2025 ANNUAL WASTEWATER TREATMENT SYSTEM SUMMARY REPORT

Plattsville Wastewater Treatment Plant

1. GENERAL INFORMATION

Oxford County (the County) prepares a report summarizing wastewater treatment operation and treated effluent discharge quality for every municipal wastewater treatment plant (WWTP) annually. The reports detail the latest effluent quality testing results and quantity statistics, and any non-compliance conditions that may have occurred for the previous year. They are available for review by the end of March on the County website at http://www.oxfordcounty.ca/waterwastewater or by contacting the Public Works Department.

All efforts have been made to ensure the information presented in this report is as accurate as possible.

If you have any questions or comments concerning the report, please contact the County at the address and phone number listed below or by email at wastewater@oxfordcounty.ca.

Wastewater Treatment Plant:	Plattsville WWTP
Wastewater Treatment Plant Number:	110003022
Environmental Compliance Approval (ECA):	3133-7QWH4N (June 23, 2009)
Reporting Period:	January 1, 2025 – December 31, 2025

Wastewater Treatment Plant Owner & Contact Information:

Oxford County Public Works Department - Wastewater Services
P.O. Box 1614
21 Reeve Street
Woodstock, ON N4S 7Y3
Telephone: 519-539-9800
Toll Free: 866-537-7778
Email: wastewater@oxfordcounty.ca

1.1 System Description

The Plattsville WWTP is a Class I facility, as defined by Ontario Regulation (O. Reg.) 129/04. The Plattsville WWTP is a lagoon wastewater treatment system serving the community of Plattsville. The nominally separated wastewater collection system includes one (1) sewage pumping station (SPS), 12.8 kilometers of sanitary gravity sewers and 3.1 kilometers of sanitary forcemain sewers. Wastewater is treated at the Plattsville WWTP, which includes two aerated lagoon cells and two conventional wastewater stabilization ponds. Phosphorus removal is accomplished through the continuous dosing of aluminum sulphate into the splitter box prior to the wastewater entering the stabilization ponds and/or when required by batch dosing via a return pump pond mixing system, which can dose to either lagoon cell and recirculate the contents. Treated effluent is pumped to an intermittent sand filter designed for ammonia removal prior to discharge into the Nith River.

The system is maintained by licensed wastewater system operators and licensed mechanics that operate, monitor, and maintain the treatment equipment, in accordance with the regulations, and collect samples as required by the ECA. Alarms automatically notify operators in the event of failure of critical operational requirements.

The Plattsville WWTP is located at Lot 16, Conc. 12, Township of Blandford-Blenheim, Ontario with the Facility description provided below:

Facility	Plattsville WWTP
Design Capacity	800 m^3/d
2025 Average Daily Flow	408 m^3/d
2025 Maximum Daily Flow	1,070 m^3/d
2025 Total Volume of Wastewater	149,045 m^3/year

1.2 Major Expenses

In 2025, the Plattsville WWTP had forecast operating and maintenance expenditures of approximately $380,000.

Planning for major wastewater system expenses is included within Oxford County's Wastewater Services Master Plan and managed according to our Asset Management and Capital Replacement Program. In addition to regular operational and maintenance expenditures, Capital Improvement Projects for Plattsville were forecast at approximately $1,090,000 which included improvements to the wastewater collection system and the Plattsville WWTP.

Notable Plattsville Capital Improvement Projects included:

- $780,000 for Plattsville WWTP Biosolids Cleanout
- $150,000 for Plattsville WWTP Operational Enhancements –Tertiary Filtration

Capital Improvement Projects for all systems included:

- $1,340,000 to develop Countywide Supervisory Control and Data Acquisition (SCADA) Master Plan for all wastewater systems.

2. SUMMARY AND INTERPRETATION OF MONITORING DATA

2.1 Effluent Quality Assurance and Control Measures

Sampling Procedure

Raw influent wastewater is sampled on a monthly basis. The influent samples are analyzed for Biochemical Oxygen Demand (BOD_5), Total Suspended Solids (TSS), Total Kjeldahl Nitrogen (TKN), Total Phosphorus (TP), and pH. Effluent discharge samples are collected bi-weekly or monthly and at an interval to meet the percentage of drawdown of the lagoon cell during discharge periods as stipulated in the ECA. Effluent samples are analyzed for Carbonaceous Biochemical Oxygen Demand ($CBOD_5$), TSS, Total Ammonia Nitrogen (TAN), TP, E. coli, temperature, and pH.

Laboratory and Field Testing

All samples that are reported for compliance purposes are analyzed by a licensed laboratory except for pH, dissolved oxygen (DO), and temperature which are collected and analyzed in the field. Laboratory analysis is performed by SGS Lakefield Research Ltd. All other in-house testing is done for process control, the results of which are not included in this report.

Groundwater Testing

The ECA requires that an annual groundwater sample be collected and tested for Total Organic Carbon (TOC), TP, TKN, Nitrite and Nitrate.

Four samples were collected in 2025 and are referred to as the shallow well samples and deep well samples:

PLATTSVILLE WWTP GROUNDWATER SAMPLING								
Date	**Apr 10/25**	**Apr 10/25**	**Apr 24/25**	**Apr 24/25**	**Nov 18/25**	**Nov 18/25**	**Dec 2/25**	**Dec 2/25**
Depth of Sample	**Shallow**	**Deep**	**Shallow**	**Deep**	**Shallow**	**Deep**	**Shallow**	**Deep**
Parameter								
TOC (mg/L)	< 1	1	< 1	1	1	1	1	1
Total P (mg/L)	0.60	<0.03	0.54	0.05	0.06	< 0.03	1.78	0.25
TKN (mg/L N)	<0.5	<0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Ammonia (mg/L)	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1

PLATTSVILLE WWTP GROUNDWATER SAMPLING								
Date	**Apr 10/25**	**Apr 10/25**	**Apr 24/25**	**Apr 24/25**	**Nov 18/25**	**Nov 18/25**	**Dec 2/25**	**Dec 2/25**
Depth of Sample	**Shallow**	**Deep**	**Shallow**	**Deep**	**Shallow**	**Deep**	**Shallow**	**Deep**
Parameter								
Nitrite (mg/L)	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Nitrate (mg/L)	< 0.06	0.49	< 0.06	0.50	< 0.06	0.55	< 0.06	0.52
Nitrate + Nitrite (mg/L N)	< 0.06	0.49	< 0.06	0.50	< 0.06	0.55	< 0.06	0.52
Chloride (mg/L)	23	2	20	2.3	24	3	25	3

Oxford County's Hydrogeologist has reviewed all monitoring well data and will continue to monitor groundwater results on our behalf and has no concerns at this time.

2.2 WWTP Performance and Effluent Quality

Final Effluent Compliance Limits

Compliance limits are defined as the maximum effluent concentrations permitted for a given parameter set by the Ministry of the Environment, Conservation and Parks (MECP). Compliance limits are detailed within each WWTP ECA. The limits are determined to prevent impairment to the receiving water body quality. The Owner is legally obligated to operate and maintain the treatment system to ensure the compliance limits are achieved.

In 2025, the Plattsville WWTP provided effective treatment, with 167 samples out of 175 meeting compliance or 95.4% compliance to its regulatory limits for all effluent discharge to the Nith River.

In November, dredging of biosolids from waste stabilization pond #1 had recently been completed, which caused solids carryover into waste stabilization pond #2 prior to discharge:

- The Effluent Total Suspended Solids Monthly Average Concentration was 18.0 mg/L, with an ECA Total Suspended Solids Monthly Average Concentration limit of 10.0 mg/L.
- The Effluent Total Suspended Solids Average Monthly Loading Concentration was 26.4 kg/day, with an ECA Effluent Total Suspended Solids Average Monthly Loading Concentration limit of 14.7 kg/day.

To react to increased solids, an isolation valve between the waste stabilization ponds was closed, the alum dosage was adjusted to aid with solids settling, and sand filter operating times were extended to reduce the turbulence within waste stabilization pond #2 when discharging.

In 2025, design work was initiated on a tertiary filtration project at the Plattsville WWTP and once constructed (2027) will reduce the chances of similar events in the future.

The non-compliance was reported to the MECP at the time.

On a bi-weekly basis (as a minimum) the operator measures the pH of the effluent stream during discharge. There was no single pH result for the effluent outside the discharge limit of 6.0 - 9.5 in 2025.

Chlorine was not used at the Plattsville WWTP in 2025.

During the 2025 effluent discharge window, the receiving stream temperature was <12 degrees Celsius from April 1 through April 28 and October 17 through November 30. The receiving stream temperature was >12 degrees Celsius from April 29 through October 16.

Influent wastewater characteristics and effluent discharge values are presented in the tables below:

Influent Wastewater Characteristics (annual average)		
Parameter	**Concentration (mg/L)**	**Loading (kg/d)**
BOD_5	225	92
Total Suspended Solids	229	94
Total Phosphorus	6.0	2.4
Total Kjeldahl Nitrogen	63.0	26

Effluent Parameter	**Sample Frequency** (when discharging)	**ECA Effluent Limit (Monthly Average)** (mg/L unless otherwise indicated)	**Monthly Average Result Min-Max (**mg/L unless otherwise indicated)	**Percentage Removal**
$CBOD_5$	weekly	10.0	2.2 – 5.6	96.7 – 98.7
TSS	weekly	10.0	4.8 – 18.0	92.1 – 97.9
TP	weekly	0.5	0.03 – 0.08	98.7 – 99.5
Total Ammonia Nitrogen (when receiving stream >12 degrees Celsius)	weekly	2.0	0.98	--
Total Ammonia Nitrogen (when receiving stream < or = to 12 degrees Celsius)	weekly	5.0	0.14 – 2.38	--
E. coli	weekly	200 MPN*/100mL (Monthly Geometric Mean Density)	1.5 – 13.3 MPN/100 mL (Monthly Geometric Mean Density)	--
pH any single sample	weekly	6.0 – 9.5	6.7 – 7.8	--

*MPN: Most Probable Number

Graphs of discharge parameters versus effluent discharge limits are included in this report in Appendix ‘A’.

2.3 Final Effluent Design Objectives

Final Effluent Design Objectives (objectives) are non-enforceable effluent quality values which the Owner is obligated to use best efforts to strive towards achieving 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 compliance limits are exceeded.

There were two monthly average objective exceedances in 2025, related to TSS and $CBOD_5$. Several single sample effluent objective exceedances also occurred in 2025. These results are summarized in the tables below.

Achieving the effluent objective for TSS and $CBOD_5$ was difficult in the late fall of 2025. A biosolids cleanout had just occurred and caused increased solids carryover into waste stabilization pond #2. Operations reacted by isolating the pond, increasing coagulant dosing, and altering effluent discharging control parameters. To avoid similar issues in the future, design work initiated in 2025 on a tertiary filtration project, with construction planned for 2027.

The following table presents the range of effluent discharge values vs. ECA Objectives:

Effluent Parameter	**Sample Frequency** (when discharging)	**Monthly Average Objective Concentration** (mg/L unless otherwise indicated)	**Monthly Average Result Min-Max** (mg/L unless otherwise indicated)
$CBOD_5$	weekly	5.0	2.2 – 5.6
TSS	weekly	5.0	4.8 – 18.0
TP	weekly	0.3	0.03 – 0.08
Total Ammonia Nitrogen (when receiving stream >12 degrees Celsius)	weekly	1.0	0.98
Total Ammonia Nitrogen (when receiving stream < or = to 12 degrees Celsius)	weekly	3.0	0.14 – 2.38
E. coli	weekly	150 MPN/100 mL (Monthly Geometric Mean Density)	1.5 – 13.3 MPN/100 mL (Monthly Geometric Mean Density)
Dissolved Oxygen	weekly	5.0	5.1 – 11.9

Plattsville effluent single sample concentrations that exceeded the objective in 2025 included the following:

Date	Parameter	Objective (mg/L unless otherwise indicated)	Result (mg/L unless otherwise indicated)
April 15, 2025	TSS	5.0	8.0
April 15, 2025	TAN	3.0	4.2
May 20, 2025	TSS	5.0	7.0
May 27, 2025	TSS	5.0	7.0
May 27, 2025	TAN	1.0	1.3
May 28, 2025	TAN	1.0	1.4
May 29, 2025	TSS	5.0	7.0
May 29, 2025	TAN	1.0	4.2
November 19, 2025	TSS	5.0	11.0
November 20, 2025	TSS	5.0	11.0
November 25, 2025	TSS	5.0	11.0
November 27, 2025	$CBOD_5$	5.0	7.0
November 27, 2025	TSS	5.0	22.0
November 28, 2025	$CBOD_5$	5.0	6.0
November 28, 2025	TSS	5.0	27.0
November 30, 2025	$CBOD_5$	5.0	7.0
November 30, 2025	TSS	5.0	26.0

Plattsville effluent monthly average concentrations that exceeded the objective in 2025 included the following:

Month	Parameter	Objective (mg/L)	Monthly Average Result (mg/L)
November 2025	$CBOD_5$	5.0	5.6
November 2025	TSS	5.0	18.0

3. OVERFLOWS, BYPASSING, UPSETS, SPILLS, AND ABNORMAL CONDITIONS

There were no overflows, bypasses, upsets, spills, or abnormal conditions at the Plattsville WWTP in 2025.

There were no complaints received in 2025.

4. MAINTENANCE OF WORKS

The operating and maintenance staff at the Plattsville WWTP conducts regularly scheduled maintenance of the plant equipment. The Plattsville WWTP utilizes a database known as Cartegraph to issue work orders and maintain records for regular maintenance and repair at the Plattsville WWTP.

5. MONITORING EQUIPMENT MAINTENANCE AND CALIBRATION

The calibration of flow meters is conducted yearly by JBF Controls Ltd. in accordance with the requirements of the ECA. The records are kept on-site at the Plattsville WWTP.

The operational monitoring equipment calibration records are kept on-site at the Plattsville WWTP.

6. INSPECTION, PILOTS, AND TRIALS

The MECP did not perform an inspection of the Plattsville WWTP in 2025. The MECP inspections typically occur on a 3-year schedule.

Tertiary Filtration WWTP Upgrade

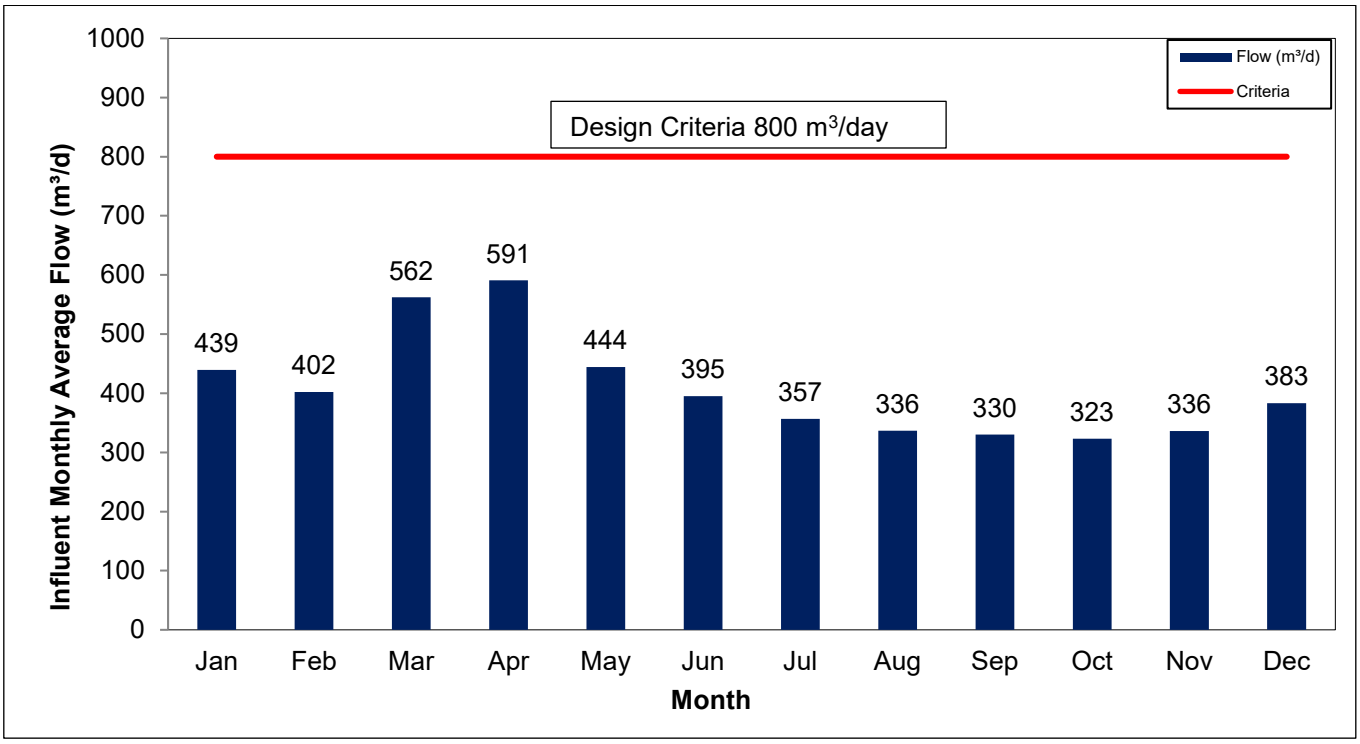
In 2025, design work was initiated on a tertiary filtration project meant to address and eliminate current operational issues associated with algae blooms and elevated TSS concentrations. A tertiary filtration system is capable of consistently reducing WWTP effluent TSS and TP concentrations, ensuring the WWTP is compliant with ECA effluent criteria. Design work continues into 2026 with construction planned for 2027.

Lagoon Biosolids Cleanout

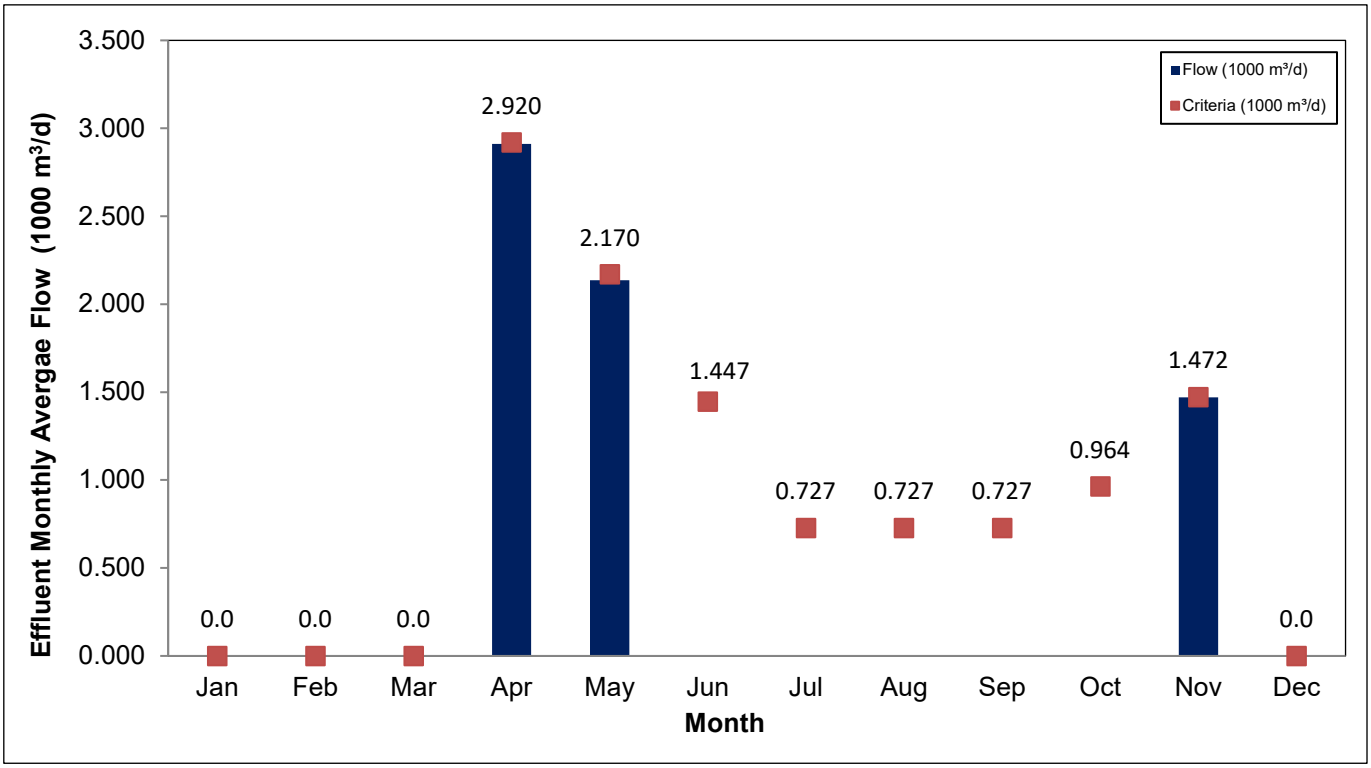
A lagoon biosolids cleanout occurred at the Plattsville WWTP in 2025. This maintenance activity restores treatment capacity, improves the quality of WWTP effluent and helps with prevention of odour generation. The removed biosolids were land applied for beneficial reuse as a nutrient under a non-agricultural source material (NASM) plan. Approximately 9,300 m^3 of liquid biosolids were removed and land applied.

APPENDIX A: GRAPHS OF 2025 DISCHARGE PARAMETERS VS. EFFLUENT DISCHARGE LIMITS

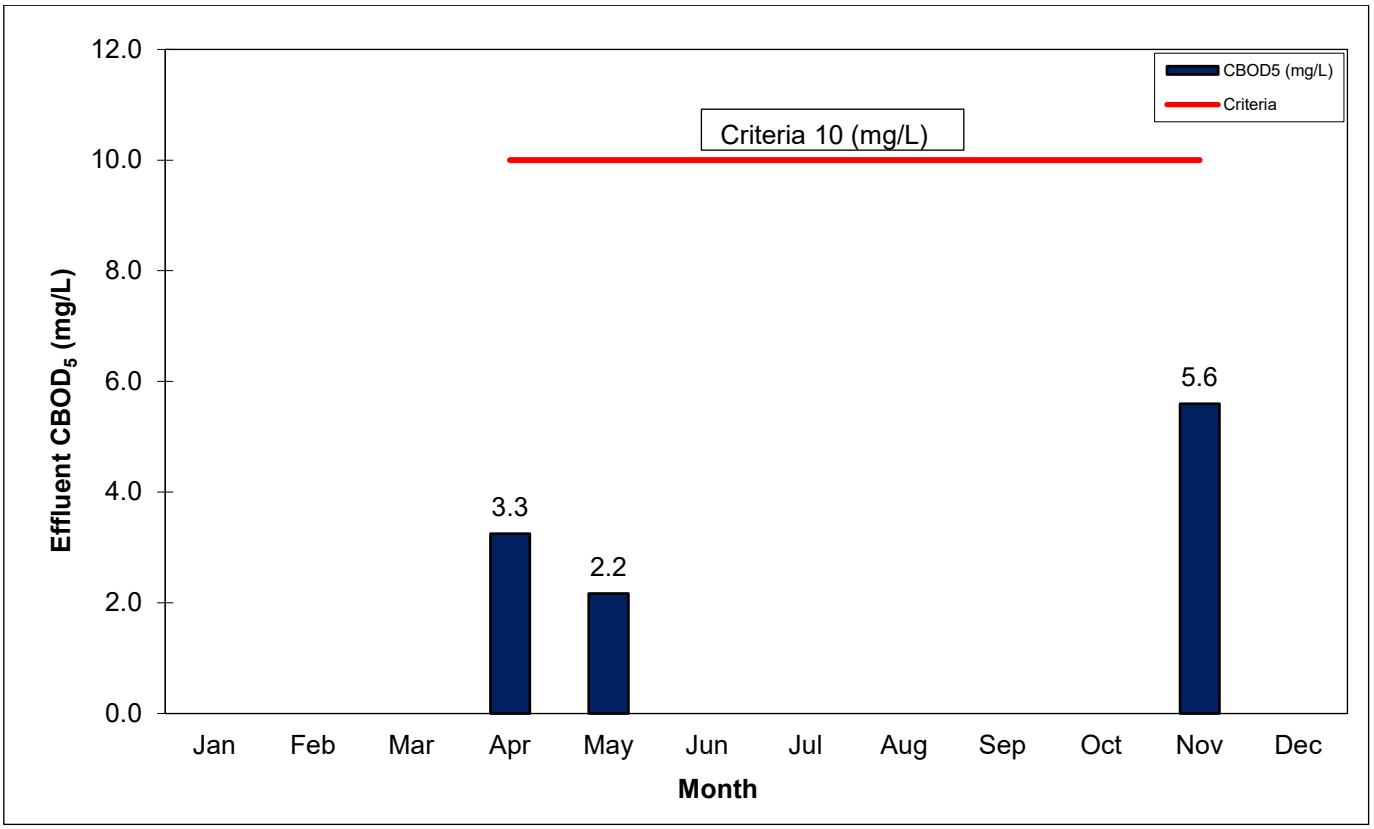
Plattsville WWTP Influent, Monthly Average Daily Flow in Cubic Meters per Day, 2025



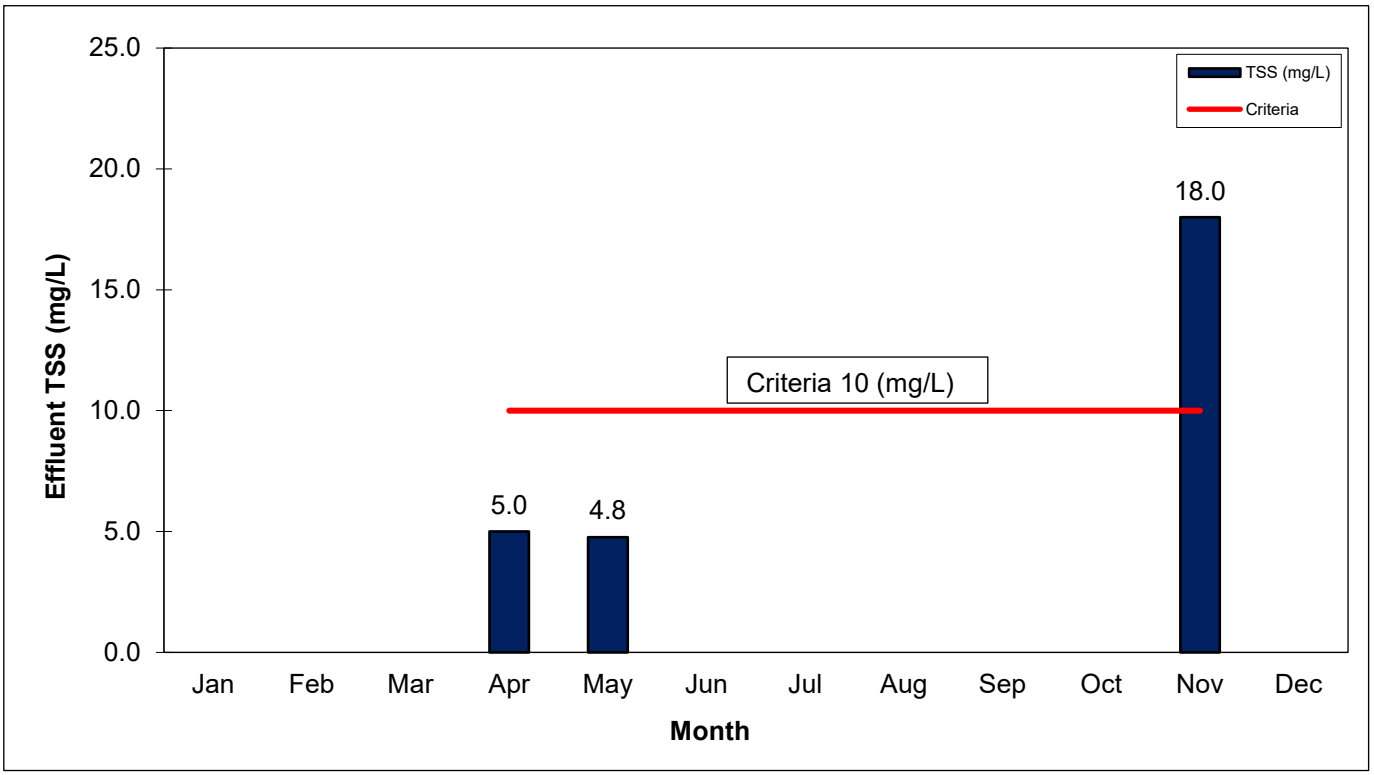
Plattsville WWTP Effluent, Monthly Average Daily Flow (1000 m³) per Day, 2025



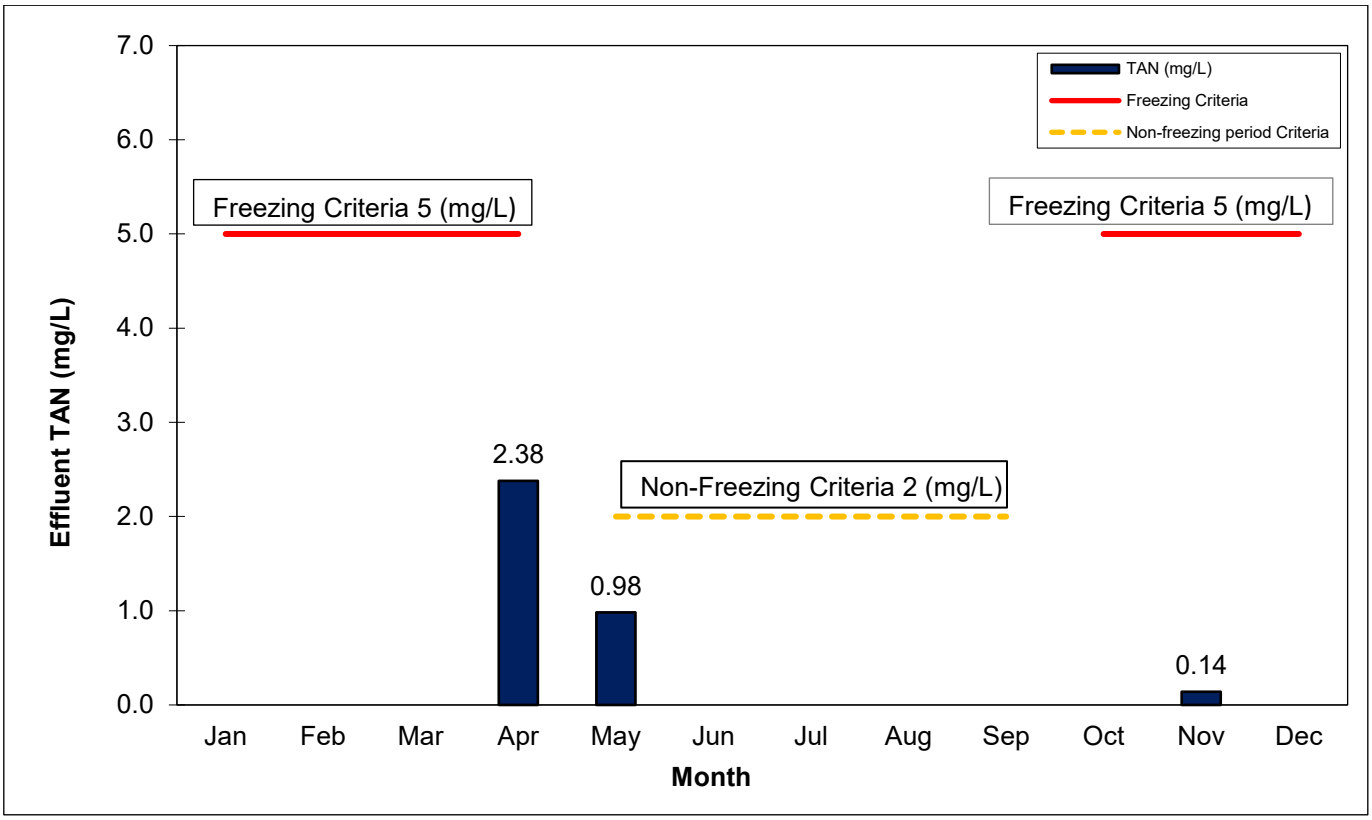
Plattsville WWTP Effluent, Monthly Average $CBOD_5$ (mg/L), 2025



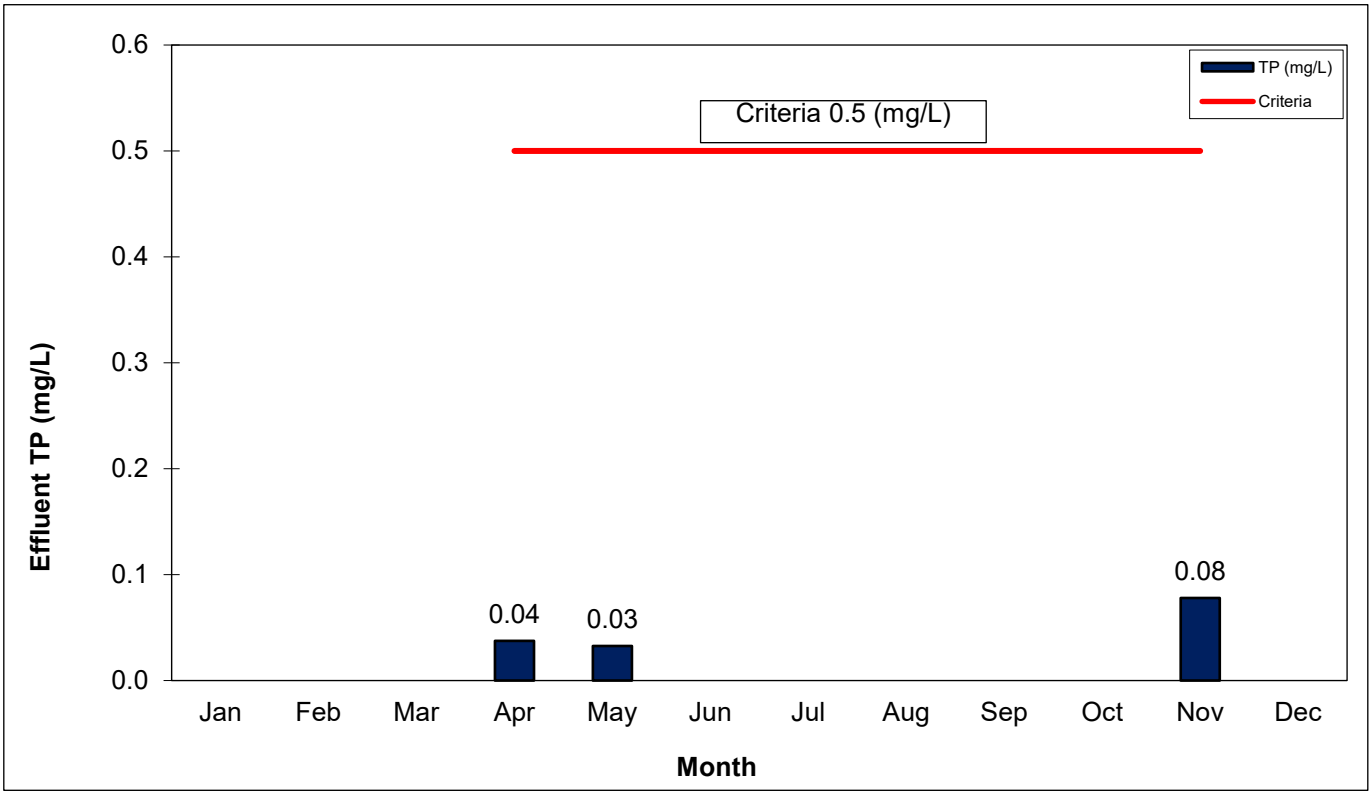
Plattsville WWTP Effluent, Monthly Average TSS (mg/L), 2025



Plattsville WWTP Effluent, Monthly Average TAN (mg/L), 2025



Plattsville WWTP Effluent, Monthly Average TP (mg/L), 2025



Plattsville WWTP Effluent, Monthly Geometric Mean Density E. coli (MPN/100 mL), 2025