influent Flow*

The graph below illustrates historical influent flow trends from 2021 to 2025. Average daily flows have remained relatively stable over this period, with a gradual year-over-year increase. A consistent peak is observed in March and April each year, which aligns with seasonal snowmelt and increased precipitation associated with warmer spring temperatures.

**Graph 5. Monthly Historical Trending of Daily Average Influent Flow for 2021 to 2025**



The total raw sewage volume treated in 2025 was 241,776 m<sup>3</sup>, representing a slight decrease from the 2024 total of 242,240 m<sup>3</sup>. The 2025 Annual Average Daily Flow was 662.40 m<sup>3</sup>/day, equal to 73.60% of the rated capacity of 900 m<sup>3</sup>/day. The maximum peak flow of 3,657 m<sup>3</sup>/day occurred on March 15, 2025, during normal seasonal snowmelt and rainfall. This peak flow was approximately 4.1 times the rated capacity; however, rated capacity is defined as the annual average daily influent flow the plant is designed to handle, so short-term peak flows are not considered reportable non-compliances.

**2.2 Final Effluent Monitoring and Flow Rates**

As per Section 11(4)(b) of ECA 1391-B38PLA, a summary and interpretation of all Final Effluent monitoring data, including concentration, flow rates, loading and a comparison to the designed objectives and compliance limits in this approval, including an overview of the success and adequacy of the Works is required.

**2.2.1 Sampling Frequency: Effluent**

Samples of effluent are collected and analyzed on a regular basis. The sampling types and frequencies are summarized in Table 4. The sampling frequencies meet the requirements set out in Schedule D of ECA 1391-B38PLA.

**Table 4.** Effluent Sampling Monitoring – Sampling Frequencies

Parameters	Sample Type	Minimum Frequency
CBOD <sub>5</sub> <sup>4A</sup>	24-hour Composite	Weekly
Total Suspended Solids <sup>4A</sup>	24-hour Composite	Weekly
Total Phosphorous <sup>4A</sup>	24-hour Composite	Weekly
Total Ammonia Nitrogen <sup>4A</sup>	24-hour Composite	Weekly
<i>E. Coli</i> <sup>4A</sup>	Grab	Weekly
pH	Grab/Probe	Weekly
Temperature	Grab/Probe	Weekly
Unionized Ammonia	Calculated	Weekly

<sup>4A</sup>Refer to **Appendix A** for monthly summary of results.

*Notes: As per the ECA pH and temperature of the Final Effluent shall be determined in the field at the time of sampling for Total Ammonia Nitrogen and the concentration of un-ionized ammonia shall be calculated using the total ammonia concentration, pH and temperature using the methodology stipulated in "Ontario's Provincial Water Quality Objectives" dated July 1994, as amended.*

## 2.2.2 Effluent Objectives and Limits

The effluent objectives as per Schedule B of ECA 1391-B38PLA for the Mapleton Wastewater Pollution Control Plant are summarized in table 5:

**Table 5.** Effluent Objectives as per Schedule B of ECA 1391-B38PLA

Effluent Parameter	Averaging Calculator	Concentration Objective (mg/L)
CBOD <sub>5</sub>	Monthly Average Effluent Concentration	5.0
Total Suspended Solids	Monthly Average Effluent Concentration	15.0
Total Ammonia Nitrogen	Monthly Average Effluent Concentration	3.0
Total Phosphorous	Monthly Average Effluent Concentration	0.25
<i>E. Coli</i>	Monthly Geometric Mean Density	100 CFU/100mL
pH	Single Sample Result	6.5 - 8.5 inclusive

The effluent limits that are to be met as per Schedule C of ECA 1391-B38PLA for the Mapleton Wastewater Pollution Control Plant are summarized in Table 6. Any exceedance with the limits found in Table 6 constitutes a non-compliance.

**Table 6.** Effluent Limits as per Schedule C of ECA 1391-B38PLA

Effluent Parameter	Averaging Calculator	Concentration Limit (mg/L)
CBOD <sub>5</sub> (April, October)	Monthly Average Effluent Concentration	7.5
(March, November, December)		10.0
Total Suspended Solids	Monthly Average Effluent Concentration	25.0

Effluent Parameter	Averaging Calculator	Concentration Limit (mg/L)
Total Ammonia Nitrogen	Monthly Average Effluent Concentration	5.0
Total Phosphorous	Monthly Average Effluent Concentration	0.42
<i>E.Coli</i>	Monthly Geometric Mean Density	200 CFU/100 mL
pH	Single Sample Result	6.0 - 9.5 Inclusive

### 2.2.3 Effluent Monitoring Data

The following parameters in Table 7 have limits and objectives, they are monitored on a regular basis (see Section 2.2.1 for sampling frequency) as required by Schedule D of ECA 1391-B38PLA. Table 7 summarizes the effluent monitoring data for the reporting period.

**Table 7.** Effluent Monitoring Parameters as required by ECA 1391-B38PLA for Mapleton Wastewater Pollution Control Plant, 2025

Parameters	Average (mg/L)	Minimum (mg/L)	Maximum (mg/L)	Average Annual Loading (kg/d)
CBOD <sub>5</sub> <sup>7A</sup>	3.00	2.00	11.00	8.11
Total Suspended Solids <sup>7A</sup>	5.38	2.00	21.00	14.53
Total Phosphorus <sup>7A</sup>	<0.08	<0.03	0.50	<0.29
Total Ammonia Nitrogen <sup>7A</sup>	0.82	<0.10	4.50	2.21
<i>E.Coli</i> <sup>7A</sup> (GMD)	-	1.00	2.45	-
pH	-	7.44	9.03	-
Temperature	5.98	1.70	16.50	-
Unionized Ammonia	<0.04	<0.001	0.09	-

<sup>7A</sup>Refer to **Appendix A** for monthly sample results.

### 2.2.4 Comparison of Data to Effluent Objectives and Effluent Limits

Analytical and monitoring data for the Mapleton Wastewater Pollution Control Plan is stored in OCWAs data management system (WISKI7). Annual and monthly averages for flows, CBOD<sub>5</sub>, Total Suspended Solids, Total Phosphorous, Nitrogen-series, *E.coli* and pH can be found in **Appendix A**. A comparison of analytical data from effluent samples to the effluent objectives and effluent limits shown in tables 8 to 13. The discharge period for the Mapleton WPCP is March to April and October to December.

*Concentrations and Loadings*

**Table 8.** 2025 Effluent Monthly Average Concentration and Loading of CBOD<sub>5</sub> in Comparison to ECA Objectives and Limits for Mapleton WPCP

	<b>CBOD<sub>5</sub></b>			
	Monthly Average Concentration (mg/L)	Within Objectives (5.00 mg/L)	Within Limits (Apr, Oct – 7.50 mg/L ) (Mar, Nov, Dec - 10.00 mg/L )	Monthly Average Loading (kg/d)
January	n/a	n/a	n/a	n/a
February	n/a	n/a	n/a	n/a
March	2.67	Yes	Yes	7.88
April	9.00	<b>No</b>	<b>No</b> <sup>8A</sup>	29.59
May	n/a	n/a	n/a	n/a
June	n/a	n/a	n/a	n/a
July	n/a	n/a	n/a	n/a
August	n/a	n/a	n/a	n/a
September	n/a	n/a	n/a	n/a
October	<2.00	Yes	Yes	<2.97
November	<2.00	Yes	Yes	<5.94
December	<2.00	Yes	Yes	<6.40

\*There are no CBOD<sub>5</sub> loading objectives or limits in the ECA

\*As per the ECA, CBOD<sub>5</sub> Averaging Calculator is a Monthly Average Effluent Concentration.

<sup>8A</sup> See **Appendix B** for written non-compliance notification details

**Table 9.** 2025 Monthly Average Concentration and Loading of Total Suspended Solids in Comparison to ECA Objectives and Limits for Mapleton WPCP

	<b>Total Suspended Solids</b>			
	Monthly Average Concentration (mg/L)	Within Objectives (15.00 mg/L)	Within Limits (25.00 mg/L)	Monthly Average Loading (kg/d)
January	n/a	n/a	n/a	n/a
February	n/a	n/a	n/a	n/a
March	6.00	Yes	Yes	17.74
April	16.50	<b>No</b>	Yes	54.24
May	n/a	n/a	n/a	n/a
June	n/a	n/a	n/a	n/a
July	n/a	n/a	n/a	n/a
August	n/a	n/a	n/a	n/a
September	n/a	n/a	n/a	n/a

	<b>Total Suspended Solids</b>			
	Monthly Average Concentration (mg/L)	Within Objectives (15.00 mg/L)	Within Limits (25.00 mg/L)	Monthly Average Loading (kg/d)
<b>October</b>	3.75	Yes	Yes	5.56
<b>November</b>	3.00	Yes	Yes	8.91
<b>December</b>	2.67	Yes	Yes	8.53

\*There are no TSS loading objectives or limits in the ECA

\*As per the ECA, TSS Concentration Averaging Calculator is a Monthly Average Effluent Concentration.

**Table 10.** 2025 Monthly Average Concentration and Loading of Total Phosphorus in Comparison to ECA Objectives and Limits for Mapleton WPCP

	<b>Total Phosphorus</b>			
	Monthly Average Concentration (mg/L)	Within Objectives (0.25 mg/L)	Within Limits (0.42 mg/L)	Monthly Average Loading (kg/d)
<b>January</b>	n/a	n/a	n/a	n/a
<b>February</b>	n/a	n/a	n/a	n/a
<b>March</b>	<0.03	Yes	Yes	<0.1
<b>April</b>	0.27	<b>No</b>	Yes	0.89
<b>May</b>	n/a	n/a	n/a	n/a
<b>June</b>	n/a	n/a	n/a	n/a
<b>July</b>	n/a	n/a	n/a	n/a
<b>August</b>	n/a	n/a	n/a	n/a
<b>September</b>	n/a	n/a	n/a	n/a
<b>October</b>	<0.07	Yes	Yes	<0.1
<b>November</b>	<0.04	Yes	Yes	<0.10
<b>December</b>	<0.08	Yes	Yes	<0.26

\*There are no TP loading objectives or limits in the ECA

\*As per the ECA, TP Concentration Averaging Calculator is a Monthly Average Effluent Concentration.

**Table 11.** 2025 Monthly Average Concentration and Loading of Total Ammonia Nitrogen in Comparison to ECA Objectives and Limits for Mapleton WPCP

	<b>Total Ammonia Nitrogen (Ammonia Nitrogen + Ammonium Nitrogen)</b>			
	Monthly Average Concentration (mg/L)	Within Objectives (3.0 mg/L)	Within Limits (5.0 mg/L)	Monthly Average Loading (kg/d)
<b>January</b>	n/a	n/a	n/a	n/a
<b>February</b>	n/a	n/a	n/a	n/a

	<b>Total Ammonia Nitrogen (Ammonia Nitrogen + Ammonium Nitrogen)</b>			
	Monthly Average Concentration (mg/L)	Within Objectives (3.0 mg/L)	Within Limits (5.0 mg/L)	Monthly Average Loading (kg/d)
<b>March</b>	2.23	Yes	Yes	6.60
<b>April</b>	2.60	Yes	Yes	8.55
<b>May</b>	n/a	n/a	n/a	n/a
<b>June</b>	n/a	n/a	n/a	n/a
<b>July</b>	n/a	n/a	n/a	n/a
<b>August</b>	n/a	n/a	n/a	n/a
<b>September</b>	n/a	n/a	n/a	n/a
<b>October</b>	<0.10	Yes	Yes	<0.15
<b>November</b>	<0.10	Yes	Yes	<0.3
<b>December</b>	<0.13	Yes	Yes	<0.43

\*There are no TAN loading objectives or limits in the ECA

\*As per the ECA, TAN Concentration Averaging Calculator is a Monthly Average Effluent Concentration.

**Table 12.** 2025 Monthly Average Concentration and Loading of *E.Coli* in Comparison to ECA Objectives and Limits for Mapleton WPCP

	<b><i>E.coli</i></b>		
	Monthly Geometric Mean Density (CFU/100 mL)	Within Objectives (100 CFU/100 mL)	Within Limits (200 CFU/100 mL)
<b>January</b>	n/a	n/a	n/a
<b>February</b>	n/a	n/a	n/a
<b>March</b>	1.00	Yes	Yes
<b>April</b>	2.45	Yes	Yes
<b>May</b>	n/a	n/a	n/a
<b>June</b>	n/a	n/a	n/a
<b>July</b>	n/a	n/a	n/a
<b>August</b>	n/a	n/a	n/a
<b>September</b>	n/a	n/a	n/a
<b>October</b>	1.00	Yes	Yes
<b>November</b>	1.41	Yes	Yes
<b>December</b>	1.00	Yes	Yes

\*As per the ECA, *E.coli* Averaging Calculator is Monthly Mean Geometric Density.

**Table 13.** 2025 Monthly Minimum and Maximum pH for Mapleton WPCP

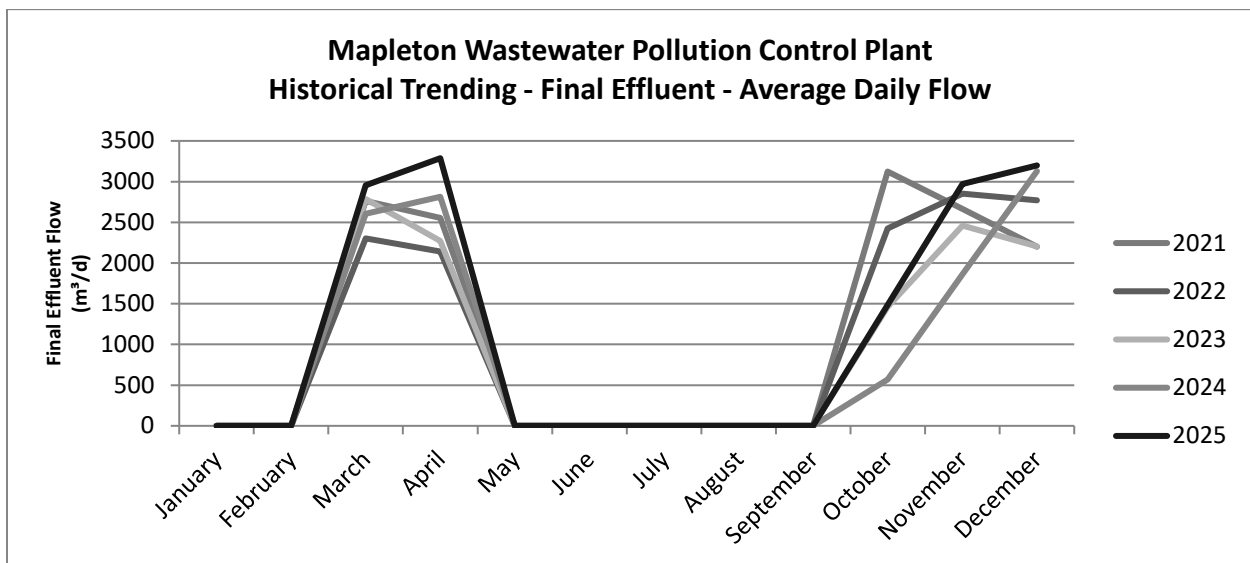
	pH			
	Minimum	Maximum	Within Objectives (6.5 – 8.5)	Within Limits (6.0 – 9.5)
January	n/a	n/a	n/a	n/a
February	n/a	n/a	n/a	n/a
March	8.22	8.44	Yes	Yes
April	8.28	9.03	No	Yes
May	n/a	n/a	n/a	n/a
June	n/a	n/a	n/a	n/a
July	n/a	n/a	n/a	n/a
August	n/a	n/a	n/a	n/a
September	n/a	n/a	n/a	n/a
October	7.44	8.30	Yes	Yes
November	7.97	8.61	No	Yes
December	8.57	8.97	No	Yes

### 2.2.5 Final Effluent Flow and Maximum Discharge Rates

#### Effluent Flow

The below graph shows historical final effluent flow trending from 2021 to 2025. The graph shows that during the discharge periods the final effluent average flows have remained fairly consistent between the discharge periods year over year.

**Graph 6.** Historical Average Daily Final Effluent Flow by Month for 2021 to 2025



The total effluent volume of wastewater treated in 2025 was 308,274.51 m<sup>3</sup> with an annual average daily effluent flow of 2,704.16 m<sup>3</sup>/day, which was an increase from the total effluent volume of wastewater treated in 2024 of 323,797.58 m<sup>3</sup> and annual average daily flow of 2,264.32 m<sup>3</sup>. See table 14 for comparison of maximum daily effluent flow to the maximum final effluent discharge rates as per Schedule C.

**Table 14.** Monthly Average Daily Effluent Flow

2025	Monthly Average Daily Effluent Flow (m <sup>3</sup> )	Monthly Average Daily Effluent Flow Limit (m <sup>3</sup> /day)	Below 10:1 Ratio (Yes/No)
March	2,955.78 <sup>14A</sup>	2,559	Yes
April	3,287.52	4,000	N/A
October	1,483.09 <sup>14A</sup>	233	Yes
November	2,970.00 <sup>14A</sup>	1,854	Yes
December	3,199.09	4,000	N/A

<sup>14A</sup>As per section 8(5) The Owner shall operate the Works such that discharge of Final Effluent from the Works is conducted on a seasonal discharge basis with the effluent being discharged only during the months at the rates as specified in Schedule C. However, discharges in excess of these daily discharges is allowed if the minimum 10:1 of the streamflow to daily discharge rate for the applicable period of that design streamflow occurs, based on actual measurements of flow rate in the Conestogo River.

As per Section 8(5)(b) The Owner shall, during the discharge of Final Effluent, make reference to the streamflow data of the Conestogo River from the Grand River Conservation Authority Website. The Owner shall take responsibility for interpreting the hydrometric data for that day and make the appropriate operational changes. The streamflow provided shall be the basis of proportional discharge for that day and the next six days for the purposes of determining the final effluent discharge rate;

Although instances above show exceeding the schedule C Monthly Average Daily Effluent Limits, they were within the calculated 10:1 ratio and therefore within compliance.

### 2.3 Overview of Success and Adequacy of the Works

During the reporting period, The Mapleton WPCP provided overall effective wastewater treatment, producing final effluent with an annual average TSS concentration of 5.38 mg/L with a removal efficiency of >94.08%. The annual average effluent Total Phosphorus concentration was <0.08 mg/L with a removal efficiency of >96.06%.

The bacteriological quality of the effluent complied with the environmental compliance approval requirement of <200 colony forming units per 100 mL sample. The maximum geometric mean density of organisms for 2025 was 1.00 per 100 mL, indicating extremely effective effluent disinfection.

Based on the monitoring program and effluent quality data, the Mapleton WPCP provided effective treatment for the duration of the 2025 reporting period. Refer to **Appendix A** for more details on the annual and monthly effluent quality results. For the 2025 reporting year, the Mapleton WPCP complied with all of the effluent concentration limits and objectives, with the exception of one non-compliance reported for April 2025 CBOD<sub>5</sub> monthly average limit exceedance. During the month of April 2025 the

TSS and TP objective was exceeded. See **Appendix B** for more information and written notification of non-compliance April 2025 CBOD<sub>5</sub> limit exceedance.

### 3. Deviation(s) from the Monitoring Schedule

As per Section 11(4)(c) of ECA 1391-B38PLA, a summary of any deviation from the monitoring schedule and reasons for the current reporting year and a schedule for the next reporting year is required

During the reporting period, the following deviations occurred from the sampling schedule:

**Table 15.** Deviations from the 2025 Sampling Schedule

Date	Reason for Deviation
April 17, 2025	Effluent and River sample taken 1 day earlier than scheduled – sampling day was shifted to April 16, 2025 to accommodate other work being completed within the Mapleton Systems.

A copy of the sampling schedule for the next reporting year (2026) can be found in **Appendix C** of this report. As per Section 9(1)(b) of ECA 1391-B38PLA the sampling schedule shall be revised and updated every year through rotation of the day of the week/month, for the next reporting period the sampling day has moved to Wednesdays.

### 4. Operating Issues and Corrective Actions

As per Section 11(4)(d) of ECA 1391-B38PLA, a summary of all operating issues encountered and corrective actions taken is required.

There was one operating problem encountered during the reporting period. A non-compliance was reported for the monthly average exceedance for CBOD<sub>5</sub> in April 2025. See **Appendix B** for more information, corrective actions and written notification of non-compliance.

### 5. Maintenance Activities

As per Section 11(4)(e) of ECA 1391-B38PLA, a summary of all normal and emergency repairs and maintenance activities carried out on any major structure, equipment, apparatus or mechanism forming parts of the Works is required.

#### 5.1 Work Management System

Planned maintenance, including scheduled and non-scheduled maintenance activities are captured using a computerized Work Management System (WMS) that allows user to:

- Enter detailed asset information
- Generate and process work orders
- Access maintenance and inspection procedures
- Plan, schedule, and document all asset related tasks and activities
- Access maintenance records and asset histories

Work Orders are automatically generated by the WMS and assigned to the appropriate Operations staff.

## 5.2 Preventative Maintenance Activities

The preventative maintenance tasks completed throughout the reporting period are as follows:

- Monthly blower inspections
- Monthly filter and UV inspection (during discharge periods)
- Annual calibrations (flow meters)
- Annual lifting device inspection

## 5.3 Major Maintenance

Major maintenance activities completed for the reporting period are as follows:

- Air Compressor replacement
- Blower maintenance
- Lifting device repairs
- Mill St. PS check balls & float replacements
- UV parts replacement

## 6. Effluent Quality Assurance and Control

As per Section 11(4)(f) of ECA 1391-B38PLA, *a summary of any effluent quality assurance or control measures undertaken* is required:

Quality assurance and control measures undertaken during the reporting period include adherence to provincial regulations, use of accredited laboratories, operation of the system by licensed Operators, scheduled sampling and analysis, in-house laboratory analysis, and calibration and preventative maintenance of equipment. The sections below provide further details of these measures.

### 6.1 Adherence to Provincial Regulations

The Ontario Clean Water Agency operates the WPCP in accordance with provincial regulations and the Environmental Compliance Approval.

### 6.2 Use of Accredited Laboratories

Analytical tests to monitor the effluent quality are conducted by a laboratory audited by the Canadian Association for Laboratory Accreditation Inc. (CALA) and accredited by the Standards Council of Canada (SCC). Accreditation ensures that the laboratory has acceptable laboratory protocols and test methods in place. It also requires the laboratory to provide evidence and assurances of the proficiency of the analysts performing the test methods. During the reporting period, SGS Canada Inc. conducted all chemical sample analyses.

### **6.3 Operation by Licensed Operators**

The WPCP was operated and maintained by licensed Operators. The mandatory licensing program for operators of sewage treatment facilities in Ontario is regulated under the Ontario Water Resources Act (OWRA) Regulation 435/93 and Ontario Regulation 129/04. A Licensed individual has successfully passed the licensing exam and meets the education and experience requirements set out in the regulation.

### **6.4 Sampling and Analysis**

The Ontario Clean Water Agency followed a sampling and analysis schedule that meets the requirements of the ECA.

### **6.5 In-house Analysis**

Licensed Operators conducted in-house analysis for monitoring purposes using standard methods. The data generated from these tests is used to determine the treatment efficiency while effectively maintaining process control. All in-house monitoring equipment is calibrated based on the manufacturer's recommendations. Using their expertise, Operators of the facility make best efforts to stay within the ECA Effluent Objectives and Limits.

## **7. Calibration and Maintenance Procedures**

As per Section 11(4)(g) of ECA 1391-B38PLA, a summary of the calibration and maintenance carried out on all Influent and Final Effluent monitoring equipment to ensure that the accuracy is within the tolerance of that equipment as required in this Approval or recommended by the manufacturer, is required.

All in-house monitoring equipment is calibrated/verified as per manufacturer's recommendations. A third party on an annual basis also calibrates monitoring and metering equipment. Preventative maintenance is scheduled for all equipment at the sewage treatment plant and pumping stations at regular frequency (frequency depends on the equipment and type of maintenance). Maintenance activities are scheduled within the work management system (Maximo), upon completion, Operators set the work order to complete. On a monthly basis, preventative work orders are reviewed for completion.

SCG Flowmetrix was contracted to calibrate flow measuring equipment on September 8, 2025. All flow meters passed verification. Copies of these calibration reports can be found in **Appendix D** of this report.

## **8. Efforts and Results Achieved in Meeting Effluent Objectives**

As per Section 11(4)(h) of ECA 1391-B38PLA, *a summary of efforts made to achieve the design objectives in this Approval, including an assessment of the issues and recommendations for pro-active actions if any are required under the following situation:*

- i. When any of the design objectives is not achieved more than 50% of the time in a year, or there is an increasing trend in deterioration of Final Effluent quality;*

The Mapleton WPCP was able to achieve final effluent parameter design limits (refer to Table 6) for all monitored parameters during the reporting period, except for one instance in April 2025 for CBOD<sup>5</sup>. Written notification of non-compliance was completed, refer to **Appendix B** for more details.

Overall, based on the data, design objectives were achieved 88% of the time in the reporting year. All final effluent samples were within the Effluent Design Objectives for the reporting period, except for 3 instances in April 2025 for CBOD<sub>5</sub>, TSS and TP. There appears to be no increased trend in deterioration of final effluent quality.

*ii. When the Annual Average Daily Influent Flow reaches 80% of the Rated Capacity;*

During the reporting period, the annual average daily influent flow did not exceed 80% of the rated capacity. The annual average daily flow of raw sewage in 2024 was 73.60 % (662.40 m<sup>3</sup>/day) of the rated capacity (900 m<sup>3</sup>/day). As previously reported in the Annual Performance Report for 2023, the average daily flow had slightly exceeded 80% of the Rated Capacity. The Township of Mapleton and their engineering consultant were notified at that time, and the Township has since taken proactive steps to address future capacity needs. The Township initiated a comprehensive upgrade program for the Works, which includes:

- New Drayton Sewage Pumping Station
- Forcemain Upgrades from Drayton to Lagoon
- Moving Bed Biofilm Reactor (MBBR) Upgrades at the Lagoon
- Re-rating of the Sewage Works

To support these upgrades, the engineering consultant, on behalf of the Township, completed the required Environmental Compliance Approval (ECA) applications for both the Mapleton WPCP upgrades and the Township of Mapleton Collection System in March 2025. Following submission, the MECP granted authorization later that month to proceed with early works while the review of the full design package continued. This authorization allowed the Township to begin initial site civil, structural, mechanical, and electrical components of the projects ahead of final issuance of the ECAs.

The final amended ECA for the Mapleton WPCP and the CLI-ECA for the Township of Mapleton Collection System were subsequently issued on March 27, 2026, enabling the Township to advance the remaining components of the upgrade program.

As part of this process, the engineering consultant, on behalf of the Township, also provided the MECP with the construction and commissioning schedule for the Mapleton WPCP and Drayton SPS upgrades on March 27, 2026. This schedule outlines the anticipated timelines for commissioning and placing the upgraded Works into operation.

These activities reflect the Township's ongoing work to address Rated Capacity considerations and to advance the required upgrades in accordance with MECP approvals and project timelines.

As per the ECA, Condition 6 is imposed *“to establish non-enforceable effluent quality objectives which the Owner is obligated to use best efforts to strive towards on an ongoing basis. These objectives are to be used as a mechanism to trigger corrective action proactively and voluntarily before environmental impairment occurs and before the compliances limits of Condition 6 are exceeded.”*

OCWA as the Operating Authority (on behalf of the Owner) has made best efforts to stay within the Effluent Objectives in the ECA. These efforts are supported through:

- Continuous monitoring equipment
- Regular plant inspections/checks
- In-house sampling and testing
- Laboratory (3<sup>rd</sup> party) analysis of influent and effluent samples
- Data review
- Process optimization and adjustments (as required)
- Scheduled/preventative maintenance
- Repairs as necessary

A summary of the effluent quality in comparison to the effluent objectives can be found in Tables 8 to 13. These results show that the sewage treatment operations for 2025 minimized environmental impairment and provided effluent quality that was within all effluent objectives outlined in the ECA for the duration of the reporting period.

## 9. Sludge Generation

As per Section 11(4)(i) of ECA 1391-B38PLA, *an estimate of sludge volumes in the lagoon cells. Sludge volume is to be measured every five (5) years, but may be estimated in the interim years. A summary of disposal locations and volumes of sludge disposed of must also be provided if sludge was disposed of during the reporting period* is required

There was no sludge hauled/disposed of from the lagoon system in 2025. The volume of sludge in all cells had been estimated using sludge judge depth calculations in 2024. The Township of Mapleton and CIMA+ Engineering have advised of a Cell 2 cleanout upon completion of the MBBR upgrade.

The estimated sludge volume in the lagoon cells can be seen in Table 16 below. Values below documented from the Sludge Depth Measurement Report dated May 7, 2024. CIMA+ Engineering has advised that a more detailed sludge volume analysis will be conducted with drone technology upon completion of the MBBR.

**Table 16.** Estimated Lagoon Cell Sludge Volumes (as of May 7, 2024)

Cell	Estimated Sludge Volume (m <sup>3</sup> )
Cell 1	7,712
Cell 2	12,989
Cell 3	9,515
Cell 4A	4,998
Cell 4B	9,500

## **10. Complaints**

As per Section 11(4)(j) of ECA 1391-B38PLA, *a summary of any complaints received during the reporting period and any steps taken to address the complaints* is required.

A standard operating procedure (SOP) is in place for addressing complaints received from the community. All complaints are addressed and documented in the facility logbook. Community complaint information is also entered into the work management system (WMS), which maintains the required details and the full history of all complaints.

There were no complaints received during the reporting period.

## **11. By-pass, Spill or Abnormal Discharge Events**

As per Section 11(4)(k) of ECA 1391-B38PLA, *a summary of all By-pass, Overflows, other situations outside Normal Operating Conditions and spills within the meaning of Part X of EPA and abnormal discharge events* is required.

There were no bypass, spill or abnormal discharge events that occurred during the reporting period.

ECA 1391-B38PLA requires that Quarterly bypass/overflow reports are to be submitted to the Water Supervisor. All 2025 quarterly reports were submitted to the Water Supervisor by the deadlines specified in the ECA.

## **12. Notice of Modifications**

As per Section 11(4)(l) of ECA 1391-B38PLA, *a summary of all Notice of Modifications to Sewage Works completed under Paragraph 1.d. of Condition 10, including a report on status of implementation of all modification* is required.

There were no modifications made during the reporting period to the Mapleton Wastewater Pollution Control Plant which would require a Notice of Modifications be submitted to the Water Supervisor.

## **13. Bypass/Overflow Proposed Elimination Projects**

As per Section 11(4)(m) of ECA 1391-B38PLA, *a summary of efforts made to achieve conformance with Procedure F-5-1 including but not limited to projects undertaken and completed in the sanitary sewer systems that result in overall Bypass/Overflow elimination including expenditures and proposed projects to eliminate Bypass/Overflows with estimated budget forecast for the year following that for which the report is submitted* is required.

There were no bypass or overflow events at the Mapleton Wastewater Pollution Control Plant during the 2025 reporting period. However, in accordance with Section 11(4)(m) of ECA 1391-B38PLA, the Township continued to undertake routine maintenance, monitoring, and system management activities to support conformance with Procedure F-5-1 and reduce the risk of bypass/overflow events.

A detailed summary of calibration, maintenance, and repair activities completed during the reporting period is provided in Section 16.4 of this report. These activities included annual and in-house calibration of monitoring and metering equipment, preventative maintenance scheduled through the Township's work management system (Maximo), and third-party calibration of flow-measuring equipment at the sewage pumping stations by SCG Flowmetrix on September 8, 2025. Maintenance and repair work at the Drayton and Moorefield Sewage Pump Stations included generator inspections and load testing, annual pump inspections, wet well inspections and cleanouts, and component replacements as required.

These activities contribute to maintaining system reliability, minimizing inflow and infiltration impacts, and reducing the likelihood of bypass or overflow events.

### **13.1 Proposed Projects for 2026**

To support continued conformance with Procedure F-5-1 and reduce the potential for bypass or overflow events, the following projects are planned for 2026:

- Construction of the new Drayton Sewage Pumping Station - which will improve pumping reliability and wet-weather conveyance capacity.
- Forcemain upgrades from Drayton to the Lagoon -intended to enhance conveyance capacity and reduce the risk of surcharging or forcemain failure during high-flow conditions.
- Addition of a Moving Bed Biofilm Reactor into the lagoon process to enhance treatment and achieve lower effluent limit criteria (this project is related to the treatment process and not the collection system but is included in the below estimated budget allocation amount)

These works form part of the broader Mapleton wastewater system upgrades, with commissioning of the new infrastructure anticipated in 2027. Estimated 2026 budget allocations for these projects total \$712,600.

## **14. Changes/updates to Scheduled Construction/Commissioning**

As per Section 11(4)(n) of ECA 1391-B38PLA, *any changes or updates to the schedule for the completion of construction and commissioning operation of major process(es)/equipment groups in the Proposed Works* is required.

The Proposed Works associated with the ECA applicable to the 2025 reporting period (ECA #105-W601, Issue #1, issued January 10, 2023) were previously completed, with substantial completion achieved on November 15, 2018. As such, there were no construction or commissioning schedule updates required during the 2025 reporting period.

A new ECA was issued on March 27, 2026, which includes a new set of Proposed Works. The initial construction and commissioning schedule for these new works was submitted to the MECP on the same date, and any updates will be reported in the 2026 Annual Performance Report.

## 15. Water Balance Analysis

Refer to **Appendix E** for enhanced reporting of flow, loadings and water balance analysis calculated on the Lagoons Water Balance spreadsheet, which is provided to the Grand River Conservation Authority each year.

## 16. Municipal Sewage Collection System - Annual Performance Report

This report was prepared in accordance with the requirements of the Environmental Compliance Approval for a Municipal Sewage Collection Systems, Schedule E, Section 4.6.1.

<b>Municipal Sewage Collection System ECA #</b>	105-W601, Issue 1
<b>Sewage Works</b>	Township of Mapleton Sewage Collection Systems
<b>Collection System Owner</b>	The Corporation of the Township of Mapleton
<b>Reporting Period</b>	January 1, 2025 to December 31, 2025

### Is the Annual Report available to the public at no charge on a website on the Internet?

Yes

*Note: As per Schedule E, Section 4.7.1 of CLI-ECA #105-W601-, the annual performance report must be made available, on request and without charge, to members of the public who are served by the Authorized System; and 4.7.2 must be made available, by June 1<sup>st</sup> of the same reporting year, to members of the public without charge by publishing the report on the Internet, if the Owner maintains a website on the Internet.*

### Location where Annual Performance Report required under CLI-ECA #105-W601, Schedule E will be available for inspection. (CLI-ECA #101-W601, Schedule E, Section 4.6.1 & 4.7.1):

- Township of Mapleton Town Office, 7275 Sideroad 16, Drayton, Ontario, N0G 1P0
- <https://www.mapleton.ca/administration-and-town-hall/reports-studies-and-standards/wastewater-reports/>

Pursuant to Schedule E, sections 4.6.3 to 4.6.9, this Annual Performance Report shall:

- a) If applicable, includes a summary of all required monitoring data along with an interpretation of the data and any conclusion drawn from the data evaluation about the need for future modifications to the Authorized System or system operations.
- b) If applicable, include a summary of any operating problems encountered and corrective actions taken.
- c) Includes a summary of all calibration, maintenance, and repairs carried out on any major structure, Equipment, apparatus, mechanism, or thing forming part of the Municipal Sewage Collection System.

- d) Include a summary of any complaints related to the Sewage Works received during the reporting period and any steps taken to address the complaints.
- e) Include a summary of all Alterations to the Authorized System within the reporting period that are authorized by this Approval including a list of Alterations that pose a Significant Drinking Water Threat.
- f) Include a summary of all Collection System Overflow(s) and Spill(s) of Sewage.
  - i. Dates;
  - ii. Volumes and durations;
  - iii. If applicable, loadings for total suspended solids, BOD, total phosphorus, and total kjeldahl nitrogen and sampling results for E.Coli;
  - iv. Disinfection, if any; and
  - v. Any adverse impacts(s) and any corrective actions, if applicable
- g) Includes a summary of efforts made to reduce Collection System Overflows, Spills, STP Overflows, and/or STP Bypasses, including the following items, as applicable:
  - i. A description of projects undertaken and completed in the Authorized System that result in overall overflow reduction or elimination including expenditures and proposed projects to eliminate overflows with estimated budget forecast for the year following that for which the report is submitted.
  - ii. Details of the establishment and maintenance of a PPCP, including a summary of project progresses compared to the PPCP's timelines.
  - iii. An assessment of the effectiveness of each action taken.
  - iv. An assessment of the ability to meet Procedure F-5-1 or Procedure F-5-5 objectives (as applicable) and if able to meet the objectives, an overview of next steps and estimated timelines to meet the objectives.
  - v. Public reporting approach including proactive efforts.

## 16.1 Description of the Works

The Township of Mapleton Sewage Collection System is owned by the Township of Mapleton and operated on behalf of the Owner by the Ontario Clean Water Agency (OCWA). The system is composed of two subsystems: The Drayton Sewage Collection System and the Moorefield Sewage Collection System which service the areas of Drayton and Moorefield respectively.

### The Drayton Collection System

The Drayton Collection System includes gravity sewers and one final sewage pumping station with a forcemain that discharges to the Mapleton Wastewater Pollution Control Plant. The sewage pumping station(s) in the Authorized system include:

- Drayton Sewage Pumping Station (SPS) – located at 13 Main St. West (accessed off of Mill Street) in Drayton the works consists of one wet well, two pumps (one duty and one standby), one basket

screen at the inlet, floats and alarms, and emergency overflow, all of which pumps via forcemain to the Mapleton WPCP. The SPS is equipped with a stand-by diesel generator in case of power failure.

### **The Moorefield Collection System**

The Moorefield collection system includes individual packaged sewage pumping stations at each property connected to a low pressure sanitary sewer system and one final sewage pumping station in Moorefield with a forcemain that discharges to the Mapleton Wastewater Pollution Control Plant. The sewage pumping station(s) in the Authorized system include:

- Moorefield Sewage Pumping Station (SPS) - located at 20 Booth St. East in Moorefield the works consists of one wet well, two pumps (one duty and one standby), floats and alarms, and emergency overflow, all of which pumps via forcemain to the Mapleton WPCP. The SPS is equipped with a stand-by diesel generator in case of power failure.

The Mapleton Municipal Collection System contains no combined sewage pumping stations, no combined sewage storage structures or combined storage tanks. The authorized collection system also contains no authorized combined sewer collection system overflow points and two authorized sanitary sewer overflow points at each of the SPS listed above. For Drayton SPS the authorized emergency overflow point is the wet well discharging to the Conestogo River and for the Moorefield SPS the authorized emergency overflow point is the wet well discharging to a ditch that would then discharge to Moorefield Creek.

## **16.2 Summary of Monitoring Data and Interpretation**

No monitoring data was required within the municipal sewage collection system for the reporting period.

## **16.3 Summary of Operating Problems Encountered and Corrective Actions Taken**

There were no operating problems encountered within the municipal sewage collection system.

## **16.4 Summary of Calibration, Maintenance, and Repairs**

All in-house monitoring equipment is calibrated/verified as per manufacturer's recommendations. Monitoring and metering equipment is also calibrated by a third party on an annual basis. Preventative maintenance is scheduled for all equipment at the sewage treatment plant and pumping stations at regular frequency (frequency depends on the equipment and type of maintenance). Maintenance activities are scheduled within the work management system (Maximo), upon completion, Operators set the work order to complete. On a monthly basis, preventative work orders are reviewed for completion.

SCG Fowmetrix was contracted to calibrate flow measuring equipment within the Sewage Pump Stations on September 8, 2025. Copies of the calibration reports can be found in **Appendix D** of this report.

The following Maintenance and Repair Activities were completed during the reporting period:

#### **Drayton Sewage Pump Station**

- Monthly/annual generator inspections and load testing
- Annual pump inspections and lifecycle replacement
- Annual wet well Inspection and clean out
- Check ball & float replacement

#### **Moorefield Sewage Pump Station**

- Monthly/annual generator Inspections and load testing
- Annual pump Inspection
- Annual wet well inspection and clean out

### **16.5 Community Complaints Received in Relation to the Sewage Works**

A standard operating procedure (SOP) is in place for addressing complaints received from the community. All complaints are addressed and documented in the facility logbook. Community complaint information is also entered into the work management system (WMS), which maintains the required details and the full history of all complaints.

There were no complaints received during the reporting period.

### **16.6 Alterations to the Authorized System**

Authorized alterations to the system are currently underway as noted in section 8.0 and 13.1 above.

### **16.7 Summary of Collection System Overflow(s) and Spill(s) of Sewage**

There were no collection system overflow(s) or spill(s) events that occurred during the reporting period

### **16.8 Efforts Made to Reduce Collection System Overflows, Spills, STP Overflows, and/or STP Bypasses**

This section summarizes the efforts to reduce the risk of collection system overflows, spills, sewage treatment plant (STP) overflows, and STP bypasses during the 2025 reporting period. The information below is provided in accordance with the CLI-ECA requirements and includes completed and proposed projects, an assessment of effectiveness, alignment with Procedure F-5-1 objectives, and the Township's public reporting approach.

#### **16.8.1 Projects Undertaken and Completed, Expenditures, and Proposed Projects**

A detailed summary of 2025 calibration, maintenance, and repair activities, as well as proposed 2026 projects and associated budget forecasts, is provided in Section 13 of this report. These activities include routine preventative maintenance, annual calibration of monitoring equipment, and planned upgrades to the Drayton Sewage Pumping Station and the Drayton–Lagoon forcemain. These efforts support

conformance with Procedure F-5-1 and contribute to the reduction of bypass and overflow risks within the Authorized System.

### **16.8.2 Pollution Prevention and Control Plan (PPCP)**

The Mapleton collection system doesn't contain combined sewers, therefore a pollution prevention and control plan is not required for the system.

### **16.8.3 Effectiveness of Actions Taken**

OCWA maintains several operational controls that effectively reduce the likelihood of collection system overflows and bypasses. Sewage pump stations are equipped with alarm monitoring for high-flow events, enabling timely operator response to abnormal conditions. Preventative maintenance procedures are also in place to ensure reliable pump station performance, including:

- Annual pump and pump station inspections
- Annual third-party generator inspections and load testing
- Annual wet well cleanouts and inspections

These measures, combined with the maintenance and calibration activities summarized in Section 13 and Section 16.4, were effective in preventing any bypass or overflow events during the 2025 reporting period.

### **16.8.4 Ability to Meet Procedure F-5-1 Objectives**

Based on current system performance and the absence of bypass or overflow events in 2025, the operational intent of Procedure F-5-1 is being met. Planned 2026 upgrades to the Township of Mapleton Collection System will further enhance conveyance capacity and system reliability. These works form part of the broader Mapleton wastewater system upgrades, with commissioning of the new infrastructure anticipated in 2027, which is expected to further strengthen the system's ability to meet F-5-1 objectives.

### **16.8.5 Public Reporting Approach**

OCWA completes all required notifications and reporting in accordance with applicable regulatory requirements and established procedures. OCWA also informs the Township of Mapleton, as the Owner, of any reportable events to ensure timely communication, documentation, and follow-up. Although no bypasses or overflows occurred in 2025, both OCWA and the Township remain committed to transparent reporting and effective communication should an event occur in the future.

# Appendix A

## Performance Assessment Report

### 2025

**6093 DRAYTON WASTEWATER TREATMENT LAGOON 120001782**

	1/ 2025	2/ 2025	3/ 2025	4/ 2025	5/ 2025	6/ 2025	7/ 2025	8/ 2025	9/ 2025	10/ 2025	11/ 2025	12/ 2025	<--Total-->	<--Avg-->	<--Max-->	<-Criteria-->
<b>Flows</b>																
Raw Flow: Total - Raw Sewage Drayton m³/d	15,544.00	13,902.00	33,052.00	22,721.00	17,402.00	15,433.00	14,412.00	13,740.00	15,150.00	14,129.00	16,105.00	22,208.00	213,798.00			0.00
Raw Flow: Total - Raw Sewage Flow from Moorefield m³/d	2,340.00	2,101.00	3,045.00	2,746.00	2,503.00	2,091.00	2,067.00	1,977.00	2,170.00	2,162.00	2,174.00	2,602.00	27,978.00			0.00
Raw Flow: Total - Raw Sewage Total m³/d	17,884.00	16,003.00	36,097.00	25,467.00	19,905.00	17,524.00	16,479.00	15,717.00	17,320.00	16,291.00	18,279.00	24,810.00	241,776.00			0.00
Raw Flow: Avg - Raw Sewage Total m³/d	576.90	571.54	1,164.42	848.90	642.10	584.13	531.58	507.00	577.33	525.52	609.30	800.32		662.40		
Raw Flow: Avg - Raw Sewage Flow from Moorefield m³/d	75.48	75.04	98.23	91.53	80.74	69.70	66.68	63.77	72.33	69.74	72.47	83.94		76.65		
Raw Flow: Avg - Raw Sewage Drayton m³/d	501.42	496.50	1,066.19	757.37	561.35	514.43	464.90	443.23	505.00	455.77	536.83	716.39		585.75		750.00
Raw Flow: Max - Raw Sewage Drayton m³/d	813.00	947.00	3,406.00	2,291.00	922.00	754.00	630.00	727.00	1,726.00	620.00	763.00	2,929.00			3,406.00	0.00
Raw Flow: Max - Raw Sewage Flow from Moorefield m³/d	102.00	114.00	251.00	192.00	103.00	101.00	100.00	94.00	123.00	87.00	107.00	127.00			251.00	0.00
Raw Flow: Max - Raw Sewage Total m³/d	915.00	1,061.00	3,657.00	2,483.00	1,019.00	855.00	718.00	792.00	1,772.00	701.00	846.00	3,056.00			3,657.00	0.00
Raw Flow: Count - Raw Sewage Total m³/d	31.00	28.00	31.00	30.00	31.00	30.00	31.00	31.00	30.00	31.00	30.00	31.00	365.00			0.00
Raw Flow: Count - Raw Sewage Drayton m³/d	31.00	28.00	31.00	30.00	31.00	30.00	31.00	31.00	30.00	31.00	30.00	31.00	365.00			0.00
Raw Flow: Count - Raw Sewage Flow from Moorefield m³/d	31.00	28.00	31.00	30.00	31.00	30.00	31.00	31.00	30.00	31.00	30.00	31.00	365.00			0.00
Eff. Flow: Total - Final Effluent m³/d	0.00	0.00	73,894.59	42,737.70	0.00	0.00	0.00	0.00	0.00	38,560.44	89,100.03	63,981.75	308,274.51			0.00
Eff. Flow: Avg - Final Effluent m³/d	0.00	0.00	2,955.78	3,287.52	0.00	0.00	0.00	0.00	0.00	1,483.09	2,970.00	3,199.09		2,704.16		4,000.00
Eff. Flow: Max - Final Effluent m³/d	0.00	0.00	3,709.33	3,670.68	0.00	0.00	0.00	0.00	0.00	3,504.53	3,630.52	3,588.61			3,709.33	0.00
Eff Flow: Count - Final Effluent m³/d	0.00	0.00	25.00	13.00	0.00	0.00	0.00	0.00	0.00	26.00	30.00	20.00	114.00			0.00
<b>Biochemical Oxygen Demand: BOD5</b>																
Raw: Avg BOD5 - Raw Sewage Drayton mg/L	331.50	317.50	203.50	327.75	333.60	172.50	287.33	394.00	382.50	393.50	355.00	239.33		311.58	394.00	0.00
Raw: # of samples of BOD5 - Raw Sewage Drayton mg/L	2.00	2.00	2.00	4.00	5.00	2.00	3.00	2.00	2.00	2.00	2.00	3.00	31.00			0.00
<b>Carbonaceous Biochemical Oxygen Demand: CBOD</b>																
Eff: Avg cBOD5 - Final Effluent including Bypass mg/L	0.00	0.00	2.67	9.00	0.00	0.00	0.00	0.00	0.00	< 2.00	< 2.00	< 2.00		3.00	9.00	10.00
Eff: # of samples of cBOD5 - Final Effluent including Bypass mg/L	0.00	0.00	3.00	2.00	0.00	0.00	0.00	0.00	0.00	4.00	4.00	3.00	16.00			0.00
Loading: cBOD5 - Final Effluent including Bypass kg/d	0.000	0.000	7.882	29.588	0.000	0.000	0.000	0.000	0.000	< 2.966	< 5.940	< 6.398		8.11	29.59	
<b>Total Suspended Solids: TSS</b>																
Raw: Avg TSS - Raw Sewage Drayton mg/L	394.00	299.50	259.00	278.50	358.40	166.50	331.00	492.00	330.50	470.00	361.00	261.00		329.90	492.00	0.00
Raw: # of samples of TSS - Raw Sewage Drayton mg/L	2.00	2.00	2.00	4.00	5.00	2.00	3.00	2.00	2.00	2.00	2.00	3.00	31.00			0.00
Eff: Avg TSS - Final Effluent including Bypass mg/L	0.00	0.00	6.00	16.50	0.00	0.00	0.00	0.00	0.00	3.75	3.00	2.67		5.38	16.50	25.00
Eff: # of samples of TSS - Final Effluent including Bypass mg/L	0.00	0.00	3.00	2.00	0.00	0.00	0.00	0.00	0.00	4.00	4.00	3.00	16.00			0.00
Loading: TSS - Final Effluent including Bypass kg/d	0.000	0.000	17.735	54.244	0.000	0.000	0.000	0.000	0.000	5.562	8.910	8.531		14.53	54.24	
<b>Total Phosphorus: TP</b>																

From 1/1/2025 to 12/31/2025

Raw: Avg TP - Raw Sewage Drayton mg/L	12.41	7.40	5.62	6.85	9.19	3.97	9.55	13.60	5.51	11.00	9.22	6.90		8.39	13.60	0.00
Raw: # of samples of TP - Raw Sewage Drayton mg/L	2.00	2.00	2.00	4.00	5.00	2.00	3.00	2.00	2.00	2.00	2.00	3.00	31.00			0.00
Eff: Avg TP - Final Effluent including Bypass mg/L	0.00	0.00	< 0.03	0.27	0.00	0.00	0.00	0.00	0.00	< 0.07	< 0.04	< 0.08		< 0.08	< 0.27	0.42
Eff: # of samples of TP - Final Effluent including Bypass mg/L	0.00	0.00	3.00	2.00	0.00	0.00	0.00	0.00	0.00	4.00	4.00	3.00	16.00			0.00
Loading: TP - Final Effluent including Bypass kg/d	0.000	0.000	< 0.099	0.888	0.000	0.000	0.000	0.000	0.000	< 0.096	< 0.104	< 0.256		< 0.29	< 0.89	

**Nitrogen Series**

Raw: Avg TKN - Raw Sewage Drayton mg/L	103.00	63.05	50.20	61.43	76.32	41.90	89.97	119.15	43.70	98.80	85.25	60.87		73.87	119.15	0.00
Raw: # of samples of TKN - Raw Sewage Drayton mg/L	2.00	2.00	2.00	4.00	5.00	2.00	3.00	2.00	2.00	2.00	2.00	3.00	31.00			0.00
Eff: Avg TAN - Final Effluent including Bypass mg/L	0.00	0.00	2.23	2.60	0.00	0.00	0.00	0.00	0.00	< 0.10	< 0.10	< 0.13		0.82	2.60	5.00
Eff: # of samples of TAN - Final Effluent including Bypass mg/L	0.00	0.00	3.00	2.00	0.00	0.00	0.00	0.00	0.00	4.00	4.00	3.00	16.00			0.00
Loading: TAN - Final Effluent including Bypass kg/d	0.000	0.000	6.601	8.548	0.000	0.000	0.000	0.000	0.000	< 0.148	< 0.297	< 0.427		2.21	8.55	

**pH**

Eff: Min pH Field: Lab Upload - Final Effluent ---	0.00	0.00	8.22	8.28	0.00	0.00	0.00	0.00	0.00	7.44	7.97	8.57				9.50
Eff: Max pH Field: Lab Upload - Final Effluent ---	0.00	0.00	8.44	9.03	0.00	0.00	0.00	0.00	0.00	8.30	8.61	8.97			9.03	9.50

**Disinfection**

Eff: GMD E. Coli MPN - Final Effluent MPN	0.00	0.00	1.00	2.45	0.00	0.00	0.00	0.00	0.00	1.00	1.41	1.00				
Eff: # of samples of E. Coli MPN - Final Effluent	0.00	0.00	3.00	2.00	0.00	0.00	0.00	0.00	0.00	4.00	4.00	3.00	16.00			0.00

## Appendix B

### ECA Limit Exceedance Email/Written Notifications

## Melissa Cortes

---

**From:** Melissa Cortes  
**Sent:** May-22-25 1:23 PM  
**To:** carola.serwotka@ontario.ca  
**Cc:** Jenna Porter; Dwight Hallahan; 'Jamie Morgan'; -GHRH-SPCM@ocwa.com (Mailing List); Caralynn McRae; Murray MacRitchie; Steve Miller; Dan Yake  
**Subject:** Mapleton WPCP Exceedance Notification (CBOD5) - April 2025

Hello Carola,

This is a notification that the Mapleton Wastewater Pollution Control Plant has met all but one of its ECA compliance limits (**CBOD5**) for the month of **April 2025**.

**Facility:** Mapleton Wastewater Pollution Control Plant

**ECA #** 1391-B38PLA

**ECA Issued:** August 2, 2018

### April 2025

Mapleton Wastewater Pollution Control Plant			3 <sup>rd</sup>	10 <sup>th</sup>	16 <sup>th</sup>	24 <sup>th</sup>	MONTHLY AVERAGE	Reportable
PARAMETER	LIMIT	OBJECTIVE						
CBOD5	7.5 mg/L	5.0 mg/L	-	7.00	11.0	-	9.0	Monthly

### Results Summary

1. **CBOD5** – the monthly average concentration of 9.0 mg/L was above the ECA Compliance Limit.

### Reporting Actions

Verbally notified Carola Serwotka Provincial Office/Water Inspector with the MECP Guelph District Office of the exceedance on May 22, 2025 a 1:20 pm via phone call.

### Process Timeline

On April 2<sup>nd</sup> through to April 9<sup>th</sup> the discharge was shut down and unable to take sample for the first week of the April, due to compressor issues and repairs being completed. On start up after repairs in the second week sample was taken. The strong winds that occurred in April were causing the solids from the bottom of the cell to stir up into the effluent causing high turbidity which played a role in the effluent quality deteriorating, looking dirty/cloudy and discharge was shut down April 20<sup>th</sup> for the remainder of the discharge period.

### Corrective Actions taken

Discharge was shut down for repairs required that didn't allow for 1<sup>st</sup> week sample. On April 20<sup>th</sup>, it was observed that the effluent quality was deteriorating and it was shut down for the remainder of the discharge period.

If there are any questions or comments concerning this matter, please let us know.

Thank you,

**Melissa Cortes (she/her)**

Process & Compliance Technician

North & South Highlands Hubs, Georgian Highlands Region

300 Centennial Road  
Shelburne ON, L9V 2Z4  
Cell: 519-938-6909 Email: [mcortes@ocwa.com](mailto:mcortes@ocwa.com)

**OCWA**



## Appendix C

### 2026 Sampling Schedule

**2026 Sampling Calendar  
DRAYTON LAGOON (Org #6093)  
WWT I, WWC I**

JANUARY						
Su	M	T	W	TH	F	Sa
				1	2	3
4	5	6	7	8	9	10
11	12	13	14 - BW	15	16	17
18	19	20	21	22	23	24
25	26	27	28 - BW	29	30	31

FEBRUARY						
Su	M	T	W	TH	F	Sa
1	2	3	4	5	6	7
8	9	10	11 - BW	12	13	14
15	16	17 - LCS	18 - LCS	19 - LCS	20 - LCS	21
22	23	24	25 - BW	26	27	28

MARCH						
Su	M	T	W	TH	F	Sa
1	2	3	4 - W/R	5	6	7
8	9	10	11 - BW/W/R	12	13	14
15	16	17	18 - W/R	19	20	21
22	23	24	25 - BW/W/R	26	27	28
29	30	31				

APRIL						
Su	M	T	W	TH	F	Sa
			1 - W/R	2	3	4
5	6	7	8 - BW/W/R	9	10	11
12	13	14	15 - W/R	16	17	18
19	20	21	22 - BW/W/R	23	24	25
26	27	28	29 - W/R	30		

MAY						
Su	M	T	W	TH	F	Sa
					1	2
3	4	5	6 - BW	7	8	9
10	11	12	13	14	15	16
17	18	19	20 - BW	21	22	23
24	25	26	27	28	29	30
31						

JUNE						
Su	M	T	W	TH	F	Sa
	1	2	3 - BW	4	5	6
7	8	9	10	11	12	13
14	15	16	17 - BW	18	19	20
21	22	23	24	25	26	27
28	29	30				

Stat Holiday/Weekend	<b>BW</b> =Bi-Weekly Raw; <b>W</b> =Weekly Effluent; <b>R</b> =Weekly River; <b>LCS</b> =Lagoon Cell Sampling (Required at least 7 days prior to discharge)
<b>Sample Day</b>	Discharge Periods: March-April & October-December

If you are NOT able to sample on the scheduled day, call your PCT as soon as possible

S:\WestHighlands\12 MAPLETON (Township of)\01 OPERATIONAL\1-1 Sampling Schedules\04 Drayton Lagoon WWTP\2026 Sampling Calendar\_DraytonLagoon\_Waste\_2025.12.15.xlsx

**2026 Sampling Calendar  
DRAYTON LAGOON (Org #6093)  
WWT I, WWC I**

JULY						
Su	M	T	W	TH	F	Sa
			1	2 - BW	3	4
5	6	7	8	9	10	11
12	13	14	15 - BW	16	17	18
19	20	21	22	23	24	25
26	27	28	29 - BW	30	31	

AUGUST						
Su	M	T	W	TH	F	Sa
						1
2	3	4	5	6	7	8
9	10	11	12 - BW	13	14	15
16	17	18	19	20	21	22
23	24	25	26 - BW	27	28	29
30	31					

SEPTEMBER						
Su	M	T	W	TH	F	Sa
		1	2	3	4	5
6	7	8	9 - BW	10	11	12
13	14 - LCS	15 - LCS	16 - LCS	17 - LCS	18 - LCS	19
20	21	22	23 - BW	24	25	26
27	28	29	30			

OCTOBER						
Su	M	T	W	TH	F	Sa
				1 - W/R	2	3
4	5	6	7 - BW/W/R	8	9	10
11	12	13	14 - W/R	15	16	17
18	19	20	21 - BW/W/R	22	23	24
25	26	27	28 - W/R	29	30	31

NOVEMBER						
Su	M	T	W	TH	F	Sa
1	2	3	4 - BW/W/R	5	6	7
8	9	10	11	12 - W/R	13	14
15	16	17	18 - BW/W/R	19	20	21
22	23	24	25 - W/R	26	27	28
29	30					

DECEMBER						
Su	M	T	W	TH	F	Sa
		1	2 - BW/W/R	3	4	5
6	7	8	9 - W/R	10	11	12
13	14	15	16 - BW/W/R	17	18	19
20	21	22	23 - W/R	24	25	26
27	28	29	30 - BW/W/R	31		

**Stat Holiday/Weekend** BW=Bi-Weekly Raw; W=Weekly Effluent; R=Weekly River; LCS=Lagoon Cell Sampling (Required at least 7 days prior to discharge)

**Sample Day** Discharge Periods: March-April & October-December

If you are NOT able to sample on the scheduled day, call your PCT as soon as possible

S:\WestHighlands\12 MAPLETON (Township of)\01 OPERATIONAL\1-1 Sampling Schedules\04 Drayton Lagoon WWTP\2026 Sampling Calendar\_DraytonLagoon\_Waste\_2025.12.15.xlsx

# Appendix D

## Calibration Reports

### 2025

AS FOUND CERTIFICATION

FORWARD FLOW DIRECTION

**PASS**

**CLIENT DETAIL**

CUSTOMER OCWA - Highlands Hub  
CONTACT Jenna Porter / Don Irvine  
Senior Operations Manager / Process Compliance Technician  
Cell: 519-323-6760 / Cell: 519-321-9474  
Email: jporter2@ocwa.com / dirvine@ocwa.com

[MUT] MANUFACTURER  
MODEL  
CONVERTER S/N:  
FUSE

**EQUIPMENT DETAIL**

ENDRESS & HAUSER  
Promag 53  
F61F0119000  
LP #10

PLANT ID Drayton Mill Street PS  
METER ID Sewage Flow  
FIT ID FIT-100  
CLIENT TAG n/a  
OTHER n/a  
GPS COORDINATES N43 45.234 W080 40.440

VER. BY - FM Daniel Kettlewell

Quality Management Standards Information -  
Reference equipment and instrumentation used to  
conduct this verification test is found in our AC-  
QMS document at the time this test was

VERIFICATION DATE September 11th 2025  
CAL. FREQUENCY Annual  
CAL. DUE DATE September 2026

**PROGRAMMING PARAMETERS**

DIAMETER (DN)	mm	150
F.S. FLOW - MAG	LPS	176.709
F.S. RANGE - O/P	LPS	100.000
TUBE k-FACTOR		1.09550
TUBE zero		0.00000

**FORWARD TOTALIZER INFORMATION**

AS FOUND	2737537	M3
AS LEFT	2737639	M3
DIFFERENCE	102	M3

**TEST CRITERIA**

AS FOUND CERTIFICATION TEST	Yes
FORWARD FLOW DIRECTION	Yes
ALLOWABLE [%] ERROR	5

**COMPONENTS TESTED**

CONVERTER DISPLAY	yes
mA OUTPUT	yes
TOTALIZER	yes
ACCURACY BASED ON [% o.r.]	yes
ERROR DOCUMENTED IN THIS REPORT; BASED ON % o.r.	

**FLOW TUBE SIMULATION**

		0.0	25.0	50.0	75.0	100.0	LPS	
		0.0	14.1	28.3	42.4	56.6	% F.S. Flow	
		0.0	25.0	50.0	75.0	100.0	% F.S. Range	
<b>REF. FLOW RATE</b>		<b>0.000</b>	<b>25.000</b>	<b>50.000</b>	<b>75.000</b>	<b>100.000</b>	LPS	
MUT [Reading]		0.000	25.013	49.987	74.993	99.997	LPS	
MUT [Difference]		0.000	0.013	-0.013	-0.007	-0.003	LPS	
MUT [% Error]		n/a	0.05	-0.03	-0.01	0.00	% O.R	
<b>mA OUTPUT</b>		<b>4.000</b>	<b>8.000</b>	<b>12.000</b>	<b>16.000</b>	<b>20.000</b>	mA	
MUT [Reading]		min. 4 mA	4.002	8.003	11.997	15.995	19.995	
MUT [Difference]		max. 20 mA	0.002	0.003	-0.003	-0.005	-0.005	
MUT [% Error]			0.05	0.04	-0.03	-0.03	-0.02	
<b>TOTALIZER - REF. FLOW RATE</b>							<b>100.000</b>	LPS
TOTALIZER [MUT]							7	M3
TEST TIME							69.91	SECONDS
CALC. TOTALIZER							6.991	M3
ERROR							0.13	%

**COMMENTS**

**QUALITY MANAGEMENT STANDARDS INFO.**

[QMS] INFORMATION	IDENT.	ID #
[REFERENCE] FTS	E&H (FC)	1
PROCESS METER	PM	0
ANALOG METER	AM	N/A
STOP WATCH	SW	Yes

**RESULTS**

TEST	AVG % o.r.	PASS FAIL
DISPLAY	0.00	PASS
mA OUTPUT	0.00	PASS
TOTALIZER - R	0.13	PASS

This report reflects the test results of the overall accuracy for the above flow converter using the specified manufacturers flow tube simulator to within the specified tolerance as identified within this report.

**AS FOUND CERTIFICATION**  
**FORWARD FLOW DIRECTION**  
**PASS**

**CLIENT DETAIL**

CUSTOMER OCWA - Highlands Hub  
 CONTACT Jenna Porter / Don Irvine  
 Senior Operations Manager / Process Compliance Technician  
 Cell: 519-323-6760 / Cell: 519-321-9474  
 Email: jporter2@ocwa.com / dirvine@ocwa.com

**EQUIPMENT DETAIL**

[MUT] MANUFACTURER Rosemount  
 MODEL 8712  
 CONVERTER SERIAL NUMBER 0860203395  
 PLANT ID Drayton Lagoons  
 METER ID Lagoon Flow  
 FIT ID n/a  
 CLIENT TAG n/a  
 OTHER n/a  
 GPS COORDINATES N43 44.989 W080 42.163  
 VERIFICATION DATE September 8th 2025  
 CAL. FREQUENCY Annual  
 CAL. DUE DATE September 2026

VER. BY - FM Daniel Kettlewell

Quality Management Standards Information -  
 Reference equipment and instrumentation used to  
 conduct this verification test is found in our AC-QMS  
 document at the time this test was conducted.

**PROGRAMMING PARAMETERS**

DIAMETER (DN) mm 200  
 F.S. FLOW - MAG M3/D 33460.0  
 F.S. RANGE - O/P M3/D 25500.000  
 TUBE CAL. FACTOR 0984805509604005

**FORWARD TOTALIZER INFORMATION**

AS FOUND 3463326 M3  
 AS LEFT 3463374 M3  
 DIFFERENCE 48 M3

**TEST CRITERIA**

AS FOUND CERTIFICATION TEST Yes  
 FORWARD FLOW DIRECTION Yes  
 ALLOWABLE [%] ERROR 5

**COMPONENTS TESTED**

CONVERTER DISPLAY yes  
 mA OUTPUT yes  
 TOTALIZER yes  
 ACCURACY BASED ON [% o.r.] yes  
 ERROR DOCUMENTED IN THIS REPORT; BASED ON % o.r.

VERIFICATOR CAL. FACTOR 1000015010000000  
 [16-digits]

**FLOW TUBE SIMULATION**

	0	3	10	30	ft/s
<b>DISPLAY</b>	0.00	3.00	10.00	30.00	ft/s
MUT Reading	0.00	3.00	10.00	30.00	ft/s
MUT % Error	n/a	0.00	0.00	0.00	%
<b>mA OUTPUT</b>	4.000	5.600	9.333	20.000	mA
MUT Reading	4 mA	5.597	9.330	19.990	mA
MUT % Error	20 mA	-0.05	-0.04	-0.05	%
<b>TOTALIZER</b>				30.00	ft/s
TEST Accumulation				2016.00	ft
TIME				67.24	seconds
CALC. Velocity				29.98	ft/s
% Error				-0.06	%

**QUALITY MANAGEMENT STANDARDS INFO.**

[QMS] INFORMATION	IDENT.	ID #
[REFERENCE] FTS	ROS	1
PROCESS METER	PM	0
ANALOG METER	AM	N/A
STOP WATCH	SW	Yes

\*All values are for "As Found" values.

**COMMENTS**

**RESULTS**

TEST	AVG % o.r.	PASS FAIL
DISPLAY	0.00	PASS
mA OUTPUT	-0.05	PASS
TOTALIZER	-0.06	PASS

This report reflects the test results of the overall accuracy for the above flow converter using the specified manufacturers flow tube simulator to within the specified tolerance as identified within this report.

### AS FOUND CERTIFICATION

**PASS**

#### CLIENT DETAIL

CUSTOMER OCWA - Highlands Hub  
 CONTACT Jenna Porter / Don Irvine  
 Senior Operations Manager / Process Compliance Technician  
 Cell: 519-323-6760 / Cell: 519-321-9474  
 Email: jporter2@ocwa.com / dirvine@ocwa.com

#### EQUIPMENT DETAIL

[MUT] MANUFACTURER Milltronics  
 MODEL MultiRanger  
 CONVERTER SERIAL NUMBER PBD/BN210450  
 PLANT ID Drayton Mill Street PS  
 METER ID Lagoon Flow  
 FIT ID n/a  
 CLIENT TAG n/a  
 OTHER n/a  
 GPS COORDINATES N43 44.989 W080 42.163

VER. BY - FM Daniel Kettlewell

Quality Management Standards Information -  
 Reference equipment and instrumentation used to  
 conduct this verification test is found in our AC-QMS  
 document at the time this test was conducted.

VERIFICATION DATE September 8th 2025  
 CAL. FREQUENCY Annual  
 CAL. DUE DATE September 2026

#### PROGRAMMING PARAMETERS

NOTCH ANGLE (φ)	inches	90
EMPTY DISTANCE, TX to notch	m	0.952
TRANSDUCER (TX), to sump flc	m	n/a
SUMP LEVEL, zero flow	m	n/a
MAX. HEAD	m	0.168
BLANKING DISTANCE	m	0.300
DEAD ZONE	m	0.484
MAX. FLOW	M3/D	1379.3
F.S. RANGE - O/P	M3/D	1382.0

#### TOTALIZER

AS FOUND	488620.44	M3
AS LEFT	488628.51	M3
DIFFERENCE	8.07	M3

#### TEST CRITERIA

AS FOUND CERTIFICATION TEST	Yes
ALLOWABLE [%] ERROR	15

#### COMPONENTS TESTED

CONVERTER DISPLAY	Yes
mA OUTPUT	Yes
TOTALIZER	no
ACCURACY BASED ON [% o.r.]	No

Ultrasonic sensor installed to ensure full scale flow condition

ERROR DOCUMENTED IN THIS REPORT; BASED ON % F.S.

#### AS FOUND TEST RESULTS

		0.0	12.4	32.4	60.1	72.8	% F.S. Range
		0.000	0.073	0.107	0.137	0.148	m
<b>REF. FLOW RATE</b>		<b>0.0</b>	<b>171.7</b>	<b>446.5</b>	<b>828.3</b>	<b>1004.7</b>	<b>M3/D</b>
MUT [Reading]		0.0	154.2	510.1	806.3	1094.1	M3/D
MUT [Difference]		0.0	-17.5	63.6	-22.1	89.4	M3/D
MUT [% Error]		0.0	-1.3	4.6	-1.6	6.5	%
<b>mA OUTPUT</b>		<b>4.000</b>	<b>5.991</b>	<b>9.180</b>	<b>13.608</b>	<b>15.655</b>	<b>mA</b>
MUT [Reading]	min. 4.000 mA	3.995	5.781	9.733	13.285	16.657	mA
MUT [Difference]	max. 20.000 mA	-0.005	-0.210	0.553	-0.323	1.002	mA
MUT [% Error]		-0.02	-1.05	2.77	-1.62	5.01	%
<b>TOTALIZER - REF. FLOW RATE</b>							
TOTALIZER [MUT]							
TEST TIME							
CALC. TOTALIZER							
ERROR							

#### COMMENTS

Note: Unable to Veirfy weir measurments. Reviewed programmed parameters. Operator alters setup and zeros unit - this adjusts the offset correction each time proportionally. Did a visual verification - confident unit operating as expected.

#### QUALITY MANAGEMENT STANDARDS INFO.

[QMS] INFORMATION	IDENT.	ID #
[REFERENCE] LEVEL	Sim. BOARD	n/a
PROCESS METER	PM	0
STOP WATCH	SW	n/a

#### RESULTS

TEST	AVG %FS	PASS FAIL
DISPLAY	2.05	PASS
mA OUTPUT	1.02	PASS
TOTALIZER	N/A	N/A

Use paramater P652 to subtrahct from Empty Distance for setup of tripod to perform board tests.

This report reflects the test results of the overall accuracy for the above flow converter using the specified manufacturers flow tube simulator to within the specified tolerance as identified within this report.

AS FOUND CERTIFICATION  
FORWARD FLOW DIRECTION  
**PASS**

**CLIENT DETAIL**

CUSTOMER OCWA - Highlands Hub  
CONTACT Jenna Porter / Don Irvine  
Senior Operations Manager / Process Compliance Technician  
Cell: 519-323-6760 / Cell: 519-321-9474  
Email: jporter2@ocwa.com / dirvine@ocwa.com

**EQUIPMENT DETAIL**

[MUT] MANUFACTURER ENDRESS & HAUSER  
MODEL Promag 53W  
CONVERTER S/N: L81D5519000  
FUSE  
PLANT ID Drayton Lagoon  
METER ID Effluent Flow  
FIT ID n/a  
CLIENT TAG OCWA# not assigned  
OTHER n/a  
GPS COORDINATES N43 44.989 W080 42.163  
VERIFICATION DATE September 8th 2025  
CAL. FREQUENCY Annual  
CAL. DUE DATE September 2026

VER. BY - FM Daniel Kettlewell

Quality Management Standards Information -  
Reference equipment and instrumentation used to  
conduct this verification test is found in our AC-  
QMS document at the time this test was  
conducted.

**PROGRAMMING PARAMETERS**

DIAMETER (DN) mm 200  
F.S. FLOW - MAG M3/H 1130.940  
F.S. RANGE - O/P M3/H 200.000  
TUBE k-FACTOR 1.0526  
TUBE zero 4

**FORWARD TOTALIZER INFORMATION**

AS FOUND 2597050 M3  
AS LEFT 2597064 M3  
DIFFERENCE 14 M3

**TEST CRITERIA**

AS FOUND CERTIFICATION TEST Yes  
FORWARD FLOW DIRECTION Yes  
ALLOWABLE [%] ERROR 5

**COMPONENTS TESTED**

CONVERTER DISPLAY yes  
mA OUTPUT yes  
TOTALIZER yes  
ACCURACY BASED ON [% o.r.] yes  
ERROR DOCUMENTED IN THIS REPORT; BASED ON % o.r.

**FLOW TUBE SIMULATION**

		0.0	50.0	100.0	150.0	200.0	M3/H	
		0.0	4.4	8.8	13.3	17.7	% F.S. Flow	
		0.0	25.0	50.0	75.0	100.0	% F.S. Range	
<b>REF. FLOW RATE</b>		<b>0.000</b>	<b>50.000</b>	<b>100.000</b>	<b>150.000</b>	<b>200.000</b>	M3/H	
MUT [Reading]		0.000	49.940	99.919	149.720	199.670	M3/H	
MUT [Difference]		0.000	-0.060	-0.081	-0.280	-0.330	M3/H	
MUT [% Error]		n/a	-0.12	-0.08	-0.19	-0.17	% O.R	
<b>mA OUTPUT</b>		<b>4.000</b>	<b>8.000</b>	<b>12.000</b>	<b>16.000</b>	<b>20.000</b>	mA	
MUT [Reading]		min. 4 mA	4.000	7.993	11.996	15.983	19.975	
MUT [Difference]		max. 20 mA	0.000	-0.007	-0.004	-0.017	-0.025	
MUT [% Error]			0.00	-0.09	-0.03	-0.11	-0.12	
<b>TOTALIZER - REF. FLOW RATE</b>							<b>200.000</b>	M3/H
TOTALIZER [MUT]							6.0	M3
TEST TIME							110.86	SECONDS
CALC. TOTALIZER							6.159	M3
ERROR							-2.65	%

**COMMENTS**

**QUALITY MANAGEMENT STANDARDS INFO.**

[QMS] INFORMATION	IDENT.	ID #
[REFERENCE] FTS	E&H (FC)	1
PROCESS METER	PM	0
ANALOG METER	AM	N/A
STOP WATCH	SW	Yes

**RESULTS**

TEST	AVG % o.r.	PASS FAIL
DISPLAY	-0.14	PASS
mA OUTPUT	-0.07	PASS
TOTALIZER - R	-2.65	PASS

This report reflects the test results of the overall accuracy for the above flow converter using the specified manufacturers flow tube simulator to within the specified tolerance as identified within this report.

# Appendix E

## Water Balance Analysis

### 2025

# Water Balance Analysis

Contact us if you are willing to conduct water balance analysis for 2025 data

Simion Tolnai or Cameron Irvine  
 phone 519-621-2761 ex. 2295 Phone: 519-621-2763 ext. 2234  
 email stolnai@grandriver.ca Email: cirvine@grandriver.ca

Gray boxes are populated automatically  
 Fill out the Orange boxes

Parameter	Unit	Value (annually)	Value (daily)	Reference
Duration of study	days	365		Number of days considered for the water balance
<b>Measured Net Precipitation</b>				
Total Precipitation	(mm)	736.6	2.0	Local precipitation measurement from site
Evaporation	(mm)	737.0	2.0	from 2016 Elora Research Centre
Net precipitation	(mm)	-0.4	0.0	Total precipitation - Evaporation
Surface area	m <sup>2</sup>	212,000.0	212,000.0	From ECA/Annual Report
<b>Measured Net</b>	m <sup>3</sup>	<b>-84.8</b>	<b>-0.2</b>	Net Precipitation * surface area
<b>Projected Net Precipitation</b>				
Inflow	m <sup>3</sup>	241,776.0	662.4	Volume of raw wastewater (influent)
Effluent	m <sup>3</sup>	308,274.5	844.6	Volume of effluent discharged
Starting volume	m <sup>3</sup>	141,738.0	NA	Based on starting level measurement (data spreadsheet)
Ending volume	m <sup>3</sup>	146,435.0	NA	Based on end level measurement (data spreadsheet)
ΔV	m <sup>3</sup>	4,697.0	12.9	end volume - start volume
<b>Projected Net</b>	m <sup>3</sup>	<b>71,195.5</b>	<b>195.1</b>	Δ - inflow + effluent
<b>Water Balance</b>				
<b>Water Balance:</b>	%	<b>-29.5</b>	<b>-29.5</b>	(measured - projected) / influent flow*100