January 30, 2026

Mr. Jean-François Durocher
Provincial Officer – Water Inspector
Ministry of the Environment, Conservation and Parks

Subject:

2025 - Performance Report for the St-Isidore Wastewater Facility.

Dear Mr. Durocher,

There is no specific Environmental Compliance Approval or for this facility. Operations are conducted in accordance with applicable MECP guidelines and performance criteria, including the following:

- **Guideline F-5-1**, Table I – Lagoon Effluent Compliance Limits.
- **Guideline F-10** – Sampling Requirements; and
- **Guideline F-10-1** – Procedures for Sampling and Analysis.

This Performance Report provides a summary of the operation of the St-Isidore Wastewater Facility during the 2025 reporting period, including:

- Influent volumes and daily flow rates.
- Analytical results for raw sewage and final effluent parameters.
- A summary of operational activities and environmental considerations; and
- Maintenance and calibration activities for monitoring equipment.

Should you require any additional information or clarification, please do not hesitate to contact the undersigned.

Sincerely,

Sébastien Cadieux

(Prepared by)
Sébastien Cadieux,
Senior Water & Wastewater Operator/Compliance Officer

Nicholas Pigeon

(Reviewed & Approved)
Nicholas Pigeon,
Director of Water & Wastewater

2025 Annual Performance Report

St-Isidore Wastewater Facility

a) Summary and Interpretation of Raw Sewage and Final Effluent Monitoring Data

Comparison to Applicable Effluent Objectives

The average daily flow of wastewater entering the St-Isidore Wastewater Facility was **321 m³/day**. The maximum daily flow recorded was **696 m³/day** in April, while the minimum daily flow was **214 m³/day** in February.

During the seasonal discharge period from **May 2 to June 3**, treated effluent was discharged over a **33-day** period, with an average daily effluent flow of **5238 m³/day**, resulting in a total discharged volume of **172,849 m³.**

The wastewater lagoon treatment facility did not experience any significant operational or environmental challenges during the 2025 reporting period. Treated effluent quality consistently met the applicable effluent objectives for Biochemical Oxygen Demand (BOD_5) and Total Suspended Solids (TSS).

b) Analytical Parameters – Raw Sewage and Treated Effluent

1. Total Nitrogen (Kjeldahl) and Ammonia

Raw sewage Total Kjeldahl Nitrogen (TKN) concentrations ranged from **18.9 mg/L** in July to **55.8 mg/L** in February, with a monthly average concentration of **37.07 mg/L**.

The average Ammonia concentration in treated effluent during the reporting period was **4.05 mg/L.**

2. Total Phosphorus

Raw sewage total phosphorus concentrations ranged from **1.7 mg/L** in July to **5.4 mg/L** in February, with a monthly average concentration of **3.77 mg/L**.

The average total phosphorus concentration in treated effluent was **0.91 mg/L**.

3. Biochemical Oxygen Demand (BOD_5)

Raw sewage BOD_5 concentrations ranged from **83 mg/L** in July to **712 mg/L** in January, with a monthly average concentration of **195 mg/L**.

The average BOD_5 concentration in treated effluent was **5.05 mg/L**, demonstrating effective organic matter removal and compliance with applicable lagoon effluent objectives.

4. Total Suspended Solids (TSS)

Raw sewage total suspended solids concentrations ranged from **70 mg/L** in June to **572 mg/L** in January, with a monthly average concentration of **185 mg/L**.

The average TSS concentration in treated effluent was **9.8 mg/L**, remaining well within applicable performance guidelines.

5. Escherichia coli (E. coli)

The average E. coli concentration in treated effluent during the 2025 reporting period was **384 CFU/100 mL**, in accordance with applicable lagoon effluent performance guidelines.

c) Summary of Raw Sewage and Effluent Quality Assurance and Control Measures

Raw sewage monitoring and sampling were conducted monthly throughout the reporting period. Treated effluent samples were collected during the authorized discharge period.

All sampling, preservation, and analytical procedures were completed in accordance with MECP Guideline F-10 (Sampling Requirements) and Guideline F-10-1 (Procedures for Sampling and Analysis).

Analytical results for raw sewage are provided in the St-Isidore Wastewater Facility Analytical Summary Table included in Appendix I. Treated effluent analytical results are provided in Appendix II.

d) Summary of Maintenance Activities on Major Structures and Equipment

In addition to routine preventive maintenance activities, the following operational and maintenance tasks were completed during the 2025 reporting period:

- ***January***
  - Replacement of electrical contactors on both submersible pumps at the sanitary pumping station.

- ***April***
  - Batch treatment of approximately 25,000 kg of PAS-8 into the St-Isidore Wastewater Lagoon to support phosphorus control and treatment performance.

- ***May***
  - Flushing and cleaning of the sanitary collection system by Nation Municipality personnel using a hydrovac truck.
  - Cleaning of the sanitary pumping station by Nation Municipality personnel using a hydrovac truck

- ***October***
  - Calibration of the facility flow meter

- ***November***
  - Cleaning of the sanitary pumping station by Nation Municipality personnel using a Hydrovac truck

e) Operating Challenges and Corrective Actions

The primary operational challenge identified at the St-Isidore Wastewater Facility is the **approaching hydraulic and treatment capacity of the lagoon cells**.

To proactively address this condition and support long-term compliance, the Municipality initiated the development of a **Wastewater Master Plan in 2024**. The Master Plan is intended to evaluate current and projected flows and loading, assess lagoon capacity and performance, and identify potential operational, optimization, or infrastructure upgrades required to ensure continued compliance with applicable MECP guidelines.

Completion of the Master Plan is anticipated in **summer 2026**, and its recommendations will be reviewed and implemented as appropriate to mitigate capacity-related risks and support sustainable facility operation.

Appendix I: St-Isidore WASTEWATER FACILITY - ANALYTICAL SURVEY – 2025

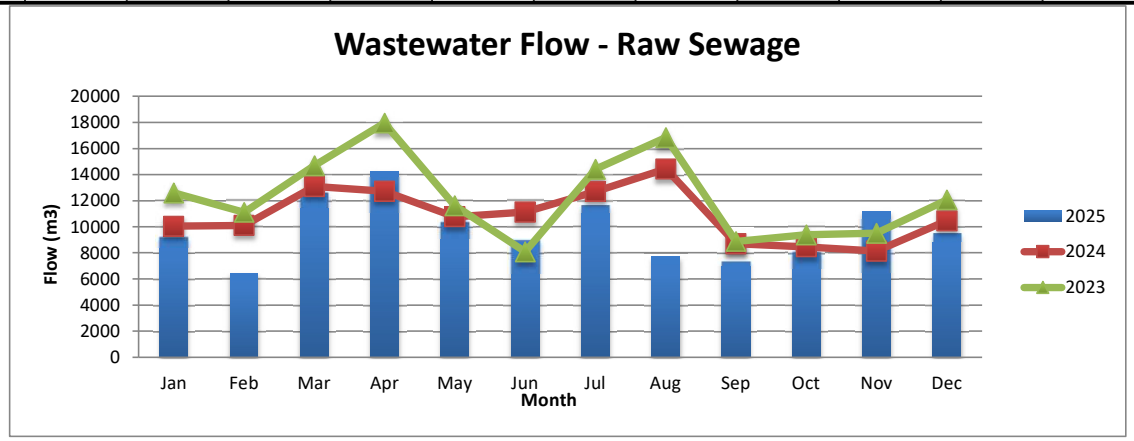
Appendix II: St-Isidore WASTEWATER FACILITY - DISCHARGE RESULTS – 2025

APPENDIX I

Waste Water - Analytical survey

St-Isidore

2025		*Limit*	*Limit*	*Jan*	*Feb*	*Mar*	*Apr*	*May*	*Jun*	*Jul*	*Aug*	*Sep*	*Oct*	*Nov*	*Dec*	*Total*
RAW SEWAGE		*C of A*	*Federal*													
Total Flow	m^3			9243	6451	12632	14273	10399	8992	11682	7717	7407	8136	11165	9556	117654
Daily Ave. Flow	m^3/d			298	222	407	476	335	300	377	249	247	262	372	308	321
Max. Flow	m^3/d			394	247	518	696	396	408	486	259	263	403	435	383	696
Min. Flow	m^3/d			246	214	247	384	283	258	259	241	230	232	344	277	214
BOD_5	*mg/l*			712	130	171	123	54	99	83	163	210	187	248	160	195
TSS	*mg/l*			572	144	210	170	100	70	72	192	180	105	200	205	185
pH	*pH units*			7.55	7.68	7.61	7.62	7.67	7.56	7.62	7.52	7.62	7.56	7.75	7.63	7.62
TKN	*mg/l*			37.0	55.8	36.1	22.7	31.2	34.4	18.9	39.9	45.8	47.3	40.6	35.1	37.07
Ptot	*mg/l*			3.5	5.4	3.4	2.4	3.4	3.7	1.7	4.1	4.3	5.2	4.5	3.7	3.77
EFFLUENT																
Total Flow	m^3							158560	14290							172850
Daily Ave. Flow	m^3/d							5285	4763							5024
BOD_5	*mg/l*	25.0	25.0					5.1	5							5.05
TSS	*mg/l*	25.0	25.0					10.6	9							9.80
Ptot	*mg/l*							0.85	0.96							0.91
Unionized ammonia	*mg/l*		1.25					0.12	0.02							0.07
Ammonia	*mg/l*							3.2	4.89							4.05
E. Coli	*cfu/100mL*							357	410							383.50



APPENDIX II

THE NATION - ST-ISIDORE LAGOON DISCHARGE - 2025

Effluent Samples	Date	BOD5 mg/l	TSS mg/l	TP mg/l	T Ammonia mg/l	Unionized Ammonia	H2S mg/l	pH	TKN	E Coli cfu/100mL
Pre-liminary	*23-Apr-25*	*7*	*15*	*0.44*	*1.33*	*0.05*	*0*	*7.88*	3.1	4
Opening	*2-May-25*	*6*	*12*	*0.62*	*0.51*	*0.02*		*7.89*	3.1	80
1	*6-May-25*	*5*	*12*	*0.44*	*1.18*	*0.03*		*7.71*	2.7	220
2	*8-May-25*	*4*	*7*	*0.66*	*1.86*	*0.08*		*7.88*	4.2	290
3	*13-May-25*	*4*	*12*	*0.06*	*0.10*	*0*		*7.45*	2.9	80
4	*16-May-25*	*6*	*6*	*0.51*	*4.31*	*0.28*		*8.08*	6	130
5	*20-May-25*	*8*	*7*	*2.72*	*4.03*	*0.16*		*7.83*	33.4	640
6	*23-May-25*	*5*	*6*	*0.35*	*5.07*	*0.15*		*7.72*	6.9	80
7	*27-May-25*	*3*	*0*	*0.89*	*6.78*	*0.25*		*7.83*	9.6	126
8	*30-May-25*	*3*	*29*	*1.85*	*6.84*	*0.21*		*7.74*	10.1	1920
Closing	*3-Jun-25*	*5*	*9*	*0.96*	*4.89*	*0.02*		*7.77*	9.1	410
Discharge average		**5.1**	**10.5**	**0.86**	**3.35**	**0.11**		**7.80**	**8.28**	**361.8**

Loading	BOD5	TSS	TP	TAN
Volume (m3)	**172849**	**172849**	**172849**	**172849**
Load (Kg)	**880**	**1807**	**149**	**580**

March						N/A		
April						0.00	kg	
May						143	kg	
June						14	kg	

Limits

Average (mg/l) 25 25

Effluent Flow

March	***April***
0	***0***
May	***June***
158560	***14290***
172849	***Total***

UP STREAM Samples	Date	BOD5	TSS	TP	T Ammonia	pH
		mg/l	mg/l	mg/l	mg/l	
1	*5/02/25*	0	18	0.06	0.05	8.32
2	*6/03/25*	0	28	0.19	0.07	8.24
Average		0	23	0.13	0.06	8.32

DOWN STREAM Samples	Date	BOD5	TSS	TP	T Ammonia	pH
		mg/l	mg/l	mg/l	mg/l	
1	*5/02/25*	0	27	0.05	0.05	8.32
2	*6/03/25*	0	23	0.27	0.50	8.25
Average		0	25	0.16	0.275	8.32