Morrisburg Wastewater System

Waterworks # 120000168

Annual Report

Prepared By The Municipality of South Dundas

Reporting Period of January 1st – December 31st 2025

Issued: March 4th, 2026

Revision: 0

Operating Authority:

The Municipality of SOUTH DUNDAS

This report has been prepared to meet the requirements set out in:

Document	Document#	Issue Date	Issue Number
Facility ECA	2147-734L2K	August 28, 2007	N/A
ECA for Municipal Sewage Collection System	165-W601	June 2, 2023	1.0

Table of Contents

1. Revision History

Date	Revision #	Revision Notes	Revised By
March 4th, 2026	0	Annual report issued	Chelsea Fletcher, PCT Municipality of South Dundas

2. Operations and Compliance Reliability Indices

Compliance Event	# of Events
Ministry of Environment Inspections	- One MECP inspection 2025
Ministry of Labour Inspections	- No Ministry of Labour Inspections in 2025
Non- Compliance	- No non-compliance reported in 2025
Community Complaints	- No community complaints outside sewer main blockages in 2025
Spills	- No spills reported in 2025
Overflows	- One overflow event reported in 2025
Bypass	- No bypass events in 2025
Sewer main blockages	- 2 sewer main blockages in 2025

3. Process Description

Morrisburg's sewage collection system is a gravity fed sanitary sewage collection system. There is one pumping station which pumps wastewater from the collection system to the wastewater treatment facility.

Morrisburg's wastewater treatment plant (WWTP) is a Class II Wastewater Treatment System owned and operated by the Municipality of South Dundas. Raw sewage is pumped to the WWTP from the plant pumping station, which is equipped with four submersible pumps. From the pumping station wastewater passes through the inlet works, including fine screens with a screw compactor and a grit removal and disposal system. Aluminum Sulphate is added to assist in phosphorous removal. The wastewater then moves through either of two parallel Sequencing Batch Reactors (SBRs) equipped with individual aeration systems, mixers, decanters and sludge removal pumps. Effluent decanted from the SBRs is treated by UV disinfection and subsequently passes through an outfall pipe to the St. Lawrence River.

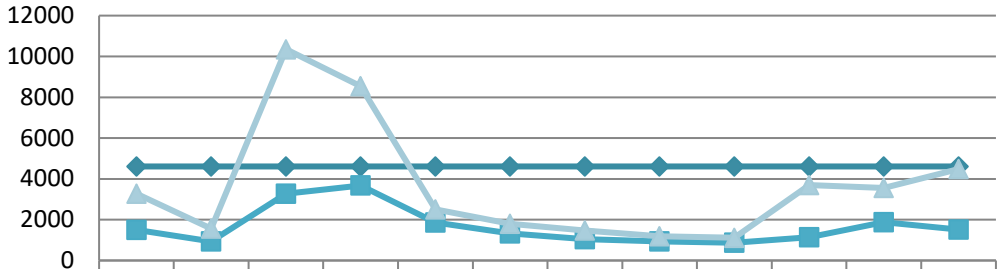
The Morrisburg WWTP can receive septage. Septage can be transferred to the influent fine screens from the onsite holding tank by two dry-pit pumps.

Sludge removed from the SBRs is transferred to a 140 m3 storage tank. From the tank, the sludge enters a gravity belt thickener. The thickened sludge is then pumped to an Autothermal Thermophilic Aerobic Digestion (ATAD) system for stabilization. The digested sludge is subsequently pumped to a 1480 m3 biosolids storage tank. From the storage tank, biosolids are hauled off site to be utilized as soil conditioner.

4. Treatment Flows

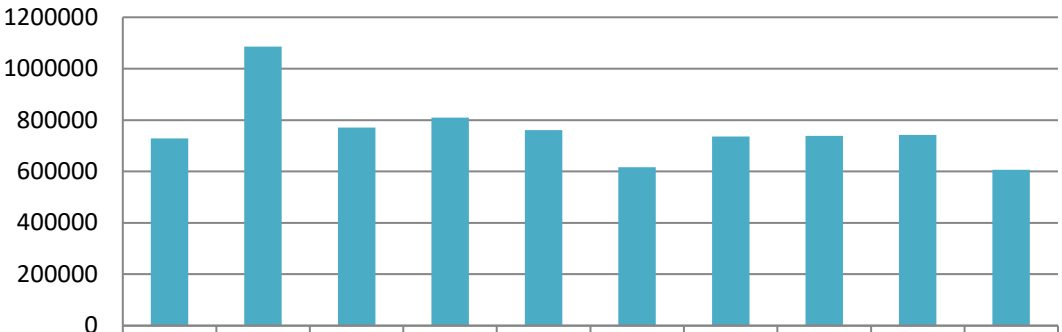
The hydraulic flows reaching the treatment facility in 2025 averaged 1664.2 m3/day, which represents 36% of the 4,608 m3/day design.

4.1. Raw Flows (m3/day)



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Max Allowable (m3/d)	4608	4608	4608	4608	4608	4608	4608	4608	4608	4608	4608	4608
Avg (m3/d)	1507	935	3266	3673	1867	1324	1053	941	870	1134	1878	1522
Max Flow (m3/d)	3270	1566	10352	8537	2503	1797	1476	1189	1116	3698	3552	4473

4.1.1. Annual Comparison (m3)



	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Total Annual Flow	728663	1086352	770483	809701	760358	616699	736204	738082	742743	606175

4.2. Effluent Flow

A total of 606,175m^3 of effluent was discharged form Morrisburg's WWTP in 2025

4.3. Imported Waste/Sludge

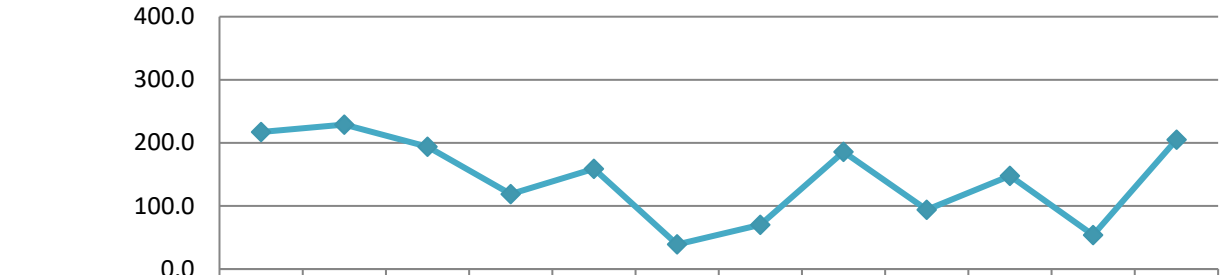
There was no imported waste or sewage accepted at this facility in 2025.

5. Raw Sewage Quality

Current year minimum, maximum and averages are available in Appendix A – Performance Assessment Report.

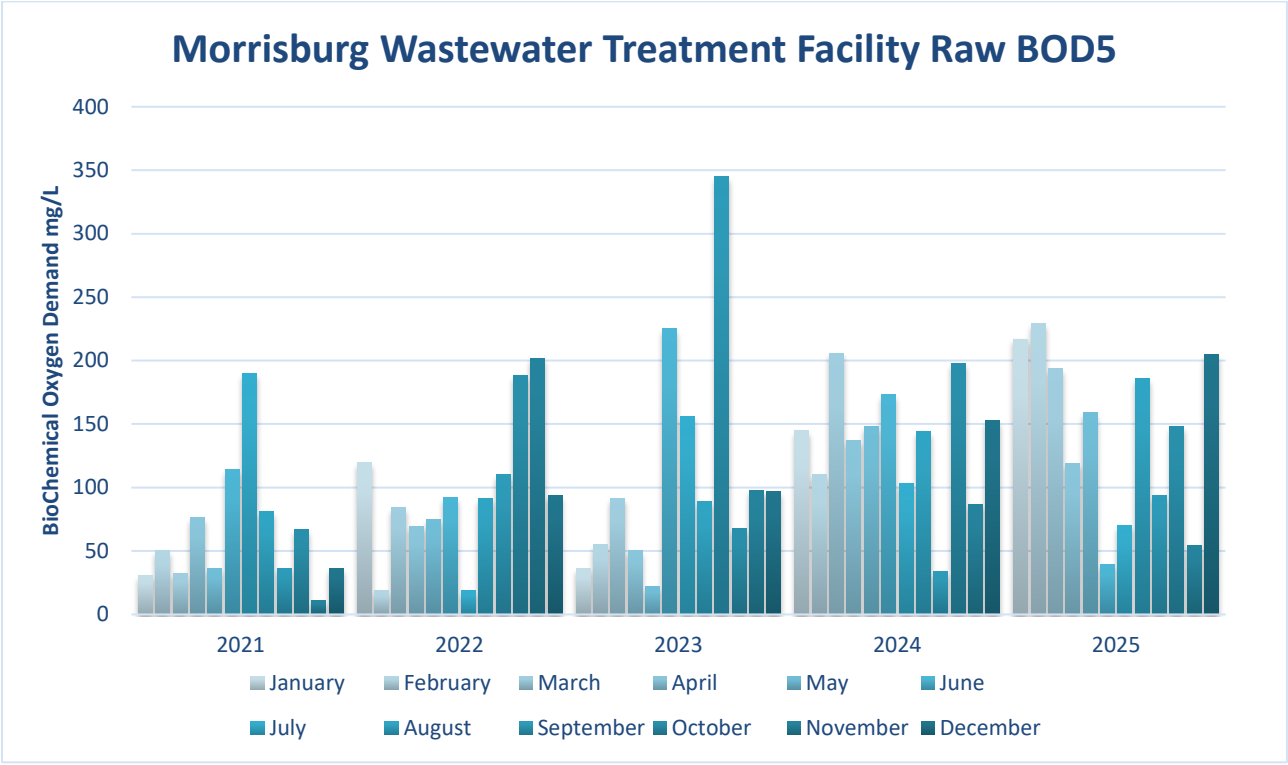
5.1. Influent Trending

5.1.1. BOD5 (mg/L)

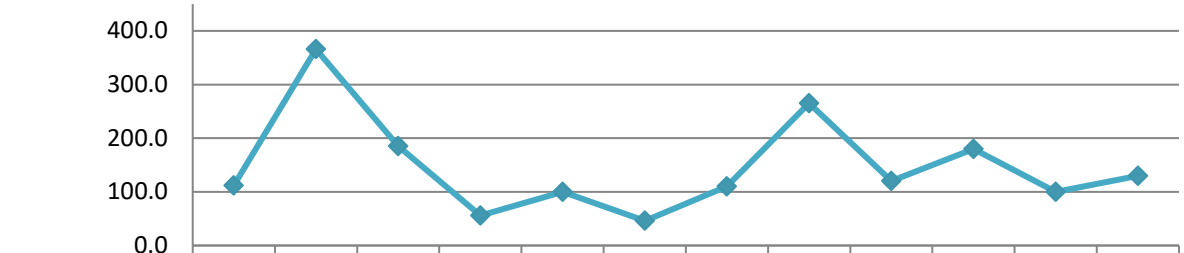


	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
BOD5 (mg/L)	217.0	229.0	194.0	119.0	159.0	39.0	70.0	186.0	94.0	148.0	54.0	205.0

5.1.2. Influent - 5 Year Biochemical Oxygen Demand Comparison (mg/L)

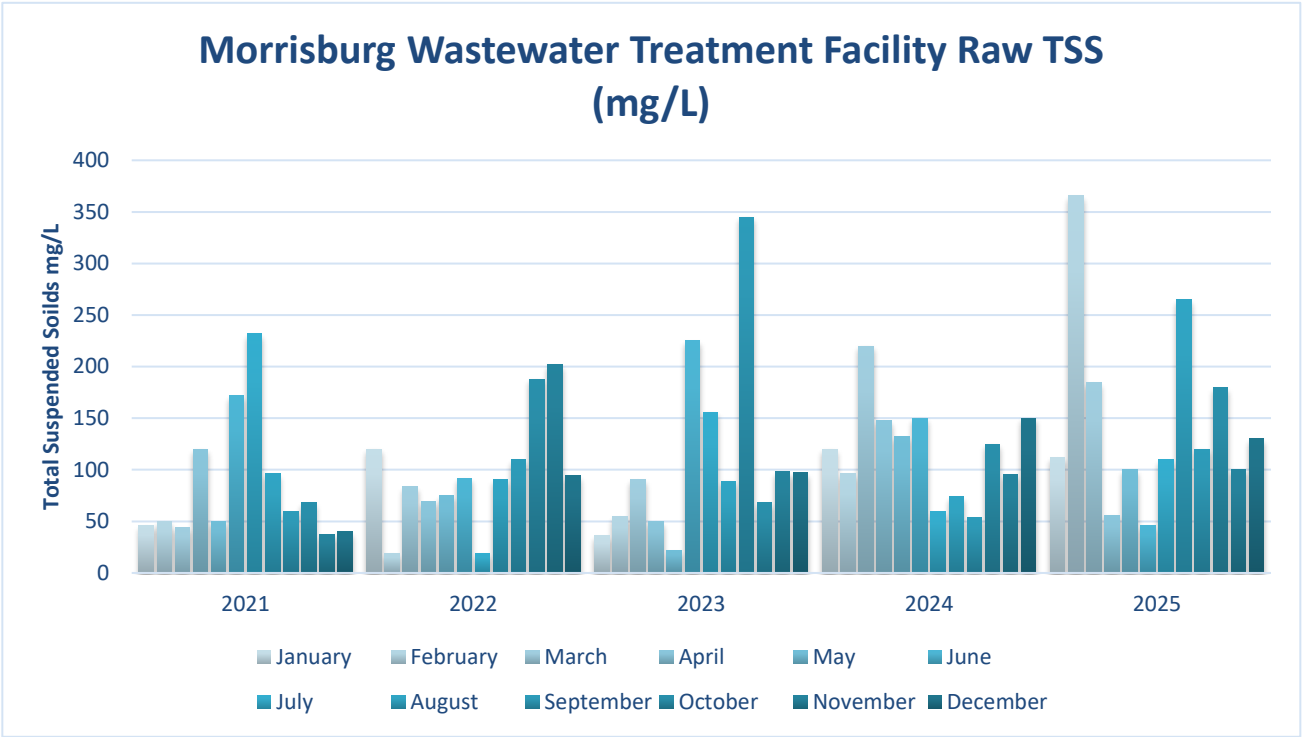


5.1.3. *Influent - Total Suspended Solids (mg/L)*

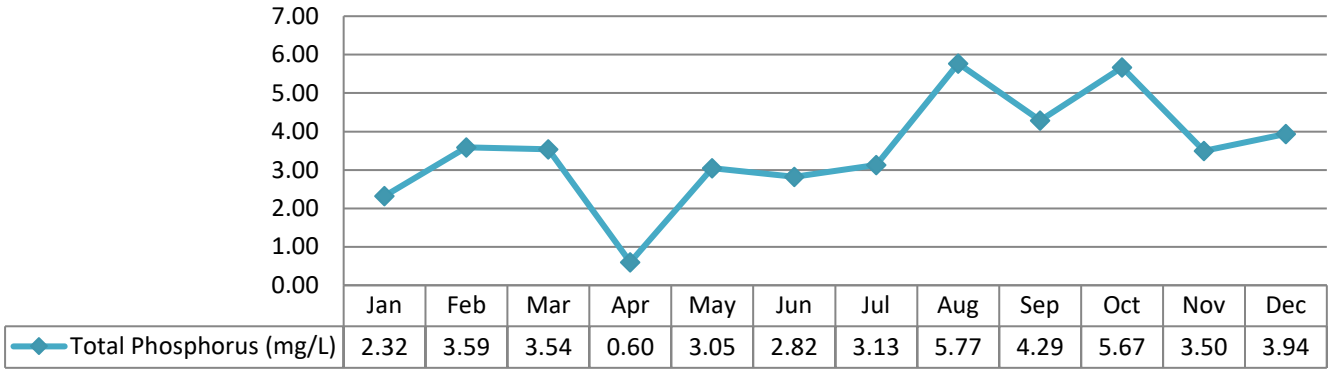


	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
TSS (mg/L)	112.0	366.0	185.0	56.0	100.0	46.0	110.0	265.0	120.0	180.0	100.0	130.0

5.1.4. *Influent – 5 Year Total Suspended Solids (mg/L)*

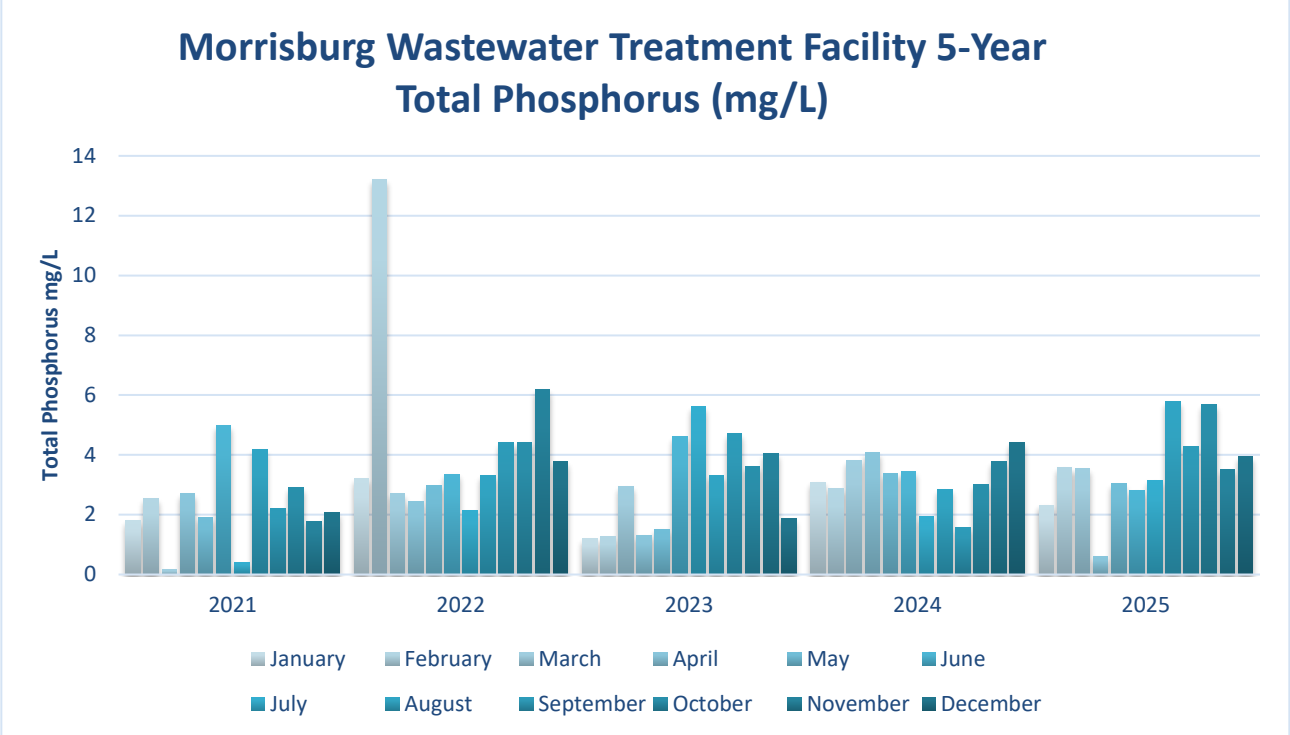


5.1.5. *Influent - Total Phosphorus (mg/L)*

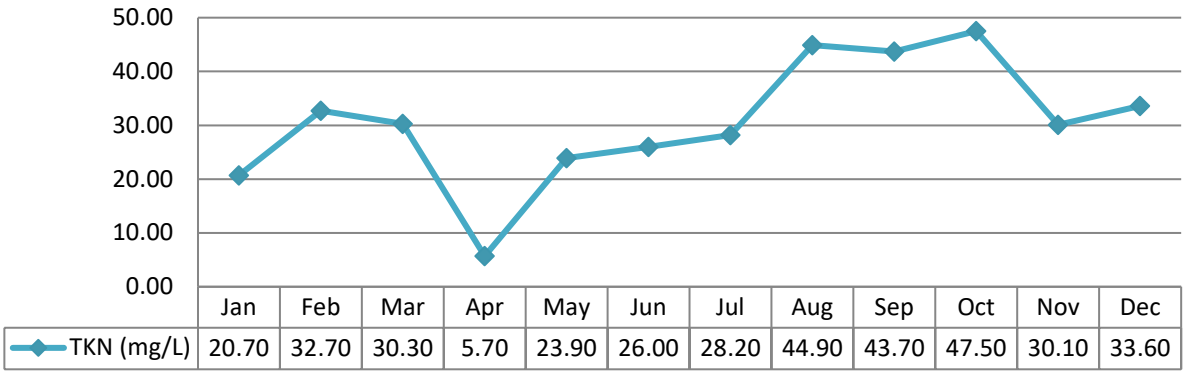


	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Total Phosphorus (mg/L)	2.32	3.59	3.54	0.60	3.05	2.82	3.13	5.77	4.29	5.67	3.50	3.94

5.1.6. *Influent – 5 Year Total Phosphorus (mg/L)*

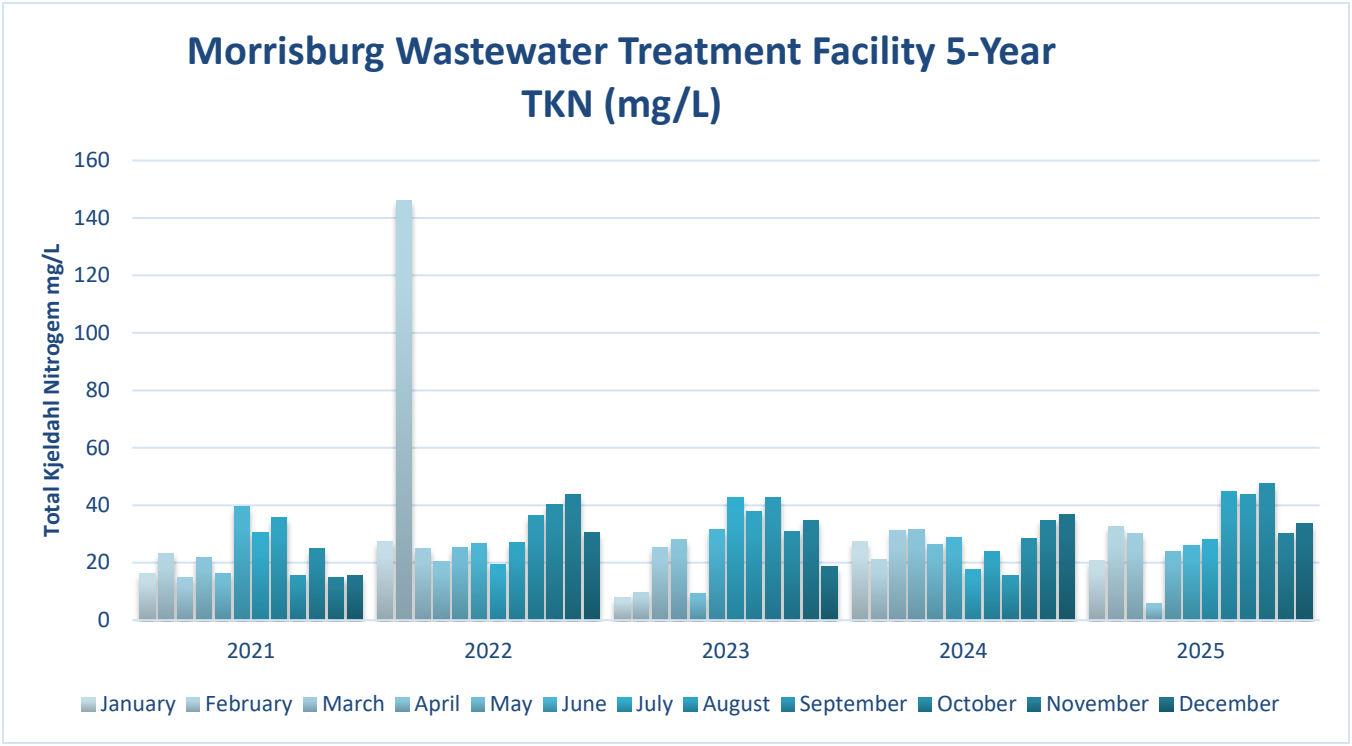


5.1.7. *Influent - Total Kjeldahl Nitrogen (TKN) (mg/L)*

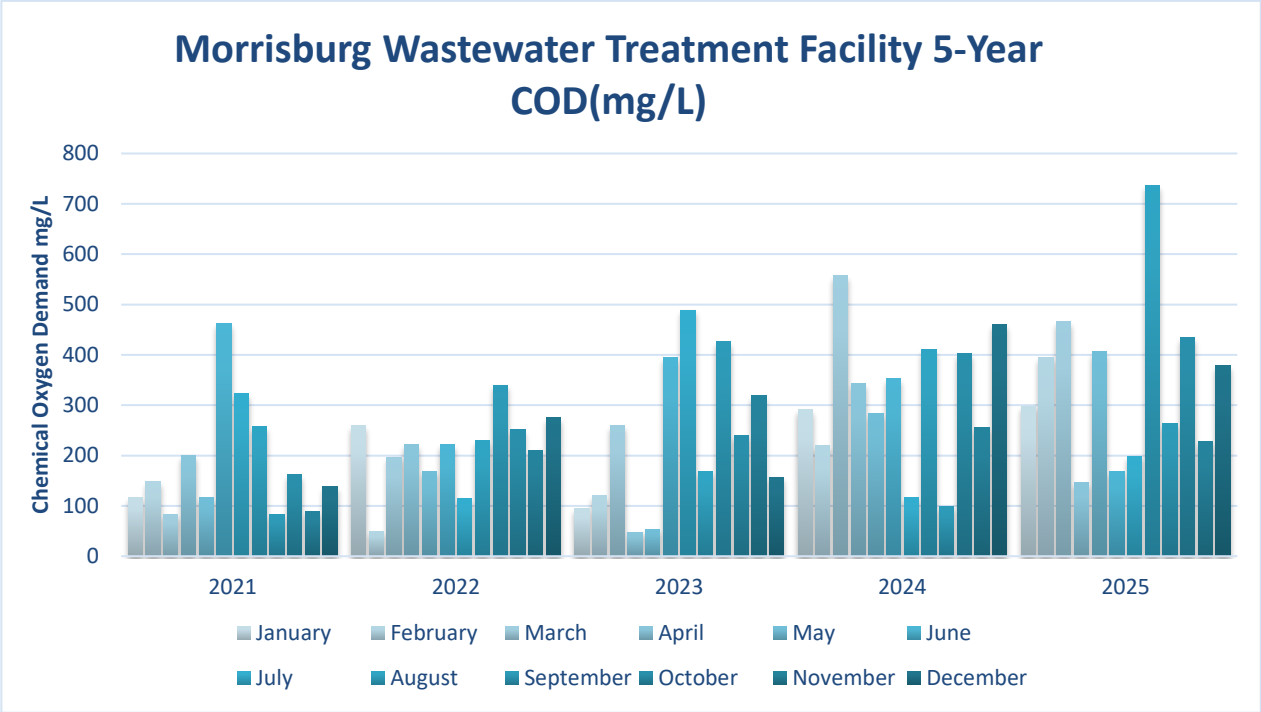


	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
TKN (mg/L)	20.70	32.70	30.30	5.70	23.90	26.00	28.20	44.90	43.70	47.50	30.10	33.60

5.1.8. *Influent – 5 Year Total Kjeldahl Nitrogen (TKN) (mg/L)*



5.1.9. *Influent – 5 Year Chemical Oxygen Demand (COD) (mg/L)*



5.2. Imported Waste Quality

There was no imported waste or sewage accepted at this facility in 2025

6. Effluent Quality

The monthly average concentrations of carbonaceous biochemical oxygen demand (CBOD5), total suspended solids (TSS), total phosphorus (TP) and total ammonia nitrogen (TAN) remained below the effluent objectives and limits outlined in the facility's Certificate of Approval during 2025. The geometric mean density of E. coli in the effluent also remained below the Ministry of Environments limit, however the ECA objective was exceeded in 2025. In addition the effluent pH remained within the limits and objectives throughout the year.

Effluent results from the WWTP for 2025 are tabulated below. Additional data can be found in the Performance Assessment Reports attached in Appendix A.

6.1. Effluent Quality Assurance and Control Measures Taken

This system is part of the Municipality of South Dundas. Operational Services are delivered by Municipal staff. The systems are operated to meet compliance with applicable regulations. The system has comprehensive manuals detailing operations, maintenance, instrumentation, and emergency procedures. All procedures are treated as active documents and are updated as required. These documents are also part of the Municipality's Quality & Environmental Management System.

The process is reviewed and maintained by certified operators. These operator's complete in-house rounds and testing to monitor the process. All sampling and analysis follow approved methods and protocols for sampling, analysis and recording as specified in the Ministry's Procedure F-10-1, "Procedures for Sampling and Analysis Requirements for Municipal and Private Sewage Treatment Works", the Ministry's publication, "Protocol for the Sampling and Analysis of Industrial/Municipal Wastewater" and the publication, "Standard Methods for the Examination of Water and Wastewater".

All final effluent samples collected during the reporting period to meet legislated sampling requirements are submitted to Caduceon Ottawa for analysis, with the exception of pH and temperature. Caduceon Ottawa has been deemed accredited by the Canadian Association for Laboratory Accreditation (CALA), meeting strict provincial guidelines including an extensive quality assurance/quality control program. By choosing this laboratory, the Municipality of South Dundas is ensuring appropriate control measures are undertaken during sample analysis. The pH and temperature parameters are analyzed in the field at the time of sample collection by certified operators, to ensure accuracy and precision of the results obtained.

South Dundas uses a data management system maintained by staff, which includes:

- SharePoint – Municipality of South Dundas Water/Wastewater Site.
    - This online database consolidates all operational data from a variety of sources including field data, online instrumentation, and electronic receipt of lab test results for reporting, tracking and analysis.

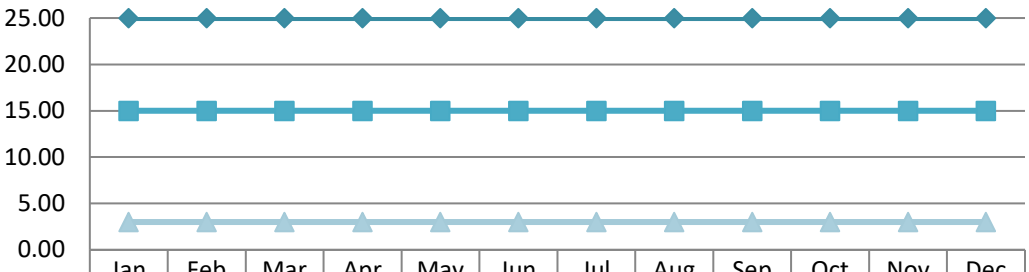
The operations team also has access to in-house Operational Compliance and Process Technicians (PCTs) to assist for emerging process issues. This aids in establishing additional control measures to ensure a quality effluent product.

Detailed individual sample results for both raw sewage and final effluent can be requested from the operating authority.

6.2. CBOD5 mg/L

Compliance Limit and Objective for this parameter was met for 2025.

6.2.1. Effluent – CBOD5 Concentration

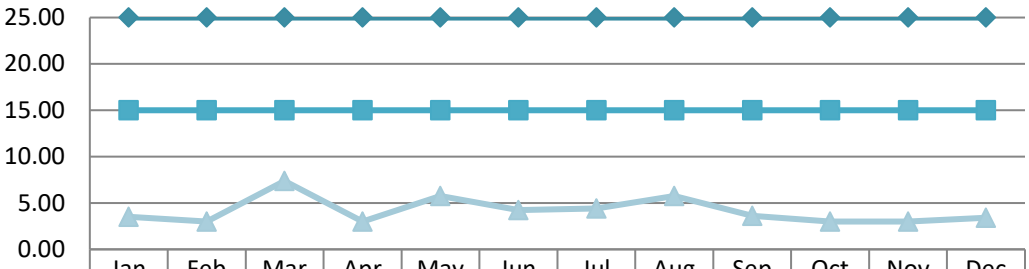


	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
ECA Limit	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00
ECA Objective	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00
Average (mg/L)	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00

6.3. Total Suspended Solids (TSS) (mg/L)

Compliance limit and Objective for this parameter was met in 2025.

6.3.1. Effluent – TSS Concentration (mg/L)

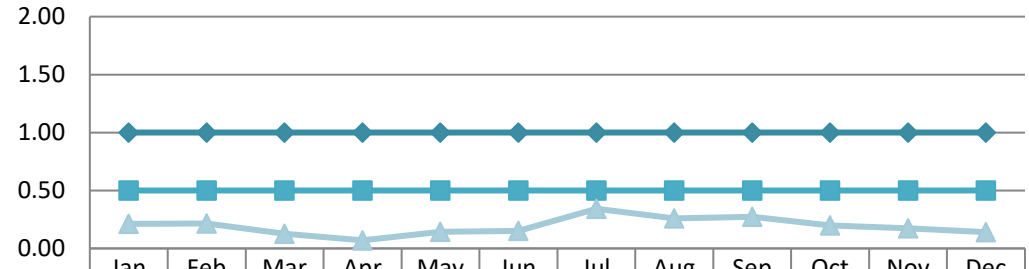


	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
ECA Limit	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00
ECA Objective	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00
Average (mg/L)	3.50	3.00	7.38	3.00	5.75	4.25	4.40	5.75	3.60	3.00	3.00	3.40

6.4. Total Phosphorus (mg/L)

Compliance Limit and Objective for this parameter was met in 2025.

6.4.1. Effluent – Total Phosphorus Concentration (mg/L)

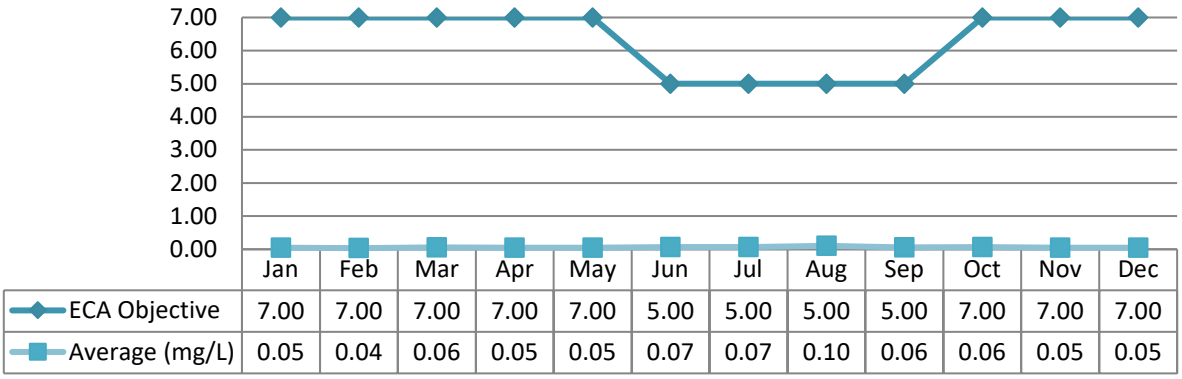


	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
ECA Limit	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
ECA Objective	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
Average (mg/L)	0.21	0.21	0.13	0.07	0.14	0.15	0.34	0.26	0.27	0.20	0.17	0.14

6.5 Total Ammonia Nitrogen (TAN) (mg/L)

There is no Compliance Limit for this parameter. Both the June to September Compliance Objective for this parameter and the October to May Compliance Objective were met in 2025.

6.4.2. Effluent – Total Ammonia Nitrogen Concentration (mg/L)

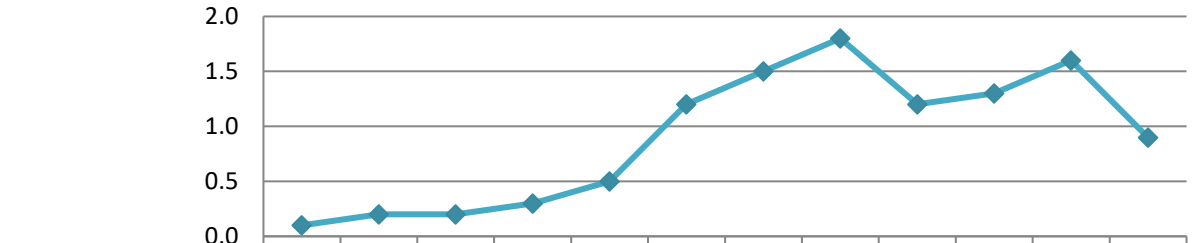


	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
ECA Objective	7.00	7.00	7.00	7.00	7.00	5.00	5.00	5.00	5.00	7.00	7.00	7.00
Average (mg/L)	0.05	0.04	0.06	0.05	0.05	0.07	0.07	0.10	0.06	0.06	0.05	0.05

6.5 Un-Ionized Ammonia (ug/L)

There is no Compliance Limit of Objective for this parameter.

6.4.3. Effluent – Un-Ionized Ammonia Concentration

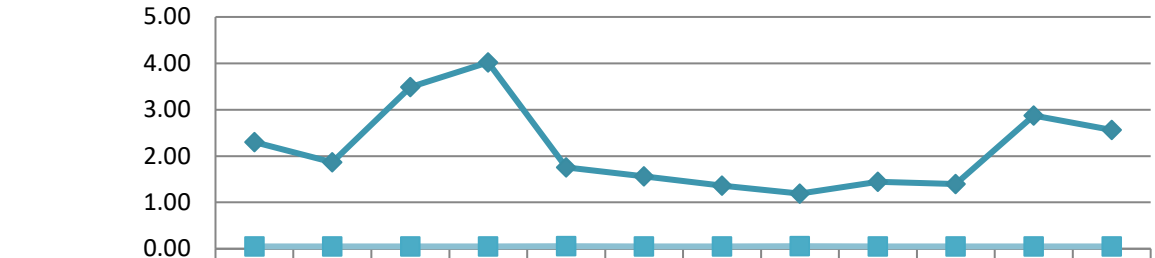


	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Un-Inonized ug/L	0.1	0.2	0.2	0.3	0.5	1.2	1.5	1.8	1.2	1.3	1.6	0.9

6.5. Nitrate, Nitrite (mg/L)

There is no Compliance Limit or Objective for these parameters.

6.5.1. *Effluent – Nitrate, Nitrite Concentration*



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Nitrate mg/L	2.30	1.87	3.49	4.02	1.76	1.57	1.36	1.19	1.45	1.39	2.87	2.56
Nitrite mg/L	0.05	0.05	0.05	0.05	0.06	0.05	0.05	0.06	0.05	0.05	0.05	0.05

6.6. Regulatory Sample Results Summary

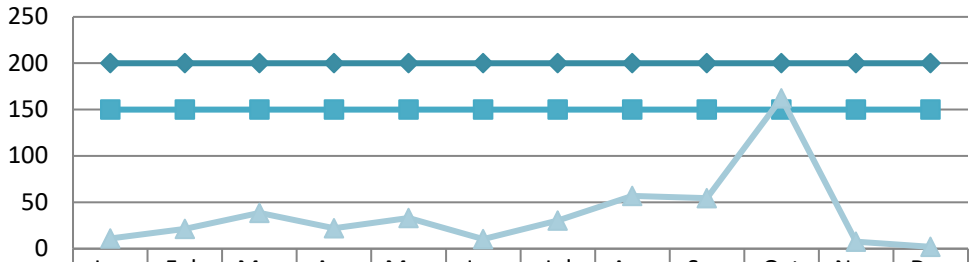
There was one (1) effluent sample collected in 2025 and tested for acute lethality to Rainbow Trout and Daphnia Magna. Results are displayed as % mortality. An adverse result is indicated by a > 50% mortality rate. Compliance Limit for this parameter was met in 2025.

Date	Rainbow Trout	Daphnia Magna
January 9, 2025	0%	0%

6.7. E-Coli

There is no set Compliance Limit for e. Coli in the Environmental Certificate of Approval. Therefore Morrisburg Wastewater Treatment Facility follows the Ministry of the Environments e. Coli limit of 200cfu/100ml. The limit was not exceeded during the month of October. There is a Compliance Objective for this parameter, which was not met in October of 2025.

6.7.1. *E. Coli Monthly Geometric Mean Density (cfu/100ml):*

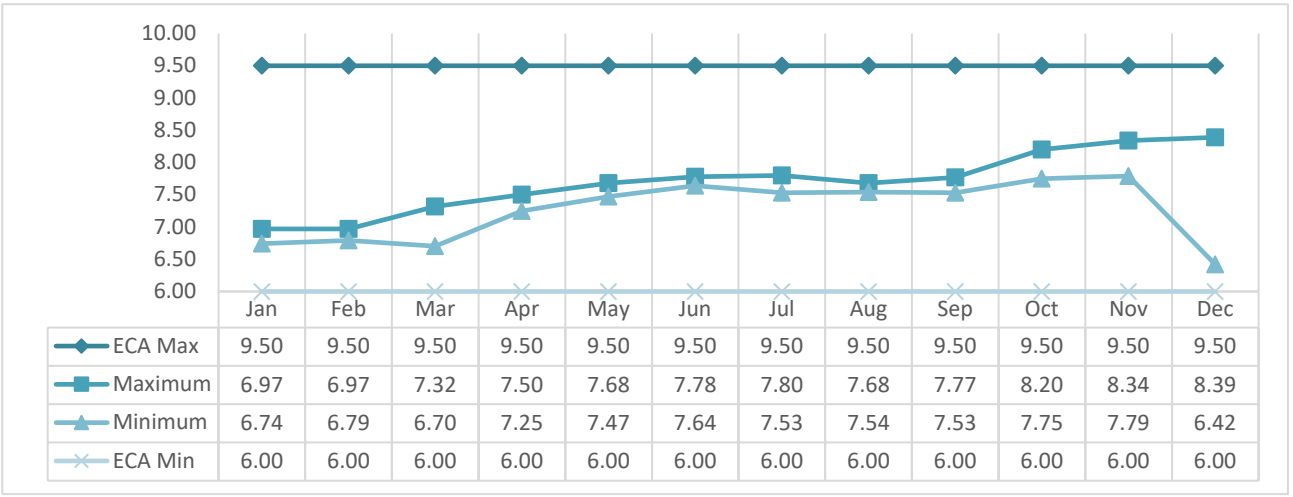


	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
ECA Limit	200	200	200	200	200	200	200	200	200	200	200	200
ECA Objective	150	150	150	150	150	150	150	150	150	150	150	150
Average cfu/100ml	11.04	21.25	38.51	21.89	32.98	10.21	30.30	57.01	54.53	162.32	7.47	2.00

6.8. pH

Compliance Limit and Objective range for this parameter is 6.0 – 9.5. The parameter was met in 2025. Each instance the pH is outside of that range is reported as a non-compliance.

6.8.1. Effluent – pH Minimum and Maximum

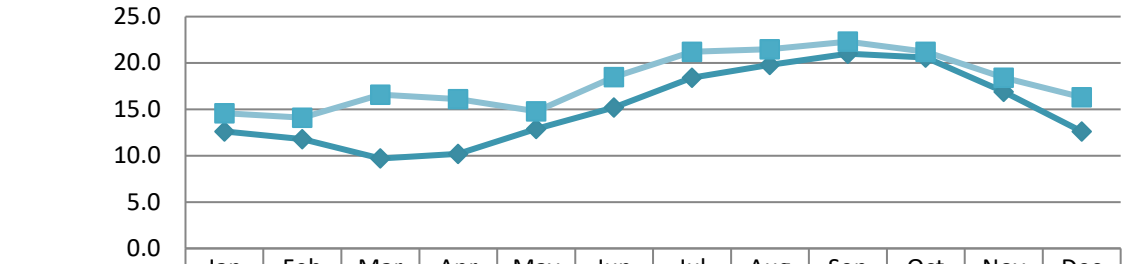


	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
ECA Max	9.50	9.50	9.50	9.50	9.50	9.50	9.50	9.50	9.50	9.50	9.50	9.50
Maximum	6.97	6.97	7.32	7.50	7.68	7.78	7.80	7.68	7.77	8.20	8.34	8.39
Minimum	6.74	6.79	6.70	7.25	7.47	7.64	7.53	7.54	7.53	7.75	7.79	6.42
ECA Min	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00

6.9. Temperature

There are no Compliance Limits or Objectives defined for Effluent Temperature.

6.9.1. Effluent – Temperature Minimum and Maximum



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Minimum	12.6	11.8	9.7	10.2	12.9	15.2	18.4	19.8	21.0	20.6	16.9	12.6
Maximum	14.6	14.1	16.6	16.1	14.8	18.5	21.2	21.5	22.3	21.2	18.4	16.3

7.0. Operating Issues

There were no operating issues to report in 2025.

7.1. Effluent Quality Non-Compliance Summary

Date	Exceedance of	Limit	Value	Corrective Action
October	Objective for e. Coli	150cfu/100ml	162cfu/100ml	New UV system installed

7.2. Summary of Abnormal Sewage Discharge Events

Abnormal Discharge Events include Bypass', Overflows, Diversions and Spills of Sewage. Summary Details are included in Appendix B.

7.3. Spills (Other than Sewage)

Date	Location	Details	Volume (m3)	Start Date and Time	End Date and Time
No spills to report in 2025					

8.0. Maintenance

Routine planned maintenance activities:

- Inspect, adjust and calibrate process control equipment to ensure proper operation of water distribution systems, pumps, chemical feeders, and all other equipment installed at the facilities.
- Carry out a routine maintenance program including greasing and oiling as specified in the lubrication schedule.
- Perform day-to-day maintenance duties to equipment including checking machinery and electrical equipment when required.
- Maintain an equipment inventory.
- Maintain accurate records of work conducted, activities, and achievements.

Unplanned maintenance is conducted as required.

8.1. Normal Maintenance and Repairs

Maintenance/Repair
- Routine MWWTP lift station cleaning in April, July, October and November - New Trojan 3000+ UV System installed. - Replaced effluent discharge pipe splash guard. - Replaced 1 VFD Power Flex 40 for Gravity Belt Thickener - Replaced rotameters in headworks - Sludge hauling completed in March, May and October

8.2. Emergency Maintenance and Repairs

Maintenance/Repair	Details
Escalator 310	April 17, 2025 – Blockage alarm on Escalator 310. Checked motor, did trouble shooting and determined there was an issue binding the screening unit from running properly. Closed channel off to redirect incoming influent flow and drained channel. Once inspection was completed it was determined the master pin broke and the chain was wedged into the sprocket located at bottom of screening unit. Rose Mechanical Inc was brought in, screening unit was removed from channel and repaired off site with parts ordered from manufacturer. Screening unit was dropped back into place and operational by July 21, 2025.

8.3. Flow Meter Calibrations and Maintenance

Location	Date of Calibration	Additional Maintenance
FIT-370 East Influent Flow Meter	May 22, 2025	None.
FIT-380 West Influent Flow Meter	May 22, 2025	None.

8.4. Authorized Alterations in Collection System

Alteration	Details	Significant Drinking Water Threat (Y/N)
No alterations to the collection system in 2025		

8.5. Notice of Modifications

Date	Process	Modification	Status
Jan 2025	Flowrate Study being conducted by EVB Engineering on behalf of the Municipality	1 Stingray Logger mounted in manhole	Completed June 2025

9.0. Sludge Generation

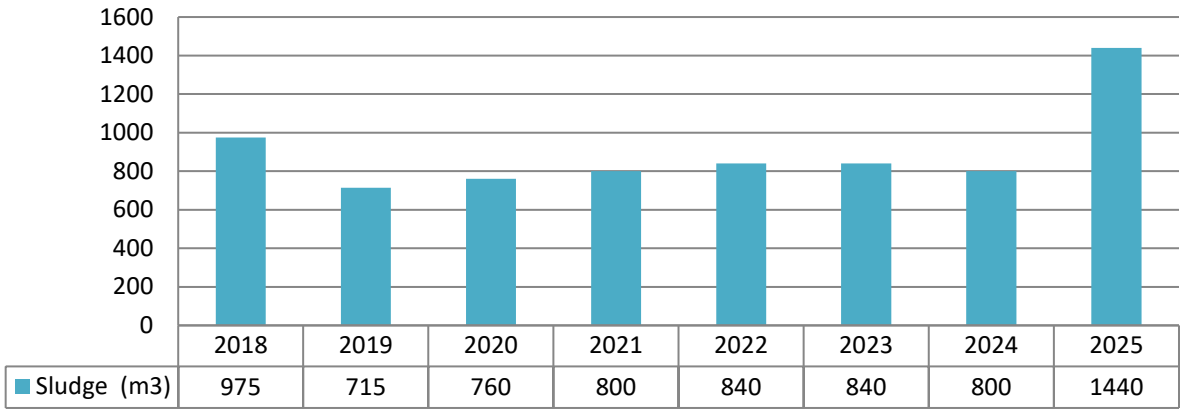
9.1. Sludge Disposal Summary

Date	Disposal Location	Approval Number	Total Volume (m3)
March 2025	Township of Edwardsburgh/Cardinal Edwardsburgh, Concession: 5, Lot: 12	ECA # H480300	160
May 2025	Township of Edwardsburgh/Cardinal Edwardsburgh, Concession: 5, Lot: 12	ECA # H480300	480
October 2025	Township of Edwardsburgh/Cardinal Edwardsburgh, Concession: 5, Lot: 12	ECA # H480300	800

In 2025, a total of 1440m^3 of liquid sludge was removed from Morrisburg's WWTP and was utilized as soil conditioner. The sludge was removed from the WWTP by GFL in March, May and October, NASM Plan # 23752. It is anticipated that approximately the same volume of sludge will be generated in 2026

9.2. Annual Comparison (m3/year)

It is anticipated that sludge volumes will remain similar to the 2025 volumes.

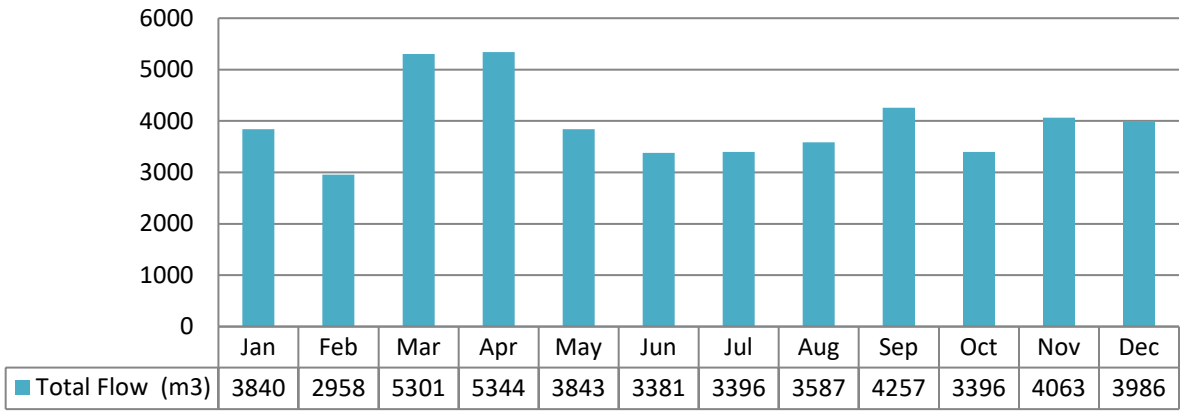


10.0. Summary of Complaints

Location	Date	Nature of Complaint	Actions Taken
Broder Cres and Lions Dr	24/01/25	Sewer main blockage	Hydro Cam on site to flush from manhole mmh75 to mmh70. Blockage fixed and sewer lines free flowing.
8 Rotterdam Way	13/05/25	Sewer main blockage	Snaked manhole downstream from home, debris was moved to benching inside of manhole and blockage let go. Hydro Cam in on May 14/25 to flush all of Rotterdam Way and Dutch Meadows.

11.0. Groundwater Pumping Volumes

Groundwater is pumped from the WWTP Building Foundation.



Appendix A – Performance Assessment Report

MORRISBURG WWTP
PERFORMANCE ASSESSMENT REPORT

MUNICIPALITY: SOUTH DUNDAS
PROJECT: MORRISBURG WWTP
WORKS NUM.: 120000168
DESCRIPTION: TWO SEQUENTIAL BATCH REACTORS AND AEROBIC SLUDGE DIGESTION

YEAR: 2025
WATER COURSE: ST. LAWRENCE
DESIGN CAPACITY: 4,608 m^3/d

MONTH	RAW			RAW				SEPTAGE	GROUNDWATER	SLUDGE
	Total Flow m^3	Avg Day Flow m^3	Max Day Flow m^3/d	Raw BOD (mg/L)	Raw TSS (mg/L)	Raw PHOS. (mg/L)	Raw TKN (mg/L)	Volume Received m^3	Volume Pumped to Storm Sewer m^3	Liquid Sludge Hauled m^3
JAN	46,731	1,507	3,270	217	112	2.32	20.7	0	3840	0
FEB	27,117	935	1,566	229	366	3.59	32.7	0	2958	0
MAR	101,245	3,266	10,352	194	185	3.54	30.3	0	5301	160
APR	110,187	3,673	8,537	119	56	0.60	5.7	0	5344	0
MAY	56,008	1,807	2,788	159	100	3.05	23.9	0	3843	480
JUN	39,727	1,324	1,797	39	46	2.82	26.0	0	3381	0
JUL	31,585	1,019	1,052	70	110	3.13	28.2	0	3396	0
AUG	29,157	941	940	186	265	5.77	44.9	0	3587	0
SEPT	26,113	870	1,116	94	120	4.29	43.7	0	4257	0
OCT	35,128	1,133	3,698	148	180	5.67	47.5	0	3396	800
NOV	56,364	1,879	3,552	54	100	3.5	30.1	0	4063	0
DEC	45,680	1,474	3,266	205	130	3.94	33.6	0	3986	0
TOTAL	605,043							0	47,352	1440
AVG		1,658		143	148	3.52	30.6			
MAX			10,352							
CRITERIA		**4,608**	**18,500**					**0.0**		
COMPLIANCE		**YES**	**YES**							

2025- MORRISBURG WWTP EFFLUENT SAMPLING MONTHLY AVERAGES

MONTH	DATE	CBOD (mg/L)		TSS (mg/L)		TP (mg/L)	TAN (mg/L)		E. Coli (CFU/100ml)
January	01/07/2025	<	3		5	0.18		0.18	16
	01/14/2025	<	3		5	0.29	<	0.05	58
	01/21/2025	<	3		4	0.23	<	0.05	4
	01/28/2025	<	3		6	0.21	<	0.05	4
	Monthly Average		3.0		5	0.23		0.08	11
	Compliant?		**YES**		**YES**	**YES**		**N/A**	**YES**
February	02/04/2025	<	3		5	0.21	<	0.05	0
	02/11/2025	<	3		3	0.19	<	0.05	4
	02/18/2025	<	3		5	0.21	<	0.05	30
	02/25/2025	<	3	<	3	0.32		0.08	80
	Monthly Average		3.0		4.0	0.23		0.06	21
	Compliant?		**YES**		**YES**	**YES**		**N/A**	**FALSE**
March	03/04/2025	<	3		3	0.26	<	0.05	56
	03/11/2025	<	3	<	3	0.08	<	0.05	19
	03/18/2025	<	3		4	0.13		0.05	22
	03/25/2025	<	3		5	0.1	<	0.05	94
	Monthly Average		3.0		3.8	0.14		0.05	39
	Compliant?		**YES**		**YES**	**YES**		**N/A**	**YES**
April	04/01/2025	<	3		5	0.09		0.05	42
	04/08/2025	<	3	<	3	0.12		0.05	14
	04/15/2025	<	3		6	0.14	<	0.05	8
	04/22/2025	<	3		4	0.13	<	0.05	24
	04/29/2025	<	3		9	0.07	<	0.05	44
	Monthly Average		3		5.4	0.11		0.05	22
	Compliant?		**YES**		**YES**	**YES**		**N/A**	**YES**
May	05/06/2025	<	3		12	0.15	<	0.05	60
	05/13/2025	<	3		5	0.24	<	0.05	32
	05/20/2025	<	3	<	3	0.1	<	0.05	44
	05/27/2025	<	3		3	0.08	<	0.05	14
	Monthly Average		3.0		5.75	0.14		0.05	33
	Compliant?		**YES**		**YES**	**YES**		**N/A**	**YES**
June	06/03/2025	<	3		4	0.17	<	0.05	34
	06/10/2025	<	3		5	0.18	<	0.05	20
	06/17/2025	<	3		8	0.37		0.09	14
	06/24/2025	<	3		4	0.2		0.13	2
	Monthly Average		3.0		5.3	0.23		0.08	12
	Compliant?		**YES**		**YES**	**YES**		**N/A**	**YES**
July	02/07/2025	<	3		5	0.31	<	0.05	66
	08/07/2025	<	3	<	3	0.36		0.07	22
	15/07/2025	<	3		8	0.36		0.11	20
	22/07/2025	<	3		5	0.29	<	0.05	20
	29/07/2025	<	3	<	3	0.39	<	0.05	44
	Monthly Average		3.0		4.8	0.34		0.07	30
	Compliant?		**YES**		**YES**	**YES**		**N/A**	**YES**
August	06/08/2025	<	3		5	0.21		0.14	66
	12/08/2025	<	3		6	0.28		0.12	40
	19/08/2025	<	3		9	0.3		0.1	200
	26/08/2025	<	3	<	3	0.25	<	0.05	20
	Monthly Average		3.0		5.75	0.26		0.10	57
	Compliant?		**YES**		**YES**	**YES**		**N/A**	**YES**
September	03/03/2025	<	3		3	0.25	<	0.05	18
	09/09/2025	<	3		5	0.34		0.05	54
	16/09/2025	<	3	<	3	0.26		0.07	164
	23/09/2025	<	3		3	0.21		0.07	108
	30/09/2025	<	3		4	0.31		0.07	28
	Monthly Average		3.0		3.6	0.27		0.06	55
	Compliant?		**YES**		**YES**	**YES**		**N/A**	**YES**
October	10/06/2025	<	3		3	0.21		0.09	346
	10/15/2025	<	3	<	3	0.16	<	0.05	570
	10/21/2025	<	3	<	3	0.14		0.06	32
	10/28/2025	<	3	<	3	0.28	<	0.05	110
	Monthly Average		3.0		3.0	0.20		0.06	162
	Compliant?		**YES**		**YES**	**YES**		**N/A**	**NO**
November	11/03/2025	<	3		3	0.19	<	0.05	390
	11/10/2025	<	3	<	3	0.18	<	0.05	< 2
	11/18/2025	<	3		3	0.16	<	0.05	< 2
	11/25/2025	<	3	<	3	0.16		0.05	< 2
	Monthly Average		3.0		3.0	0.17		0.05	7
	Compliant?		**YES**		**YES**	**YES**		**N/A**	**YES**
December	12/02/2025	<	3		4	0.16		0.05	< 2
	12/09/2026	<	3		3	0.11	<	0.05	< 2
	12/16/2025	<	3	<	3	0.12	<	0.05	< 2
	12/23/2025	<	3	<	3	0.08	<	0.05	2
	12/30/2025	<	3		4	0.24	<	0.05	2
	Monthly Average		3.0		3.4	0.14		0.05	2
	Compliant?		**YES**		**YES**	**YES**		**N/A**	**YES**

Appendix B - Details of Abnormal Sewage Discharge Events

Event Details Summary

Facility Bypass

Date	Location	Details	Volume (m3)	Start Time	End Time	Duration (h)	Discharge Receiver	Disinfection Provided
No facility bypass' to report in 2025								

Facility Overflow

Date	Location	Details	Volume (m3)	Start Time	End Time	Duration (h)	Discharge Receiver	Disinfection Provided
March 16,2025	5 Allison Ave	At 7:15pm, due to high flows from melting run off a call out was issued for high levels in both SBR's . SBR 410 decanted, and SBR 420 hit the overflow pipe at 7:50pm due to high levels. Both SBR's were in Type 3 operation. Operator lowered Bottom Water Level setpoint allowing more volume and time to the system fill.	13.5 m3	19:50	20:05	15 min	St. Lawrence River	UV Lights

Collection Overflow

There are no authorized overflow locations in this system.

Spills of Sewage

Date	Location	Details	Volume (m3)	Start Time	End Time	Duration (h)	Discharge Receiver	Disinfection Provided
No spills of sewage to report in 2025								

Appendix C – Biosolids Quality Report

2025 - MORRISBURG WWTP MONTHLY AEROBIC BIOSOLIDS CONCENTRATION RATIO

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
Ammonia	1420	942	1270	742	1000	1340	906	2250	2160	739	721	1140
Nitrate	0.3	0.4	0.4	0.4	0.2	1.1	0.4	0.2	0.4	0.4	0.4	0.4
Ammonia + Nitrate	1420	942	1270	742	1000	1341	906	2250	2160	739	721	1140
Total Phosphorus	945	1180	1090	956	1260	1290	1020	1350	879	869	1020	1140
Total Solids	24300	28600	36800	41400	37200	32900	35900	34500	32000	24300	29000	41500
Aluminum	707	852	815	984	818	536	960	870	1200	954	1150	1010
Arsenic	0.10	0.10	0.10	0.20	0.10	0.10	0.10	0.1	0.1	0.1	0.1	0.1
Cadmium	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Chromium	1.58	1.93	1.45	2.04	1.54	0.89	1.38	0.94	1.21	0.80	0.78	0.89
Cobalt	0.13	0.16	0.12	0.18	0.13	0.07	0.11	0.08	0.13	0.10	0.08	0.09
Copper	25.3	33.2	24.8	30.6	22.0	13.3	21.7	20.2	30.6	24.4	26.4	25.8
Lead	0.60	0.80	0.50	0.80	0.60	0.30	0.50	0.4	0.6	0.5	0.5	0.5
Mercury	0.033	0.045	0.021	0.035	0.018	0.018	0.015	0.009	0.021	0.009	0.006	0.010
Molybdenum	0.25	0.32	0.24	0.36	0.26	0.18	0.26	0.21	0.28	0.2	0.2	0.2
Nickel	0.81	1.07	0.87	1.44	1.08	0.59	0.94	0.7	0.92	0.6	0.7	0.7
Selenium	0.10	0.20	0.10	0.20	0.20	0.10	0.10	0.1	0.2	0.1	0.1	0.1
Zinc	15	18.1	13.80	18.9	12.5	7.32	13.4	12.0	17.5	12.2	13.2	12.5

Metals ratio = mg metals/kg solids

	Metal/Solids Ratio (Sludge)												
	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Limit
Arsenic	4.12	3.50	2.72	4.83	2.69	3.04	2.79	2.90	3.13	4.12	3.45	2.41	**170**
Cadmium	1.23	1.05	0.82	0.72	0.81	0.91	0.84	0.87	0.94	1.23	1.03	0.72	**34**
Chromium	65.0	67.5	39.4	49.3	41.4	27.1	38.4	27.2	37.8	32.9	26.9	21.4	**2800**
Cobalt	5.35	5.59	3.26	4.35	3.49	2.13	3.06	2.32	4.06	4.12	2.76	2.17	**340**
Copper	1041	1161	674	739	591	404	604	586	956	1004	910	622	**1700**
Lead	24.7	28.0	13.6	19.3	16.1	9.1	13.9	11.6	18.8	20.6	17.2	12.0	**1100**
Mercury	1.36	1.57	0.57	0.85	0.48	0.55	0.42	0.26	0.66	0.37	0.21	0.24	**11**
Molybdenum	10.29	11.19	6.52	8.70	6.99	5.47	7.24	6.09	8.75	9.47	7.59	5.30	**94**
Nickel	33.3	37.4	23.6	34.8	29.0	17.9	26.2	20.3	28.8	25.9	24.8	17.1	**420**
Selenium	4.12	6.99	2.72	4.83	5.38	3.04	2.79	2.90	6.25	4.12	3.45	2.41	**34**
Zinc	605	633	375	457	336	222	373	348	547	502	455	301	**4200**
Sludge is Acceptable	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	

SOME ANALYSIS RESULTS EXPRESSED AS "<" (LESS THAN);HOWEVER, IN ORDER TO COMPLETE THE CALCULATION, ONLY THE NUMERIC VALUE WAS USED; THEREFORE THE AVG. CONC. IS GREATER THAN ACTUAL.

Appendix D - ECA Annual Report Requirements

Facility ECA # 2147-734L2K Section 12(6)	**Section in Report**
a) a summary and interpretation of all monitoring data and comparison to the effluent limits outlined in Condition 7, including an overview of success and adequacy	Treatment Flows, Raw Sewage and Effluent Quality
b) a description of any operating problems encountered and corrective actions taken	Operating Issues and Problems
c) summary of all maintenance carried out on any major structure, equipment, apparatus, mechanism or thing forming part of the Works	Maintenance
d) summary of any effluent quality assurance or control measures undertaken in the reporting period	Effluent Quality
e) summary of the calibration and maintenance carried out on all effluent monitoring equipment	Maintenance
f) description of efforts made and results achieved in meeting the Effluent Objectives of Condition 6	Effluent Quality
g) tabulation of the quantity of septage added to the Works for co-treatment during the reporting period	Treatment Flows
h) summary of chemical characterization data for samples of septage collected in accordance with Table 4 in Condition 11 during the reporting period	Raw Sewage Quality
i) 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 a summary of the locations to where the sludge was disposed	Sludge Generation
j) tabulation of the quantity of groundwater pumped from the WWTP Building foundation drainage system to the storm sewer system	Groundwater Pumping Volumes
k) summary of any complaints received during the reporting period and any steps taken to address the complaints	Summary of Complaints
l) summary of all By-pass, overflow, spill or abnormal discharge events	Operating Issues and Problems
m) any other information the District Manager requires from time to time	N/A

Collection ECA # 165-W601 Schedule E	
4.6.3 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.	Operating Issues and Problems
4.6.4 Includes a summary of any operating problems encountered and corrective actions taken.	Operating Issues and Problems
4.6.5 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.	Maintenance
4.6.6 Includes a summary of any complaints related to the Sewage Works received during the reporting period and any steps taken to address the complaints.	Summary of Complaints
4.6.7 Includes 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.	Maintenance
4.6.8 Includes a summary of all Collection System Overflow(s) and Spill(s) of Sewage, including:	Operating Issues and Problems

Collection ECA # 165-W601 **Schedule E**	
a) Dates; b) Volumes and durations; c) If applicable, loadings for total suspended solids, BOD, total phosphorus, and total Kjeldahl nitrogen, and sampling results for E.coli; d) Disinfection, if any; and e) Any adverse impact(s) and any corrective actions, if applicable.	
4.6.9 Includes a summary of efforts made to reduce Collection System Overflows, Spills, STP Overflows, and/or STP Bypasses, including the following items, as applicable: a) 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. b) Details of the establishment and maintenance of a PPCP, including a summary of project progresses compared to the PPCP's timelines. c) An assessment of the effectiveness of each action taken. d) 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. e) Public reporting approach including proactive efforts.	Maintenance Operating Issues and Problems