Wastewater Treatment Plant
2025
Annual Performance Report

Prepared by the Environmental Service
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Introduction

The Corporation of the Town of Hawkesbury owns and operates the Wastewater Treatment Plant located at 815, Main East Street in Hawkesbury, Ontario, which services a population of around 10,000. The plant has a rated capacity of 13,800 m^3/d, a peak flow rate of 41,000 m^3 and, is designated a Class IV Wastewater Treatment Facility.

This Annual Performance Report for the January 1, 2025, to December 31, 2025, reporting period has been prepared to meet the requirements of the Ministry of the Environment, Conservation and Parks *(MECP)* Amended Environmental Compliance Approval *(ECA)* #4692-8DVQTW for the design and operation of the Corporation of the Town of Hawkesbury Wastewater Treatment Plant. It also serves to explain the operations of an essential part of the Town's infrastructure. All efforts have been made to ensure the information presented is accurate.

Wastewater Treatment Plant Process

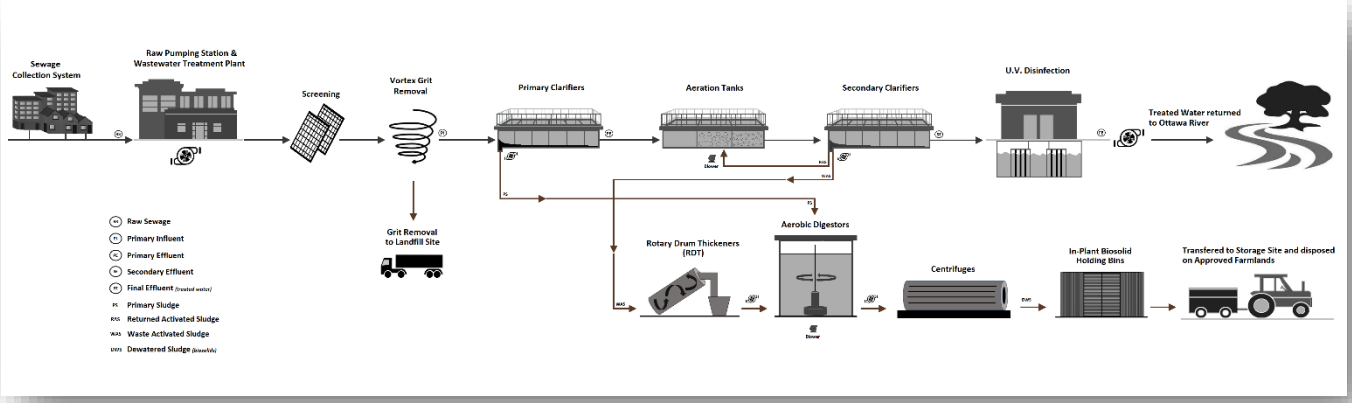
The Hawkesbury wastewater system is primarily composed by a Sewage Collection System and a Wastewater Treatment Plant. The Sewage Collection System consists of more than 45 km of sanitary sewers, approximately 4.7 kilometres of combined sewers, 1 combined sewer overflow by-pass manhole and 5 sewage lift stations to convey wastewater from lower-lying areas. The Wastewater Treatment Plant includes a raw sewage pumping station with several treatment process buildings and reservoirs.

Wastewater that leaves all homes and businesses in the town travels via gravity through the underground sewage collection system towards the raw sewage pumping station where four pumps are available to deliver the wastewater to the treatment plant.

The Wastewater Treatment Plant uses the activated sludge process, a multi-stage treatment process which consists of two screens, two vortex grit removal, three primary clarifiers, three aeration tanks, four secondary clarifiers, 128 ultraviolet lamps for disinfection, two aerobic digesters, one sludge stabilizer and two centrifuges.

Once the treatment process is completed, the effluent is discharged into the Ottawa River and the biosolids *(dewatered sludge)* are disposed of on approved and certified farmlands.

Treatment Process Flowchart



The treatment plant operations and performance are monitored by licenced operators. The plant is controlled by a computerized supervisory control and data acquisition *(SCADA)* system that is monitored 24 hours per day, 7 days a week. Alarms automatically notify operators in the event of failure of critical operational requirements.

The plant is also equipped with a standby power generator to ensure critical equipment can continue to operate in the event of a power failure.

Flow Capacity Assessment

The Hawkesbury Wastewater Treatment Plant has a Rated Capacity of 13,800 m^3/d and a Peak Flow Rate of 41,000 m^3/d. Condition 6(2) of the Amended ECA requires to use all best efforts to operate within the Rated Capacity of the plant.

The Rated Capacity is defined as the Average Daily Flow for which the plant is approved to handle, whereas the Average Daily Flow is defined as the cumulative total sewage flow to the plant during a calendar year divided by the number of days during which sewage was flowing to the plant that year. The Peak Flow Rate is defined as the Maximum Rate of Sewage Flow for which the plant is designed to handle.

Table 1 below compares Monthly Daily Influent Flows to the Amended ECA Rated Capacity and Peak Flow Rate. Based on the 2025 flow data, the Wastewater Treatment Plant maintained operations within the approved Rated Capacity. Peak flows exceeding 41,000 m3/d where occasionally observed during spring and summer months due to rapid snow melt & heavy rains.

Table 1
Comparison of the Monthly Daily Influent Flows to the Amended ECA Rated Capacity and Peak Flow Rate

Month	Monthly Avg. Daily Flow (m^3/d)	% of Rated Capacity (13,800 m^3/d)	Monthly Peak Daily Flow (m^3/d)	% of Peak Flow Rate (41,000 m^3/d)	Total Influent Flow (m^3)
January	5,910	43%	29,537	72%	183,224
February	4,962	36%	38,432	94%	138,941
March	9,484	69%	41,767	102%	294,003
April	10,893	79%	53,563	131%	326,781
May	7,683	56%	53,470	130%	238,164
June	6,166	45%	45,510	111%	184,986
July	6,460	47%	53,623	131%	200,275
August	5,371	39%	47,039	115%	166,498
September	5,447	39%	43,786	107%	163,403
October	6,186	45%	52,266	127%	191,759
November	9,645	70%	45,551	111%	289,340
December	6,558	48%	40,085	98%	203,311
	Average	51%		Total	2,580,684

High flows during spring months are due to rapid snow melt & heavy rains whereas summer & fall are due to heavy rainfalls.

Flow trends are critical to assessing the adequacy of the Wastewater Treatment Plant capacity. *Table 2* below compares Annual Influent Flow Rates to the Amended ECA Rated Capacity for the past 10 years.

Table 2
Comparison of Annual Influent Flow Rates by Year to the Amended ECA Rated Capacity

Year	Avg. Daily Flow (m^3/d)	% of Rated Capacity (13,800 m^3/d)	Total Influent Flow (m^3)
2025	**7,064**	**51%**	**2,580,684**
2024	**8,006**	**58%**	**2,935,037**
2023	**8,567**	**62%**	**3,133,436**
2022	**7,455**	**54%**	**2,722,565**
2021	**6,948**	**50%**	**2,540,895**
2020	**6,682**	**48%**	**2,451,205**
2019	**7,366**	**53%**	**2,688,254**
2018	**7,167**	**52%**	**2,605,466**
2017	**8,686**	**63%**	**3,169,354**
2016	**9,684**	**70%**	**3,544,510**
2015	**7,893**	**57%**	**2,883,804**

Interpretation of Monitoring and Analytical Data

In 2025, one effluent parameter exceeded the Monthly Average Effluent Limits outlined in Condition 7(1) to 7(4) of the Amended ECA and was reported in accordance with the requirements prescribed in the ECA. Please refer to *Appendix A* for a detailed summary of monthly concentrations and waste loadings.

Table 3 below compares the Monthly Average Effluent Concentration Range and Waste Loading Range with the Amended ECA Monthly Average Criteria Effluent Compliance Limits, whereas *Table 4* below summarizes the individual Monthly Average Effluent Exceedance of the Amended ECA.

Pursuant to condition 9(5) of the Amended ECA, un-ionized ammonia was calculated weekly using total ammonia nitrogen, temperature and pH. Sample results ranged from 0.0001 mg/L to 0.1123 mg/L with an annual average of 0.0223 mg/L, which is well under the Federal Wastewater Systems Effluent limit of 1.25mg/L. Please refer to *Appendix C* for the detailed monthly results.

Acute lethality for rainbow trout and Daphnia magna was also tested with Nautilus Environmental Laboratory. The certificate of analysis from the lab showed 0% mortality, meaning no lethality for rainbow trout and *Daphnia magna*.

TABLE 3
Monthly Average Effluent Concentration Range and Waste Loading Range compared with the Amended ECA Monthly Average Criteria Effluent Compliance Limits

Effluent Parameter	Monthly Average Effluent Concentration Results in mg/L	ECA Monthly Average Effluent Concentration Limits in mg/L	Monthly Average Effluent Waste Loading Results in kg/day	ECA Monthly Average Effluent Waste Loading Limit in kg/day
CBOD-5	**3.0 – 4.3**	25.0	**16.1 – 39.2**	345
Total Suspended Solid	**3.4 – 12.0**	25.0	**22.0 – 130.7**	345
Total Phosphorous	**0.05 – 0.17**	0.89	**0.30 – 1.42**	12.3
E. Coli* (cfu/100ml)	**2.6 – 376.5**	200	**n/a**	n/a
Total Ammonia	**0.45 – 3.19**	12.0 (June 1 to Sept 30)	**2.39 – 19.64**	166 (June 1 to Sept 30)
Total Ammonia	**1.45 – 8.89**	20.0 (Oct. 1 to May 31)	**8.99 – 59.11**	276 (Oct. 1 to May 31)
pH	**7.0 to 7.7**	6.0 to 9.5	**n/a**	n/a

**** Monthly Geometric Mean Density***

TABLE 4
Monthly Average Effluent Exceedance of the Amended ECA

Month	Exceedance	Parameter	ECA Limit	Result	Reported
January	**0**				
February	**1**	**E. coli**	**200 cfu/100 ml**	**376.5 cfu/100 ml**	**Yes**
March	**0**				
April	**0**				
May	**0**				
June	**0**				
July	**0**				
August	**0**				
September	**0**				
October	**0**				
November	**0**				
December	**0**				

Operating Problems Encountered and Correction Actions Taken

During this reporting period, one issue with the effluent disinfection system caused the February E. coli monthly geometric mean density to exceed the limit. Maintenance and sampling corrective actions were immediately taken and resolved the situation.

Maintenance Summary

Regular preventive and scheduled maintenance were performed throughout the year to ensure availability of equipment and continuous operation of the plant. The following are the major maintenance completed this year:

- Inspection, cleaning and replacement of UV lights
- Air blower rebuilt
- Primary and secondary Clarifiers inspection and maintenance
- ATAD inspection and maintenance
- Pump gallery building foundation repairs and waterproofing
- Vortex + grit classifier maintenance
- Catherine Street *(between Sinclair and Lansdowne Street)* combined sanitary sewer main replacement with separate pipe systems for stormwater and sanitary

Effluent Quality Assurance and Control Measures Undertaken

All sampling and plant operations were performed by licenced operators, in accordance with the Terms and Conditions of the Amended ECA.

Analytical tests to monitor the required parameters of the Amended ECA, including the biosolids *(dewatered sludge)* for land application, were performed by the Caduceon Environmental Laboratories, accredited to the ISO/IEC 17025 standard by the Canadian Association for Laboratory Accreditation Inc.

Calibration and Inspection

The following calibrations and inspections were performed:

- Flowmeters and level sensors by Capital Controls and Instrumentation Inc
- Gas sensors from every building by CDTEC Calibrations Inc *(twice, every six month)*
- Backflow preventers by Backflow Preventer and Plumbing
- Fire extinguishers by Champlain Fire Protection
- Fire alarm system by Chubb Edwards
- Heating maintenance by BGIS and Century Mechanical Services
- Lifting devices by Corbet & Corbet Inc

Efforts and Results Achieved in Meeting Effluent Objectives

Efforts made to achieve effluent objectives included:

- Continuous monitoring and process adjustments *(as required)*
- In-house and 3rd party laboratory sampling and testing
- Regular data review
- Preventive maintenance routines of essential equipment and process components
- Monitoring & sampling wastewater of commercial and industrial facilities that have special sewer discharge agreements with the Town

Table 5 below illustrates the Monthly Average Effluent Concentration Range compared to the Monthly Average Effluent Concentration Objectives outlined in Condition 6 of the Amended ECA.

TABLE 5
Monthly Average Effluent Concentration Range Vs ECA Monthly Average Concentration Objectives

Effluent Objectives Parameter	Monthly Average Effluent Concentration Results in mg/L	ECA Monthly Average Effluent Concentration Objectives in mg/L
CBOD-5	**3.0 – 4.3**	15.0
Total Suspended Solids	**3.4 – 12.0**	15.0
Total Phosphorus	**0.05 – 0.17**	0.5
Total Ammonia (June 1 to Sept 30)	**0.45 – 3.19**	8.0
Total Ammonia (Oct 1 to May 31)	**1.45 – 8.89**	12.0
pH	**7.0 – 7.7**	6.5 to 8.5
E. Coli* (cfu/100ml)	**2.6 – 376.5**	100
Capacity (m^3 /day)	**7.064**	13,800

***** *Monthly Geometric Mean Density***

Biosolid Generation

The Hawkesbury Wastewater Treatment Plant biosolids are being managed as Non-Agricultural Source Material (NASM). During 2025, the plant generated and hauled 192.78 dry tons of biosolids *(dewatered sludge)* to the transfer site *(Ferme A.G.L. Malette, ECA # 8311-8UZJ8K)*. The *Table 6* below summarizes the amounts and locations of the soil conditioning activities in 2025. We anticipate the volume of biosolids to be 218 dry tons for 2026. This estimation is based on a five-year average.

TABLE 6
Location of Spreading the Organic Waste

Biosolids Conditioning Location	NASM Plan	Field #	Dry Ton (kg)
Ferme A.G.L. Malette	60329	n/a	**192.78**

Summary of Complaints

In the 2025 reporting year, the Hawkesbury Wastewater Treatment Plant received no complaints regarding the plant or the treatment process.

Bypassing / Spills / Abnormal Discharges

There were 0 Wastewater Treatment Plant by-pass and 2 Combined Sewer Overflow *(CSO)* in 2025. Please refer to *Appendix F*, 2025 Bypass & Overflow Event Report.

As required by regulation, all overflow and bypass events are promptly reported to the Ministry of Environment, Conservation and Parks, the Federal Ontario Region, the Spills Action Centre *(SAC)* and the Eastern Ontario Health Unit *(EOHU)*. These events are also published as they occur on the Town of Hawkesbury's website.

There were no spills or abnormal discharge events to report during this year.

Additional Information Requested

No additional information was requested during this reporting period. As required per regulation, quarterly MECP Municipal Utility Monitoring Program *(MUMP)* reporting and quarterly reporting under the Federal Wastewater Systems Effluent Regulation was performed.

We trust this satisfies the Ministry of the Environment, Conservation and Parks Amended Environmental Compliance Approval *(ECA)* #4692-8DVQTW for the design and operation of the Corporation of the Town of Hawkesbury Wastewater Treatment Plant.

Availability of Report

This report is available at no charge at the following places:

1. ***Environmental Service***
   Corporation of the Town of Hawkesbury
   815 Main East, Hawkesbury (Ontario) K6A 1B5
   (613) 678-9269

2. ***Hawkesbury Public Library***
   550 Higginson Street, Hawkesbury, Ontario, K6A 1H1

3. ***Town's website*** **www.hawkesbury.ca**

Additionally, this report is provided to the Ministry of the Environment, Conservation and Parks.

If the format of this document is inadequate, the Clerk's office can be contacted at 613-632-0106 and the municipality can provide, to the best of its abilities, the required assistance.

Appendix A
2025 Monthly Performance Assessment Report

Raw Sewage Flow	January	February	March	April	May	June	July	August	September	October	November	December
Total *(m3/mth)*	183,224	138,941	294,003	326,781	238,164	184,986	200,275	166,498	163,403	191,759	289,340	203,311
Avg. *(m3/day)*	5,910	4,962	9,484	10,893	7,683	6,166	6,460	5,371	5,447	6,186	9,645	6,558
Max. *(m3/day)*	9,426	6,211	20,116	21,746	12,753	9,860	10,637	7,600	6,930	12,222	24,338	11,953
Min. *(m3/day)*	4,742	4,522	4,506	7,351	6,119	5,391	5,502	4,708	4,997	5,003	7,085	5,642

Total Annual Raw Flow (m^3) = 2,580,684
Average Annual Raw Daily Flow (m^3) = 7,064

Final Effluent Flow	January	February	March	April	May	June	July	August	September	October	November	December
Total *(m3/mth)*	177,680	133,389	287,936	321,486	232,804	178,974	194,320	161,720	158,740	185,791	283,755	197,369
Avg. *(m3/day)*	5,732	4,764	9,288	10,716	7,510	5,966	6,268	5,217	5,291	5,993	9,458	6,367
Max. *(m3/day)*	9,259	6,010	19,935	21,551	12,584	9,626	10,448	7,456	6,789	12,030	24,126	11,766
Min. *(m3/day)*	4,562	4,314	4,311	7,180	5,928	5,238	5,320	4,557	4,862	4,843	6,900	5,449

Total Annual Effluent Flow (m^3) = 2,513,963
Average Annual Effluent Daily Flow (m^3) = 6,881

Biochemical Oxygen Demand	January	February	March	April	May	June	July	August	September	October	November	December
Raw Avg. CBOD *(mg/L)*	92.8	104.3	48.3	42.6	61.5	76.5	87.6	89.0	108.8	97.0	53.5	72.2
Eff. Avg. CBOD *(mg/L)*	3.3	4.3	3.3	3.6	3.0	3.0	3.0	3.0	3.3	3.0	3.0	3.4
CBOD Loading *(kg/d)*	19.2	21.1	30.8	39.2	23.0	18.5	19.4	16.1	17.7	18.6	28.9	22.3
Percent Removal *(%)*	96.5	95.9	93.3	91.5	95.1	96.1	96.6	96.6	97.0	96.9	94.4	95.3

Suspended Solids	January	February	March	April	May	June	July	August	September	October	November	December
Raw Avg. SS *(mg/L)*	233.3	228.8	155.3	157.8	206.3	296.5	327.8	283.8	452.5	229.0	151.3	171.0
Eff. Avg. SS *(mg/L)*	6.0	6.3	5.5	12.0	3.5	6.8	3.4	4.5	4.3	3.6	4.8	4.8
SS Loading *(kg/d)*	35.5	31.0	52.2	130.7	26.9	41.6	22.0	24.2	23.1	22.3	45.8	31.5
Percent Removal *(%)*	97.4	97.3	96.5	92.4	98.3	97.7	99.0	98.4	99.1	98.4	96.9	97.2

Phosphorous	January	February	March	April	May	June	July	August	September	October	November	December
Raw Avg. PHOS *(mg/L)*	3.69	4.12	2.51	1.93	3.85	4.83	3.82	4.00	3.43	3.65	2.39	2.45
Eff. Avg. PHOS *(mg/L)*	0.10	0.17	0.10	0.13	0.07	0.06	0.05	0.07	0.10	0.06	0.07	0.13
Phos. Loading *(kg/d)*	0.58	0.83	0.97	1.42	0.56	0.39	0.30	0.39	0.56	0.35	0.63	0.83
Percent Removal *(%)*	97.4	95.9	95.9	93.3	98.1	98.7	98.8	98.2	97.0	98.5	97.3	94.9

Appendix A
2025 Monthly Performance Assessment Report

Nitrogen Series	January	February	March	April	May	June	July	August	September	October	November	December
Inf . Avg. NH3 as N *(mg/L)*	15.88	17.60	10.91	7.11	13.95	13.40	16.29	19.15	15.68	19.08	10.57	14.30
Eff. Avg. NH3 as N *(mg/L)*	3.18	8.89	6.23	5.14	5.51	3.19	1.84	0.45	1.34	1.45	2.60	4.07
NH3 Loading *(kg/d)*	18.77	44.09	59.11	55.94	42.29	19.64	11.87	2.39	7.27	8.99	25.10	26.72
Percent Removal	80.00	49.52	42.87	27.74	60.52	76.23	88.72	97.68	91.48	92.38	75.37	71.51

Disinfection	January	February	March	April	May	June	July	August	September	October	November	December
Eff. Geo. Mean E. Coli *(ct/100mL)*	104.7	376.5	44.3	5.4	63.2	9.7	4.1	11.0	12.1	2.6	3.6	32.5

pH	January	February	March	April	May	June	July	August	September	October	November	December
Eff. Avg. pH	7.2	7.4	7.5	7.5	7.7	7.0	7.5	7.4	7.0	7.1	7.4	7.3

Temperature	January	February	March	April	May	June	July	August	September	October	November	December
Eff. Avg. Temp. *(C°)*	6.1	5.1	5.6	6.6	9.7	12.8	15.2	16.2	15.2	13.5	13.2	13.6

Appendix B
2025 Monthly Raw Sewage Data Report

Raw Sewage Flow	January	February	March	April	May	June	July	August	September	October	November	December
Total *(m3/mth)*	183,224	138,941	294,003	326,781	238,164	184,986	200,275	166,498	163,403	191,759	289,340	203,311
Avg. *(m3/day)*	5,910	4,962	9,484	10,893	7,683	6,166	6,460	5,371	5,447	6,186	9,645	6,558
Max. *(m3/day)*	9,426	6,211	20,116	21,746	12,753	9,860	10,637	7,600	6,930	12,222	24,338	11,953
Min. *(m3/day)*	4,742	4,522	4,506	7,351	6,119	5,391	5,502	4,708	4,997	5,003	7,085	5,642

Total Annual Raw Flow (m^3) = 2,580,684
Average Annual Raw Daily Flow (m^3) = 7,064

BOD *(mg/L)*	January	February	March	April	May	June	July	August	September	October	November	December
Avg.	161.00	147.75	114.25	80.00	102.50	122.25	123.80	134.25	313.50	153.20	115.50	152.40
Max.	225.00	173.00	209.00	100.00	125.00	174.00	179.00	171.00	718.00	233.00	154.00	228.00
Min.	121.00	117.00	42.00	43.00	70.00	80.00	96.00	93.00	156.00	76.00	73.00	91.00

CBOD - 5 *(mg/L)*	January	February	March	April	May	June	July	August	September	October	November	December
Avg.	92.75	104.25	48.25	42.60	61.50	76.50	87.60	89.00	108.75	97.00	53.50	72.20
Max.	127.00	153.00	74.00	62.00	69.00	103.00	109.00	127.00	186.00	156.00	69.00	93.00
Min.	57.00	72.00	25.00	23.00	50.00	50.00	56.00	58.00	71.00	36.00	37.00	44.00

Suspended Solids *(mg/L)*	January	February	March	April	May	June	July	August	September	October	November	December
Avg.	233.25	228.75	155.25	157.80	206.25	296.50	327.80	283.75	452.50	229.00	151.25	171.00
Max.	258.00	290.00	250.00	200.00	295.00	410.00	755.00	450.00	860.00	305.00	170.00	230.00
Min.	215.00	165.00	56.00	84.00	120.00	196.00	156.00	210.00	190.00	130.00	130.00	140.00

Appendix B
2025 Monthly Raw Sewage Data Report

Total Phosphorous *(mg/L)*	January	February	March	April	May	June	July	August	September	October	November	December
Avg.	3.69	4.12	2.51	1.93	3.85	4.83	3.82	4.00	3.43	3.65	2.39	2.45
Max	4.10	5.96	3.74	2.61	6.66	7.02	7.62	5.19	4.40	5.87	3.07	3.58
Min.	3.36	3.04	1.37	1.20	2.24	3.16	2.48	3.35	1.23	2.72	1.62	1.85

NH3 as N *(mg/L)*	January	February	March	April	May	June	July	August	September	October	November	December
Avg.	15.88	17.60	10.91	7.11	13.95	13.40	16.29	19.15	15.68	19.08	10.57	14.30
Max.	17.80	18.60	17.60	9.61	21.20	16.30	29.60	24.00	16.80	23.10	14.70	16.60
Min.	12.50	16.70	4.72	4.18	9.78	10.20	9.05	15.80	13.90	17.00	8.89	10.40

TKN *(mg/L)*	January	February	March	April	May	June	July	August	September	October	November	December
Avg.	25.75	26.60	18.08	12.82	26.18	25.73	28.50	31.93	28.65	30.90	21.10	24.32
Max.	28.50	28.90	27.60	16.60	43.30	28.20	49.00	39.90	34.50	43.30	26.80	33.60
Min.	21.40	24.00	9.20	8.40	18.60	20.60	17.80	28.80	20.20	25.50	15.50	18.80

pH	January	February	March	April	May	June	July	August	September	October	November	December
Avg.	7.1	7.2	7.3	7.3	7.4	7.1	7.5	7.4	6.7	7.5	7.4	7.4
Max.	7.3	7.4	7.7	7.5	7.8	7.3	7.8	7.6	7.5	7.8	7.7	7.7
Min.	6.9	7.0	7.1	7.0	7.2	6.9	7.3	7.3	4.5	6.9	7.2	7.1

Appendix C
2025 Monthly Effluent Data Report

Final Effluent Flow	January	February	March	April	May	June	July	August	September	October	November	December
Total *(m3/mth)*	177,680	133,389	287,936	321,486	232,804	178,974	194,320	161,720	158,740	185,791	283,755	197,369
Avg. *(m3/day)*	5,732	4,764	9,288	10,716	7,510	5,966	6,268	5,217	5,291	5,993	9,458	6,367
Max. *(m3/day)*	9,259	6,010	19,935	21,551	12,584	9,626	10,448	7,456	6,789	12,030	24,126	11,766
Min. *(m3/day)*	4,562	4,314	4,311	7,180	5,928	5,238	5,320	4,557	4,862	4,843	6,900	5,449

Total Annual Effluent Flow (m^3) = 2,513,963
Average Annual Effluent Daily Flow (m^3) = 6,881

CBOD - 5 *(mg/L)*	January	February	March	April	May	June	July	August	September	October	November	December
Avg.	3.25	4.25	3.25	3.60	3.00	3.00	3.00	3.00	3.25	3.00	3.00	3.40
Max.	4.00	7.00	4.00	6.00	3.00	3.00	3.00	3.00	4.00	3.00	3.00	5.00
Min.	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00

Suspended Solids *(mg/L)*	January	February	March	April	May	June	July	August	September	October	November	December
Avg.	6.00	6.25	5.50	12.00	3.50	6.75	3.40	4.50	4.25	3.60	4.75	4.80
Max.	12.00	15.00	7.00	17.00	4.00	13.00	5.00	8.00	6.00	4.00	10.00	7.00
Min.	3.00	3.00	4.00	6.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00

Total Phosphorous *(mg/L)*	January	February	March	April	May	June	July	August	September	October	November	December
Avg.	0.10	0.17	0.10	0.13	0.07	0.06	0.05	0.07	0.10	0.06	0.07	0.13
Max	0.13	0.34	0.14	0.21	0.12	0.08	0.06	0.10	0.20	0.07	0.08	0.31
Min.	0.08	0.09	0.06	0.07	0.04	0.05	0.03	0.05	0.06	0.04	0.06	0.06

NH3 as N *(mg/L)*	January	February	March	April	May	June	July	August	September	October	November	December
Avg.	3.18	8.89	6.23	5.14	5.51	3.19	1.84	0.45	1.34	1.45	2.60	4.07
Max.	5.86	12.40	12.90	7.93	8.56	5.86	3.19	0.74	4.50	4.25	4.21	5.94
Min.	0.59	6.61	1.97	2.10	3.11	1.35	0.83	0.23	0.22	0.06	1.56	2.08

Appendix C
2025 Monthly Effluent Data Report

Un-Ionized Ammonia (NH3) *(mg/L)*	January	February	March	April	May	June	July	August	September	October	November	December
Avg.	0.0072	0.0346	0.0285	0.0323	0.0655	0.0108	0.0265	0.0040	0.0059	0.0083	0.0212	0.0227
Max.	0.0122	0.0524	0.0464	0.0556	0.1123	0.0245	0.0525	0.0072	0.0212	0.0308	0.0456	0.0357
Min.	0.0020	0.0147	0.0171	0.0122	0.0121	0.0026	0.0029	0.0013	0.0005	0.0001	0.0090	0.0079

TKN *(mg/L)*	January	February	March	April	May	June	July	August	September	October	November	December
Avg.	4.80	13.18	8.63	7.46	7.50	4.55	3.04	1.80	2.80	2.82	3.88	5.96
Max.	8.40	20.10	16.40	10.60	12.80	7.90	4.50	2.10	6.80	6.30	5.80	8.40
Min.	1.90	9.40	3.30	5.20	4.10	2.60	1.90	1.60	1.30	1.30	2.60	3.60

Geo. Mean E. Coli *(ct/100mL)*	January	February	March	April	May	June	July	August	September	October	November	December
Avg.	104.7	376.5	44.3	5.4	63.2	9.7	4.1	11.0	12.1	2.6	3.6	32.5
Max.	470.0	1,470.0	480.0	140.0	370.0	220.0	14.0	20.0	34.0	8.0	22.0	310.0
Min.	30.0	160.0	6.0	2.0	2.0	2.0	2.0	4.0	2.0	2.0	2.0	4.0

pH	January	February	March	April	May	June	July	August	September	October	November	December
Avg.	7.2	7.4	7.5	7.5	7.7	7.0	7.5	7.4	7.0	7.1	7.4	7.3
Max.	7.3	7.6	7.8	7.6	7.9	7.3	7.8	7.5	7.2	7.4	7.7	7.8
Min.	7.1	7.1	7.4	7.5	7.2	6.9	7.1	7.2	6.9	6.8	7.2	7.1

Temperature *(°C)*	January	February	March	April	May	June	July	August	September	October	November	December
Avg.	6.1	5.1	5.6	6.6	9.7	12.8	15.2	16.2	15.2	13.5	13.2	13.6
Max.	7.4	6.3	6.3	8.0	11.4	14.8	16.4	17.1	16.0	15.0	14.3	13.9
Min.	5.2	4.0	4.5	5.3	8.3	10.4	13.8	15.3	14.6	12.1	8.3	13.4

Appendix D
2025 Monthly Chemical Data Report

Coagulant usage *(kG)*	January	February	March	April	May	June	July	August	September	October	November	December
Avg.	88.83	43.98	73.80	83.25	80.48	76.26	41.99	38.90	44.61	72.25	106.21	76.88
Total	2,753.82	1,231.41	2,287.88	2,497.45	2,494.85	2,287.88	1,301.74	1,205.88	1,338.26	2,239.65	3,186.20	2,383.14

Coagulant dosage dry *(mg/L)*	January	February	March	April	May	June	July	August	September	October	November	December
Avg.	7.7	4.7	3.6	4.0	5.5	6.6	3.4	3.8	4.3	6.1	5.7	6.1
Max.	9.3	6.5	5.5	5.5	7.8	8.0	4.4	4.3	6.5	6.6	6.4	6.4
Min.	2.5	2.2	0.8	0.8	4.8	1.6	1.8	3.4	3.4	5.7	1.4	5.8

Polymer usage *(kG)*	January	February	March	April	May	June	July	August	September	October	November	December
Total	734.82	903.24	785.45	667.09	752.40	779.82	927.61	972.86	738.36	821.97	247.60	863.60

Appendix E
2025 Monthly Biosolid Analysis Report

Parameter	January	February	March	April	May	June	July	August	September	October	November	December
Biosolids Hauled (dry ton)	17.15	18.84	15.11	14.85	18.71	19.04	16.31	17.02	14.88	19.27	5.63	15.97
Biosolids Hauled (wet ton)	62.83	80.86	71.59	55.83	63.64	85.38	70.93	71.80	71.89	82.33	29.80	78.69
pH @ 25°C	5.34	5.18	5.43	5.68	5.61	6.90	5.82	6.33	5.06	6.67	4.59	5.48
Total Solids *(%)*	27.3	23.3	21.1	26.6	29.4	22.3	23	23.7	20.7	23.4	18.9	20.3
Ammonia (N)-Total *(µg/g)*	120	56	70	97	221	331	2090	104	276	214	113	308
Total Kjeldahl Nitrogen *(µg/g)*	49800	44600	54600	52100	37300	40000	52900	49400	50800	55200	51500	52800
Nitrite (N) *(µg/g)*	4	9	10	4	5	1	4	8	15	8	4	4
Nitrate (N) *(µg/g)*	287	197	1010	783	512	330	302	345	266	678	5	490
Phosphorus-Total *(µg/g)*	35000	27400	38000	36400	28000	28700	34200	31000	29800	28800	33700	31600
Potassium *(µg/g)*	2560	2270	2340	2550	2580	2950	1940	2110	1430	1810	1860	1780
Aluminum *(µg/g)*	69000	73900	66000	66600	68100	62600	62000	57600	49800	63900	71200	58600
Arsenic *(µg/g)*	4	4	4	4	4	3	3	3	3	3	3	3
Calcium *(µg/g)*	17400	17000	16800	16700	20100	17300	16200	20500	12800	12200	11900	13800
Cadmium *(µg/g)*	0.8	0.6	0.6	0.5	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.6
Chromium *(µg/g)*	64	72	82	64	74	51	42	40	34	41	40	35
Cobalt *(µg/g)*	4	4	4	5	5	4	4	5	4	4	4	4
Copper *(µg/g)*	408	376	355	294	330	305	305	275	318	330	319	357
Lead *(µg/g)*	15	13	14	14	17	15	14	16	18	19	18	21
Mercury *(µg/g)*	0.300	0.250	0.370	0.440	0.430	0.310	0.270	0.260	0.250	0.240	0.240	0.270
Molybdenum *(µg/g)*	6	5	8	4	5	5	4	4	5	8	10	10
Nickel *(µg/g)*	25	22	41	25	31	22	19	20	19	21	20	23
Selenium *(µg/g)*	2	2	2	3	2	2	2	2	3	3	2	3
Zinc *(µg/g)*	1160	1040	1090	918	951	877	907	816	937	1010	983	1160
E-Coli *(cfu/g)*	3670	4290	9020	3760	3400	4480	4340	4230	4840	4270	5280	4930

Total Biosolids Hauled (dry ton) = 192.78

Appendix F
2025 Bypass & Overflow Event Report

Date of Event	Location	Type	Duration	Estimate volume *(m3)*	Reason (Code)
May 6, 2025	Cameron/Main East	CSO	27 minutes	47.52	1
July 13, 2025	Cameron/Main East	CSO	38 minutes	109.82	1
			Total bypass volume *(m3)*	157.34	

Type	Reason Codes	
PB *(Primary Bypass)*	1 *(Heavy Precipitation)*	5 *(Sewer Problems)*
SB *(Secondary Bypass)*	2 *(Snow Melt)*	6 *(Power Failure)*
STPO *(Sewage Treatment Plant Overflow)*	3 *(Equipment Failure)*	7 *(Exceed Design Capacity)*
PSO *(Pumping Station Overflow)*	4 *(Maintenance/upgraded)*	O *(Others)*
CSO *(Combined Sewer Overflow)*		

Appendix G
2025 Annual Plant Bypass Summary Report

	January	February	March	April	May	June	July	August	September	October	November	December
Number *(days)*	0	0	0	0	0	0	0	0	0	0	0	0
Duration *(minute)*	0	0	0	0	0	0	0	0	0	0	0	0
Estimated Volume *(m3)*	0	0	0	0	0	0	0	0	0	0	0	0

Volume of Bypass as % of Average Daily			0.000%
Flow *(ADF)* *	ADF =	7,064	m^3/day