

Renfrew Wastewater System

Waterworks #120000603

Annual Report

Prepared For: Town of Renfrew

Reporting Period of January 1st – December 31st 2025

Issued: March 30, 2026

Revision: 0

Operating Authority:



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

Document	Document #	Issue Date	Issue Number
Facility ECA	4237-ACPJ6Y	October 13, 2016	1
CLI-ECA	183-W601	January 22, 2024	2

Table of Contents

- 1 Revision History**
 - 2 Operations and Compliance Reliability Indices**
 - 3 Process Description**
 - 4 Treatment Flows**
 - 5 Raw Influent Quality**
 - 6 Effluent Quality**
 - 7 Operating Issues/Problems**
 - 8 Maintenance**
 - 9 Sludge Generation**
 - 10 Summary of Complaints**
- Appendix A – Performance Assessment Report**
- Appendix B - Biosolids Quality Report**
- Appendix C - Details of Abnormal Sewage Discharge Events**
- Appendix D - ECA Annual Report Requirements**

1 Revision History

Date	Rev#	Revisions	Revised By
March 30, 2026	0	Annual report issued	Lauren Lacombe, OCWA

2 Operations and Compliance Reliability Indices

Compliance Event	Details
Ministry of Environment Inspections	No MECP Inspections
Ministry of Labour Inspections	No MOL Inspections
Non-Compliance	One (1) Non-Compliance Event
Community Complaints	25 Community Complaints during the reporting period
Spills	One (1) Spill Event - See Appendix C for details of Abnormal Sewage Discharge Events
Overflows	One (1) Overflow Event - See Appendix C for details of Abnormal Sewage Discharge Events
Bypass	No Bypass Events

3 Process Description

The Renfrew wastewater collection system consists of a gravity fed collection system of separated sewers, partially separated sewers, nominally separated sewers, combined sewers and six (6) sewage pumping stations that discharge to the wastewater treatment facility located at 301 Mutual Avenue in Renfrew, Ontario. The sewage pumping stations (SPS) are located on Arthur Avenue (Hincks SPS), O'Brien Road (O'Brien Road SPS), Lisgar Avenue (Lisgar SPS), June Street (June St. SPS), Coleraine Drive (Coleraine SPS) and Forestview Crescent (Hunter Gate SPS). There are authorized overflow points at the Hunter Gate, and June Street SPS.

Renfrew's Water Pollution Control Plant (WPCP) is a Class III Treatment facility. The plant is equipped with a 25 m³ septage receiving tank, complete with a chopper pump for the recirculation and mixing of the imported wastewaters, which may then be pumped to the screen influent channel. Raw influent enters the WPCP through one 750 mm influent pipe and influent chamber. The influent chamber contains an overflow weir that diverts flows from the treatment facility to the river in high flow events. The influent chamber is equipped with a mechanical bar screen for normal operations, and a manual bar screen for use during maintenance activities and high flow events. The mechanical bar screen is equipped with a screenings washer/compactor. Influent then enters two (2) aerated grit tanks, utilizing

automated blowers to provide aeration. The aerated influent travels through two (2) grit slurry pumps, two (2) grit cyclones and one grit classifier/dewatering unit that separates inorganic particulate material from the influent. The processed particulate is collected in a dumpster to be removed from site.

The influent that has had the inorganic material removed continues throughout the process where biological primary treatment is provided using extended aeration. Influent passes through two (2) three-pass aeration tanks with fine bubble diffuser systems and one anoxic intake zone. The flow is then directed to two (2) two-pass secondary treatment clarifiers equipped with sludge and scum removal mechanisms. Phosphorus is removed from the process with the use of a coagulant (settling agent) called Ferric Chloride, which is introduced at the beginning of the aeration process and in the secondary clarifiers.

Sludge is removed from the process by two (2) waste activated sludge (WAS) pumps from secondary clarifier. The sludge is then stabilized in an aerobic digester, before being dewatered via centrifuge. A polymer is added to aid in dewatering process by binding the solids in the process sludge. The dewatered cake is conveyed into a Town-owned dump truck and hauled to the Renfrew Landfill Site, located at 376 Bruce Street in Renfrew, ON. There are no sludge storage facilities onsite at Renfrew WPCP.

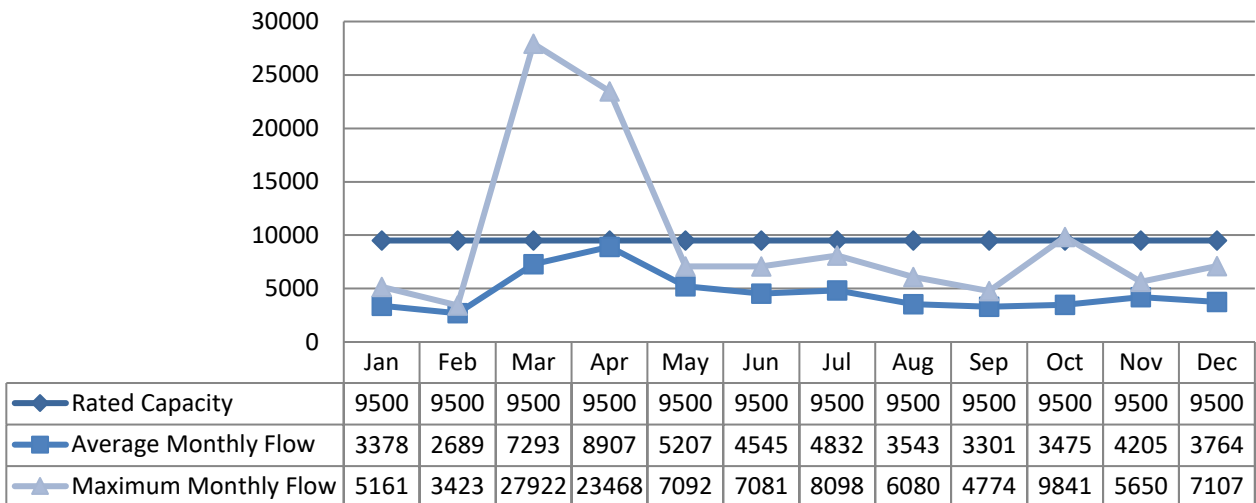
Disinfection of final effluent is achieved via ultraviolet (UV) light disinfection. The UV bulbs are cleaned by built-in automated wipers. Final effluent discharges to the Bonnechere River.

The facility is equipped with back-up power in the form of a 750 kW standby diesel generator. Three portable backup power generators are available for use at the six (6) sewage pumping stations.

4 Treatment Flows

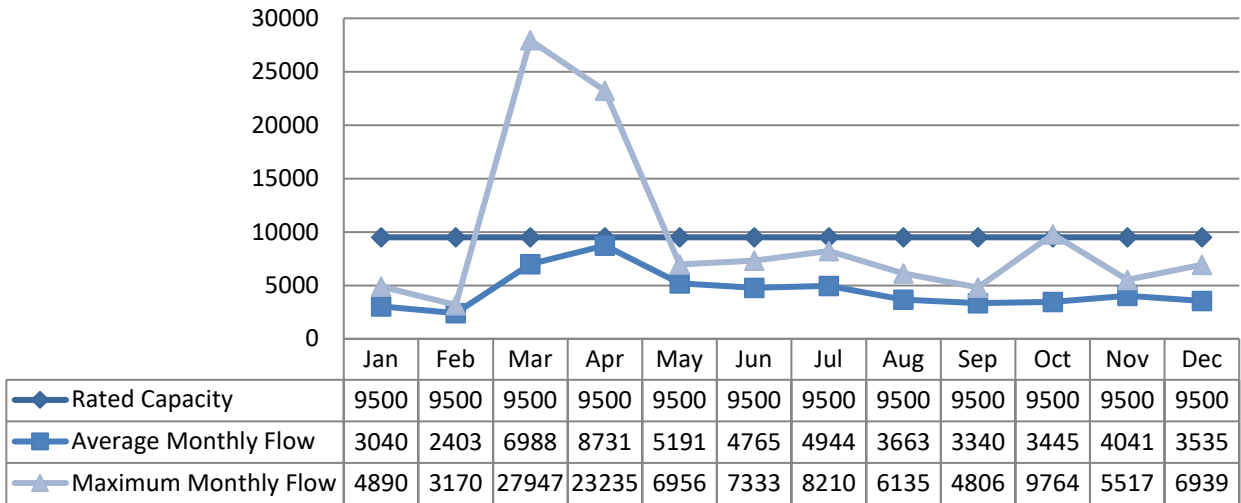
4.1 Raw Influent Flow (m³/d)

For 2025, the annual average raw flow was 4,603.60 m³/d or 48% of the rated capacity.

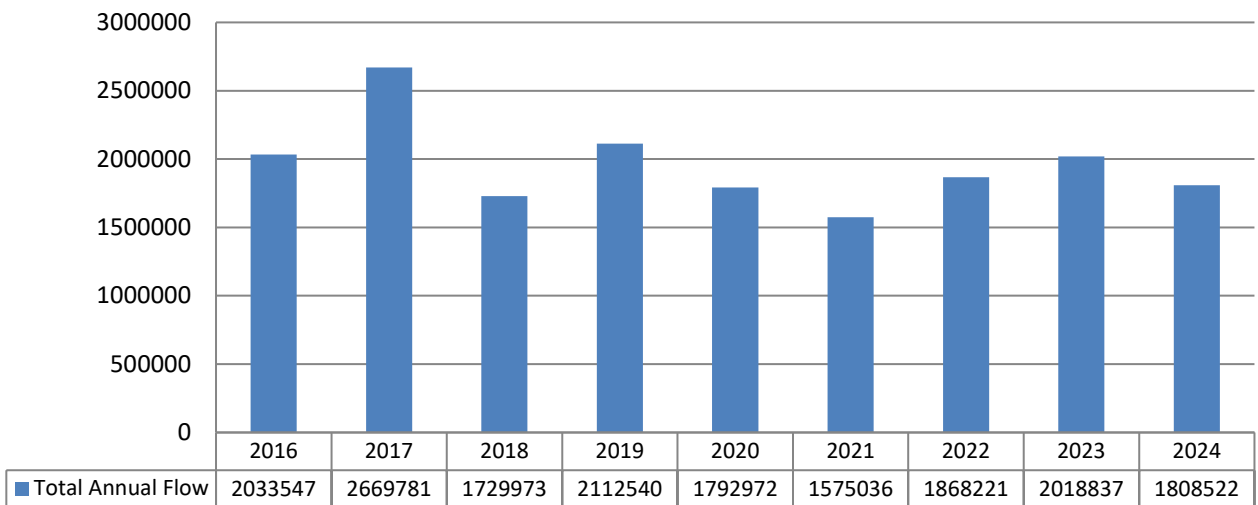


Note: Elevated flows above the rated capacity are directly related to snow melt and wet weather events.

4.2 Treated Effluent Flow



4.2.1 Annual Comparison (m³)



4.3 Imported Sewage

4.3.1 Imported Sewage Flow (m³/d)

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

5 Raw Influent Quality

5.1 Annual Average Loadings

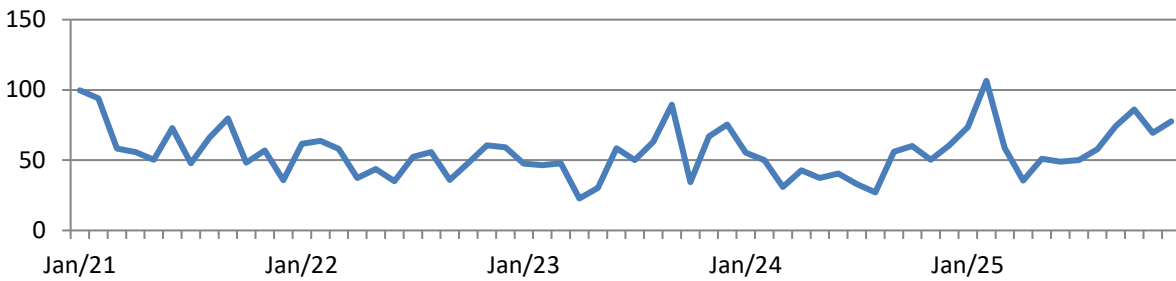
Additional details for the 2025 reporting period and specific monthly minimum, maximum and averages are included in the Performance Report located in Appendix A. Annual Average Loadings for Raw Sewage are detailed below.

Parameter	Annual Average (kg/d)	Objective (kg/d)	Status
BOD5	538.98	712	Met
Total Suspended Solids	554.73	801	Met
Total Phosphorus	13.18	22	Met
Total Kjeldahl Nitrogen (TKN)	125.8	125	Not Met

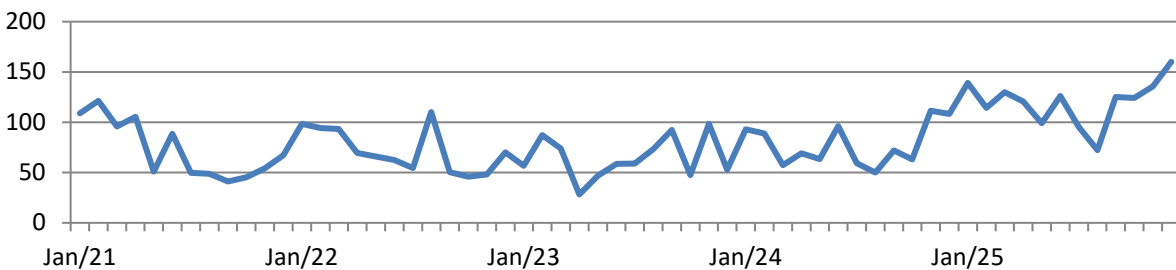
5.2 Influent Trending

Five (5) Year Average Trends from 2021-2025 for Raw Sewage Quality concentrations are graphed below:

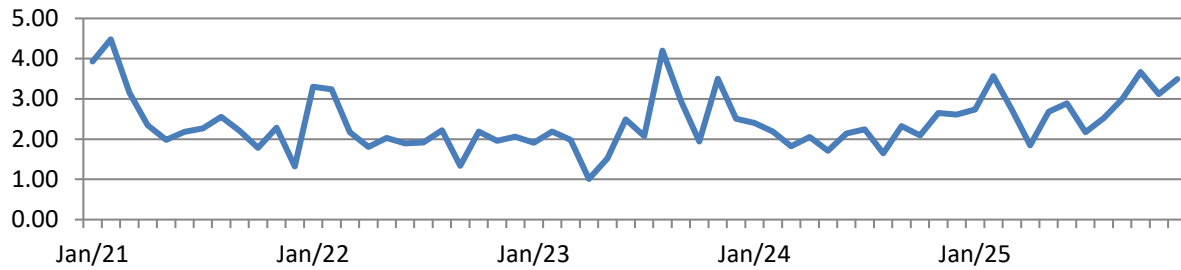
5.2.1 CBOD5 mg/L



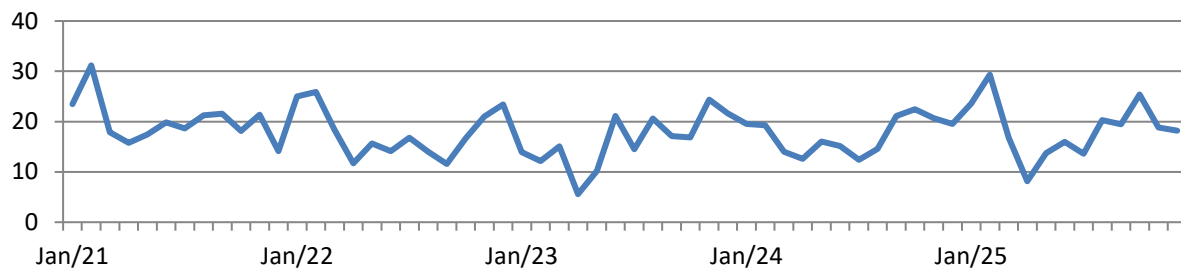
5.2.2 Total Suspended Solids mg/L



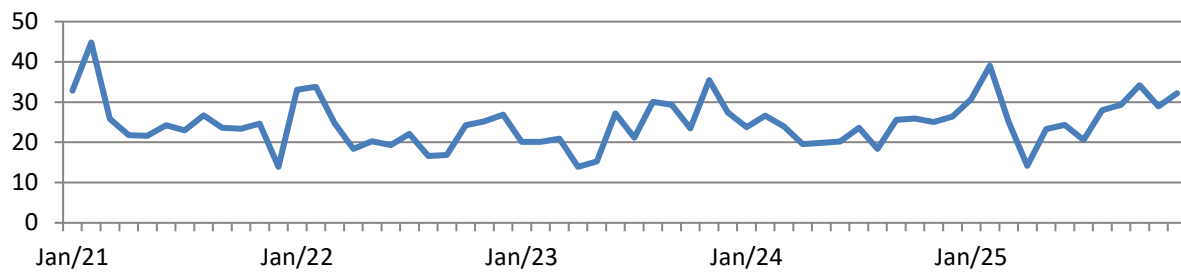
5.2.3 Total Phosphorous mg/L



5.2.4 Total Ammonia Nitrogen mg/L



5.2.5 Total Keldjal Nitrogen mg/L



6 Effluent Quality

In 2025, there was one non-compliance with Final Effluent. In August, the E.Coli geometric mean density exceeded the monthly ECA limit. All other effluent parameters remained below the effluent limits and objectives outlined in the facility’s ECA.

The Federal Government regulates the quarterly effluent flow, acute lethality, and the quarterly average CBOD₅ and total suspended solids in the effluent under the Federal Fisheries Act. The results are submitted to Environment and Climate Change Canada’s effluent regulatory reporting information system, under wastewater systems effluent regulations (WSER) on a quarterly basis.

Monthly effluent results from the Renfrew Wastewater Treatment facility for 2025 are tabulated in Appendix A of this report.

6.1 Effluent Quality Assurance and Control Measures Taken

This system is part of OCWA's Mississippi Cluster, supported by the Eastern Regional Hub and corporate resources. The systems are operated to achieve 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 OCWA's Quality & Environmental Management System.

The treatment process is reviewed and maintained by certified operators, who 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 in Ottawa, ON for analysis, with the exception of pH and temperature. Caduceon 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 Ontario Clean Water Agency 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.

OCWA uses several computer systems which include:

- Process Data Management (PDM)
 - This database program 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.
- Maximo – OCWA's Work Management System (WMS)
 - This program is used to track and schedule maintenance activities for all equipment in the system. It is also used to assign tasks for specific operational tasks.
- Wonderware (OUTPOST5)/SCADA
 - Wide-area SCADA system allows for process optimization and data logging, process trending, remote alarming.

The operations team also has access to a network of operational compliance and process specialists to assist for emerging process issues. This aids in establishing additional control measures to ensure a quality effluent product.

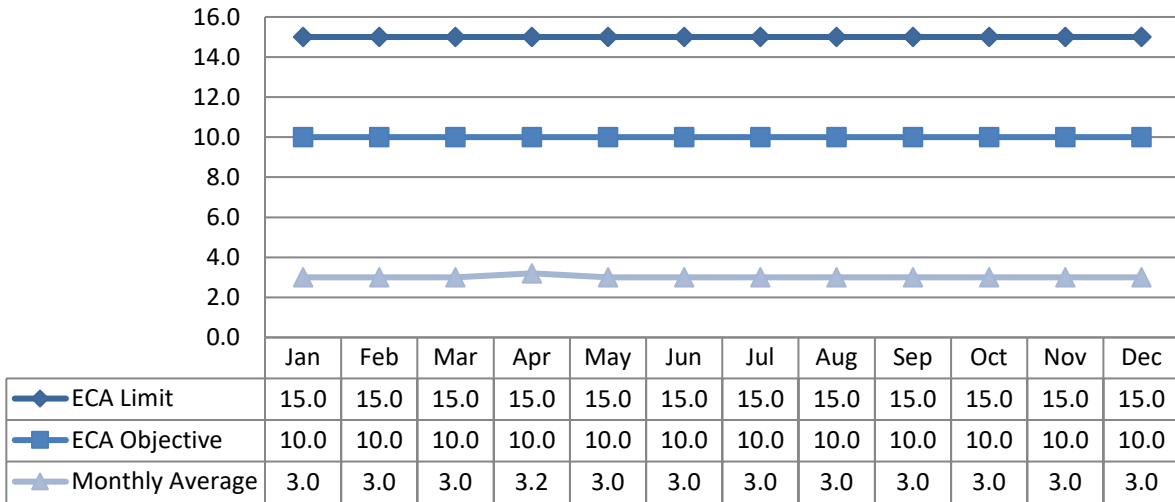
Detailed individual sample results for both raw sewage and final effluent can be requested from the operating authority.

6.2 CBOD5

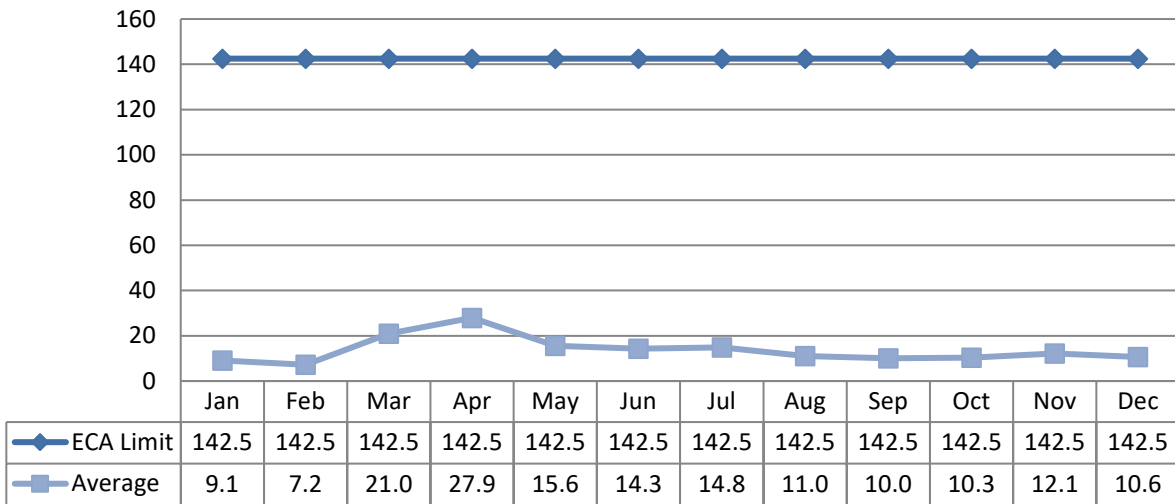
Compliance Limits for this parameter were met.

Compliance Objectives for this parameter were met.

6.2.1 Concentration (mg/L)



6.2.2 Loading (kg/d)

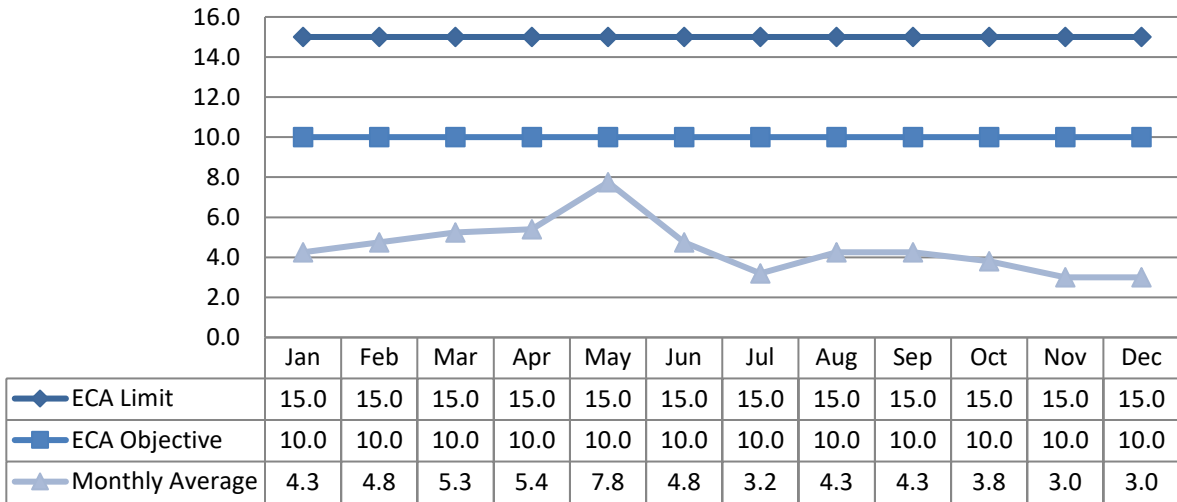


6.3 Total Suspended Solids

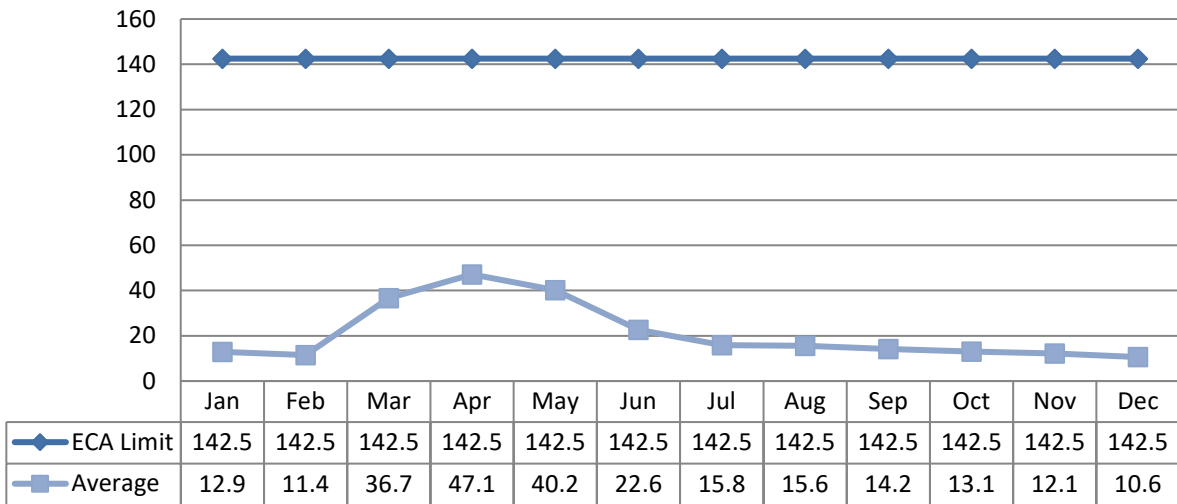
Compliance Limits for this parameter were met.

Compliance Objectives for this parameter were met.

6.3.1 Concentration (mg/L)



6.3.2 Loading (kg/d)

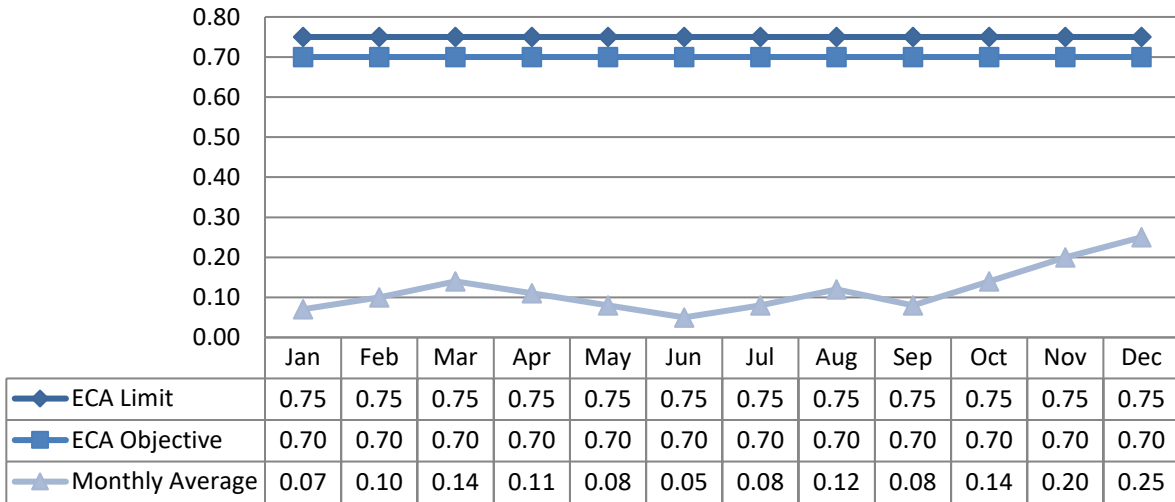


6.4 Total Phosphorus

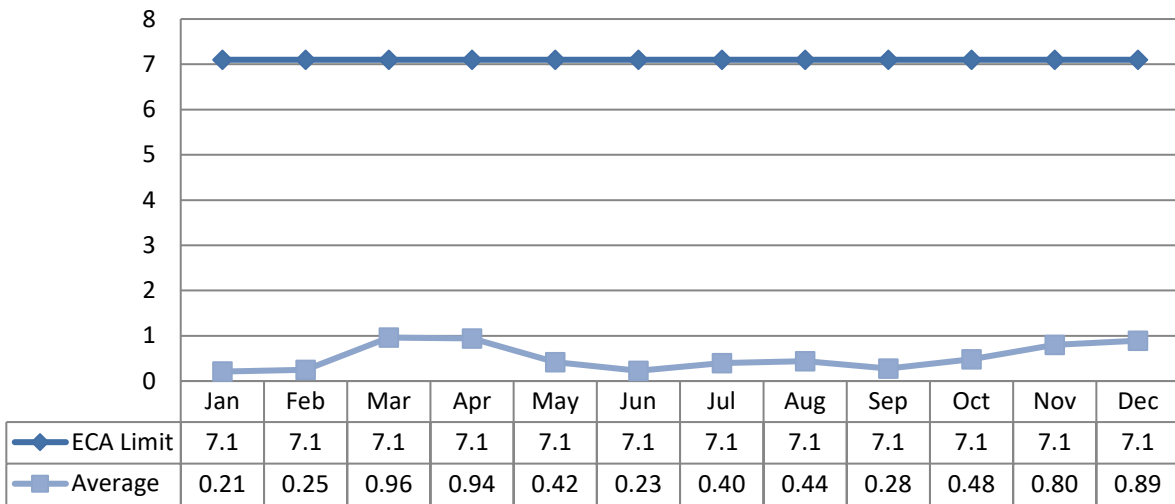
Compliance Limits for this parameter were met.

Compliance Objectives for this parameter were met.

6.4.1 Concentration (mg/L)



6.4.2 Loading (kg/d)



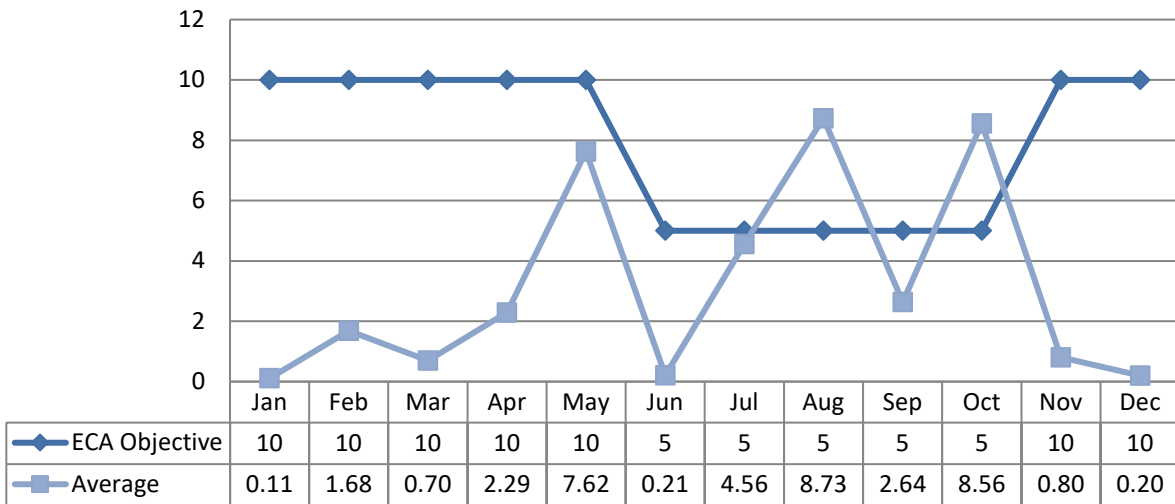
6.5 Total Ammonia Nitrogen

There is no Compliance Limit for this parameter.

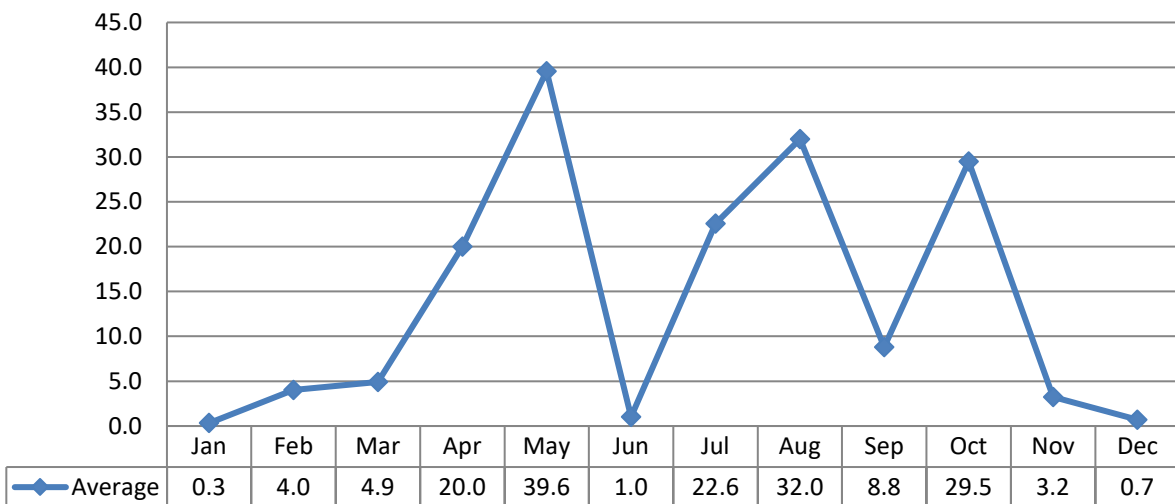
Concentration Objective for this parameter was exceeded August and October, please see Section 7.1 for more details.

There is no loading Objective for this parameter.

6.5.1 Concentration (mg/L)



6.5.2 Loading (kg/d)

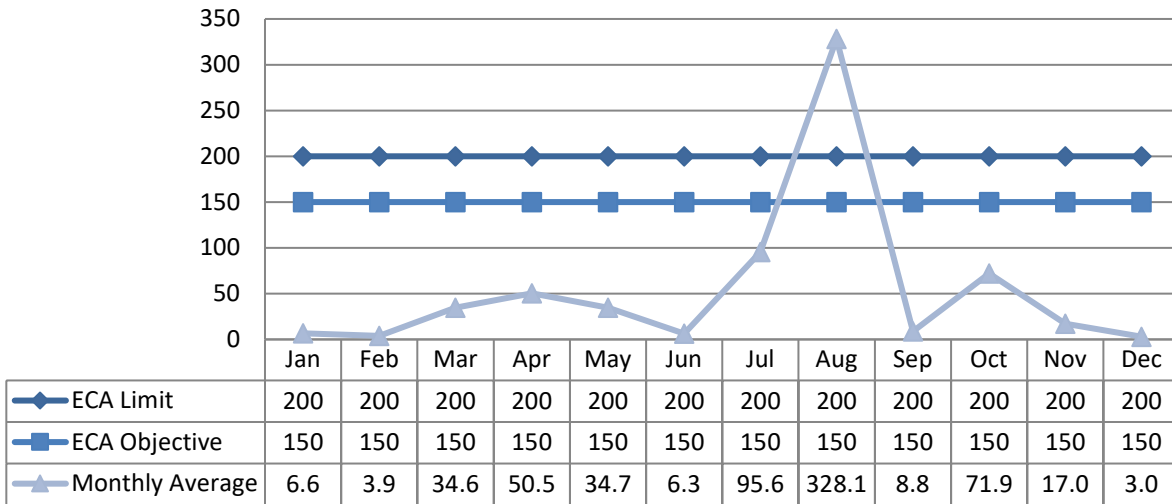


6.6 E-coli

Compliance Limit for this parameter was not met in August.

Compliance Objective for this parameter was not met in August.

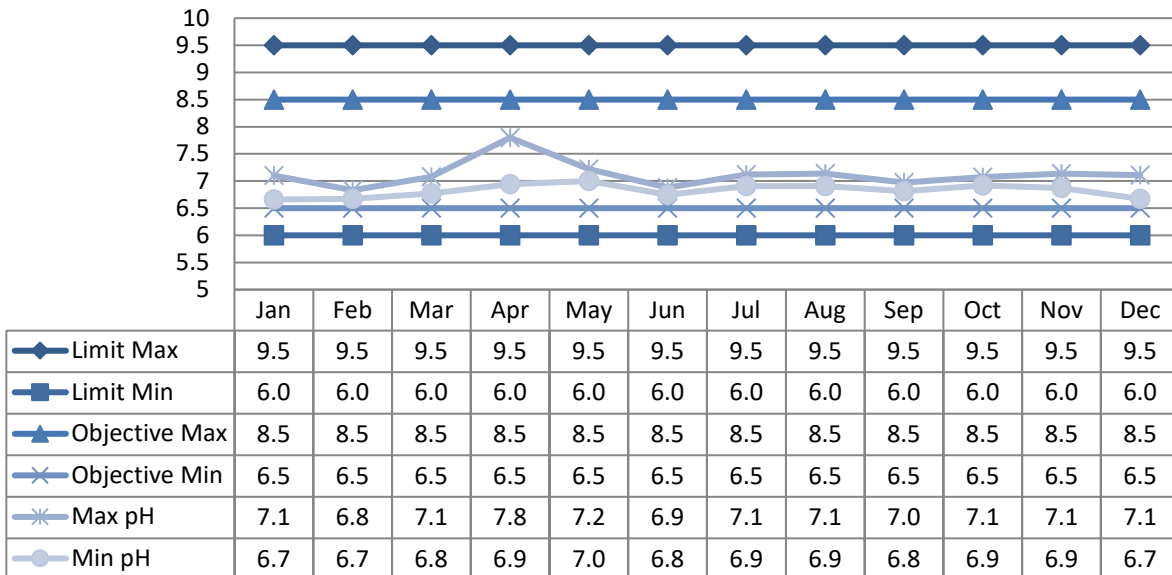
6.6.1 Geometric Mean (cfu/100mL)



6.7 pH

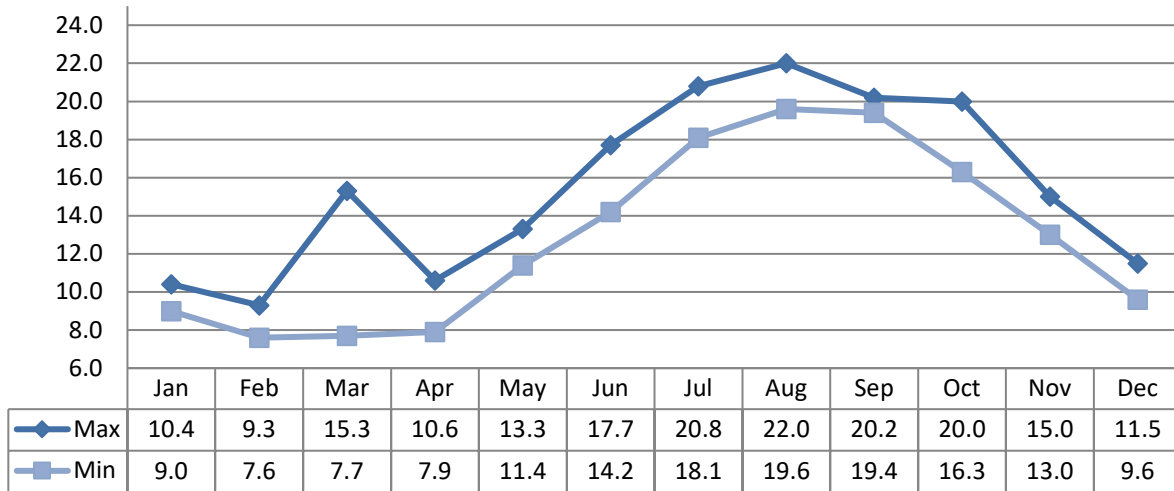
Compliance Limit range for this parameter is 6.0 – 9.5. Compliance Limit was met.

Compliance Objective range for this parameter is 6.5-8.5. Compliance Objective was met.



6.8 Temperature

There are no compliance limits or objectives defined for Effluent Temperature.



6.9 Acute Lethality

There were four (4) samples collected in 2025 and tested for acute lethality (Rainbow Trout and Daphnia Magna). This sampling is required both provincially and federally. Results are displayed as % mortality. An adverse result is a > 50% mortality rate. Compliance Limit for this parameter was MET

Quarter	Date	Rainbow Trout	Daphnia Magna
1 st Quarter	February 11, 2025	0%	0%
2 nd Quarter	May 13, 2025	0%	0%
3 rd Quarter	August 12, 2025	0%	0%
4 th Quarter	November 18, 2025	0%	0%

7 Operating Issues/Problems

7.1 Facility

There were no compliance objective exceedances for Effluent CBOD5, Total Suspended Solids, and Total Phosphorous. Total Ammonia Nitrogen exceeded the objective in August and October, and E.Coli Exceeded the Objective and Limit in August. There were no loadings exceedances for any parameter.

There were no significant Operating Issues in 2025, although the Total Ammonia Nitrogen concentration was higher than typical throughout the year due to mechanical failures on the centrifuge, cake hauling truck, as well as the aeration blowers. These failures caused a temporary deterioration in effluent quality during the summer until repairs were completed. The centrifuge cake conveyer faulted, which backed up the wasting process, as well as the cake dump truck being out of service for repairs and

annual safety inspection for approximately four weeks. Aeration blower #2 failed on over-temperature, and shortly after Aeration Blower #1 seized, requiring operational adjustments to run both aeration tanks and the digester tanks off of the digester blower. After Aeration Blower #1 was replaced, both aeration tanks were running off of the one blower which was unable to supply the required oxygen demand to both tanks, which also contributed to the higher effluent turbidity, Total Suspended Solids, and Total Ammonia Nitrogen. These issues in addition with UV intensity on the UV system failing caused higher E.coli concentrations in the final effluent.

Blower #1 for Aeration Tank #1 was replaced with a new blower sent by manufacturers. A second new blower arrived in late October and was installed immediately. The dump truck utilized to transport cake was repaired and returned to service, as well as DeviceNet cards and communication restored to centrifuge which was also put back in service. As these issues were resolved, effluent quality improved with reduced suspended solids, ammonia (TAN) and E.Coli. Complete refurbishment of UV Channel #1 was completed September 2nd-4th which restored full effectiveness of the UV system and therefore restored all effluent parameters to normal low concentrations.

7.2 Collection

June St. SPS had periodic issues with ragging, resulting in pump priming issues and high level warnings in the wet well. These issues were resolved by replacing and repairing parts as needed. The Town and OCWA noticed a high volume of “flushable wipes” at this pumping station in particular. Notices and public education pamphlets were handed out to the surrounding neighbourhood as an awareness and to emphasize the issues they cause in wastewater infrastructure.

7.3 Effluent Quality Non-Compliance Summary

Date	Exceedance of	Limit	Value	Corrective Action
August 2025	E.Coli	200 CFU/100 mL	328.1 CFU/100 mL	Centrifuge conveyor and Aeration #2 blower repaired, as well as a complete refurbishment of UV Channel #1.

7.4 Overflow, Bypass and Spills Summary

There was 1 (one) Spill in the collection system in 2025, as a result of an improper sewer connection to the storm system during a subdivision construction, and one (1) Overflow at the facility caused by an extreme rain event. Please see Appendix C for details.

8 Maintenance

Routine planned maintenance activities are scheduled in WMS for both the Collection and Treatment systems, and include:

- Inspect, adjust and calibrate process control equipment to ensure proper operation of wastewater conveyance 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.

Planned maintenance activities are communicated to the person responsible for completing the task through the issuance of WMS work orders. Work orders are automatically generated on a schedule as determined based on manufacturer’s recommendations and site specific operational and maintenance needs and are assigned directly to the appropriate operations personnel. This schedule is set up by the designated WMS Primary. Work orders are completed and electronically entered into WMS by the person responsible for completing the task. Unplanned maintenance is conducted as required.

Monitoring and inspection of the sewage collection system also includes annual programs for sanitary main flushing and camera work, manhole grouting/ repair/replacement, inflow and infiltration analysis during storm events and providing numerous locates for various projects. All contractor work on sewer and collection system repair is supervised and assisted by OCWA.

8.1 Normal Maintenance and Repairs - Facility

Work Order	Details
4337903	TSSA Inspection
4554949	Cleanout Aeration Train 2
4334161	Automatic Generator Transfer Switch Mainboard Replacement
4336435	Heater Motors Replacement
4607595	UV Ballast Purchase
4662730	Clarifier Chain and Flights Purchase
4710692	Devicenet Card Repair
4663480	Anoxic Mixer Repair
4663483	Ferric Chloride Pump Repair Parts Purchase
4381115	Garage Door Alarm Repair
4486091	Generator Communication Converter Repair
4428228	Raw Pumo Motor & Aeration Blower Motor Inspection
4428827	Digester Actuator Repair
4486090	Boiler and Hot Water Tank Annual Inspection
4488011	Lab Vacuum Pump Replacement
4428224	Anoxic Mixer Repair
4710387	Centrifuge Conveyor Motor Repair
4488706	Gas Sensor Calibration
4382061	Replace Bearings/Seals and Balance Centrifuge
4424114	Centrifuge Communication, Battery and Speed Controller Repair
4604058	Centrifuge Polymer Pump VFD Replacement
4762524	Generator Battery Charger Replacement
4553679	WAS Pump 1 Inspection and Cleaning
4338584	Scum Pump Check Valve Service

Work Order	Details
4759361	UV Bank 1 Refurbish Work
4762338	Floor Waxing

8.2 Normal Maintenance and Repairs - Collection

Work Order	Details
4426130	Contractor/OCWA Repair/Replace Blocked Sewer Lateral 182 Carswell St.
4861408	Contractor/OCWA 37 Harry St Lateral Repair/Replacement
4425659	Supervised Contractor Remove Sewer Blockage 609 Raglan St. S.
4335558	Contractor/OCWA Sewer Lateral Repair 223 Cameron Ave.
4378914	Supervised Contractor Pump Electrical Repair Coleraine SPS
4424003	Supervised Forestview/Hunter Gate SPS Generator Coolant Leak Contractor Repair
4426856	Offset Lateral Contractor/OCWA Repair/Replacement 125 Harry St.
4339199	Assessed Sanitary lateral Block 204 Raglan St. S.
4379947	Camera 445 Gillan Rd. Sewer Lateral
4553449	Sewer Lateral Block Contractor /OCWA Repair/Replacement 230 Prince Ave. W.
4604296	Contractor/OCWA Sewer Lateral Block Repair & replacement of Black tar lateral 328 Lynn St.
4707997	Supervised Argyle St. S Sewer Main Block Repair by Third Party Contractor
4709078	Check valves and Bubbler Repair June St. SPS
4381277	June St Pump Station Mechanical Repairs
4660337	Clear Blocked RV Dump Station
4381084	Assessed Blocked Sewer 501 Moore St.
4427311	Camera Sewer Laterals 453 Gillan Rd.
4428307	June St. SPS Pump Repair
4486093	Camera Work 145 Opeongo Rd.
4487312	Installing Posts for OutPost Panels
4424736	June St.SPS Pump Repair
4551791	Supervise Francis St. Manhole Town Repair
4711437	Supervised Contractor Flush and Vacuum Sewer 104 Prince Ave. W.
4382675	Supervised Alarm Fault Contractor Repair Forestview/Hunter Gate SPS
4428792	June Street SPS Replace Check Valve & Repair Air Relief Valve
4552767	Supervised Contractor Clear Blocked Sewer 162 Munroe Ave. E.
4711704	Annual Contractor/OCWA SPS Portable Generator Maintenance
4337499	Flushing Problem Sewers
4378633	Flushing Problem Sewers
4605877	Flushing Problem Sewers and Manholes
4606157	Supervised June SPS and Sewer Cleanout by Contractor
4381214	Coleraine Pump Station Switch Reset by Contractor

Work Order	Details
4484694	Sewer Flushing
4662596	Contractor/OCWA Repair/Replace Broken Sewer Lateral 301 Sydney Ave

8.3 Emergency Maintenance and Repairs - Treatment

Work Order	Details
4608943	Aeration 2 Blower Replacement
4708891	Aeration 1 Blower Replacement

8.4 Emergency Maintenance and Repairs - Collection

Work Order	Details
There were no Emergency Maintenance and Repairs during the reporting period.	

8.5 Flow Meter Calibrations and Maintenance

Location	Date of Calibration	Additional Maintenance
Digested Sludge FIT-602001	June 4, 2025	N/A
To Centrifuge FIT-601001	June 4, 2025	N/A
Polymer FIT-721003	June 4, 2025	N/A
Polymer FIT-722003	June 4, 2025	N/A
Raw FIT-170000	June 4, 2025	N/A
RAS FIT-251002	June 4, 2025	N/A
WAS FIT-260000	June 4, 2025	N/A
Digested Sludge FIT-254002	June 4, 2025	N/A
Final Effluent FIT-Final Effluent	June 4, 2025	N/A

8.6 Notice of Modifications – Treatment

Date	Process	Modification	Status
There were no modifications made to the treatment facility during the reporting period.			

8.7 Notice of Modifications – Collection

Date	Modification	Status
June 4	Hincks, Forestview SPS Outpost communication panel installation	Completed
July 22	Hunter Gate, Coleraine SPS Outpost communication panel installation	Completed
September 16	Replaced existing 200mm asbestos pipe with 200mm PVC along Quarry Ave (70m)	Completed
September 16	Replaced existing 200mm asbestos pipe with 200mm PVC along Dominion St (73.9m) from Barr St to Hall Avenue E including new leads, and 3 manhole structures	Completed
December 2	Outpost communication panels installed June, Lisgar, Hincks SPS	Completed

9 Sludge Generation

Please note Section 10.4 (g) of Environmental Compliance Approval 4237-ACPJ6Y asks to include discussion on lagoon cells. The Renfrew Wastewater Treatment facility does not utilize a lagoon process.

9.1 Processed Volume

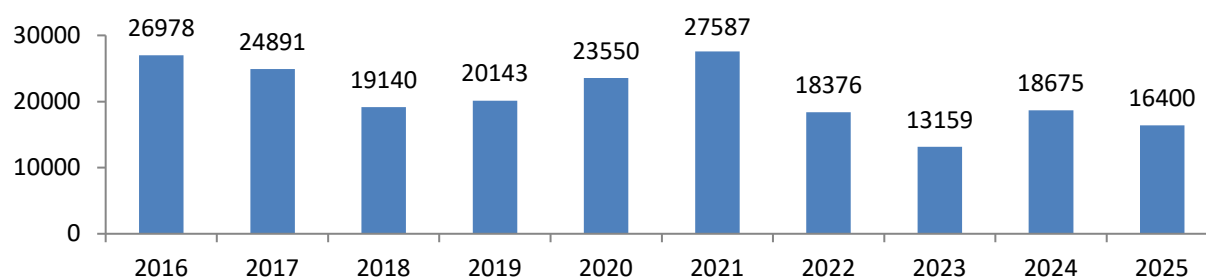
The Renfrew WPCP uses aerobic sludge digestion followed by sludge dewatering.

Dewatering Process	Sludge Volume Processed (m3)	Mass Hauled to Landfill (Kg)
Centrifuge	16,400	1,122,851

9.2 Sludge Disposal Summary

The dewatered sludge was hauled off site to the Renfrew Landfill Site, ECA# A410401.

9.3 Annual Comparison (m³/year)



It is anticipated that sludge volumes in 2026 will remain similar to the 2025 volumes.

9.4 Quality

The biosolids sampling results are summarized in Appendix B. All results met the established guidelines.

10 Summary of Complaints

10.1 Summary of Complaints - Facility

Location	Date	Nature of Complaint	Actions Taken
There were no community complaints during the reporting period for this facility.			

10.2 Summary of Complaints - Collection

Throughout the reporting period, Operations staff responded to 25 community complaints. Details can be found in the table below.

Location	Date	Nature of Complaint	Actions Taken
223 Cameron Ave.	January 7	Blocked Sewer Lateral	Excavation and repair

Location	Date	Nature of Complaint	Actions Taken
40 Pine St.	January 8	Blocked Sewer Lateral	Vacuum truck scheduled to clear line, camera the lateral
Plaunt St S. x Hall Ave.	January 25	Blocked Sewer Main	Rock and Asphalt removed by vac truck, camera line to confirm
204 Raglan	January 30	Sewer Backup	Camera line, mains ok, advised homeowner to call plumber
Metro – 83 Raglan St. S.	February 7	Blocked Sewer	Mains ok, advised to call plumber
445 Gillan Road	February 11	Sewer backup	Camera storm and sanitary lines, sanitary is connected to storm sewer. Reported as required.
501 Moore St.	February 19	Blocked Sewer	Manholes/mains running well, advised homeowner to call plumber
426 Barr St	February 25	Blocked Sewer	Mains running well, advised to call plumber
558 Raglan St. S	March 7	Blocked Lateral	Line cleared
125 Harry St.	March 17	Blocked Sewer	Found Broken lateral, replaced lateral and 6' of main
165 Monroe Ave. W.	April 21	Blocked Sewer	Main blocked, vac truck flushed main
328 Lynn St.	May 6	Tar Paper Lateral, slumping	Replaced black tar sewer lateral
162 Monroe Ave. E.	May 9	Blocked sewer	Vac truck
182 Carswell St.	Mar 11	Blocked Sewer	Scoped and found broken lateral. Repaired
230 Prince Ave. W.	May 6	Broken Lateral	Repaired lateral with 4" plastic, and new 8"x4" tee
123 Elk St.	May 30	Blocked sewer	Low pipe grade leading to block, refer to Town and homeowner

Location	Date	Nature of Complaint	Actions Taken
James Crescent	June 9	Odour	Inspected manhole, no issues, sewer flushed
RV dump station	July 7	Blocked sewer	Soft block removed
301 Sydney Ave.	July 8	Damaged Lateral	Inspected by plumber, scoped by camera (OCWA), repaired standpipe
300 Jordan Ave.	July 29	Blocked sewer	No issues with main, advised to call plumber
Argyle St. S. near Town Recreation Centre	Aug 7	Blocked Sewer Main	Asphalt debris removed by pumper truck
104 Prince Ave. W.	Aug 26	Blocked Lateral	Flushed sewer Main, main running well. Advised homeowner to call plumber
142 Hinks Ave.	Sept 14	Blocked lateral	Checked manholes, advised homeowner to call plumber
37 Harry St.	Nov 5	Broken lateral	Replaced 90 and 4 feet of lateral
65 McLean St.	Nov 12	Blocked sewer	Main lines running well, Homeowner advised to call plumber

Appendix A – Performance Assessment Report



Performance Assessment Report

From 1/1/2025 to 12/31/2025 11:59:59 PM

5863 RENFREW WASTEWATER TREATMENT FACILITY 120000603

	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-->
Flows																
Raw Flow: Total - Raw Sewage Influent m³/d	104,722.00	75,265.00	226,085.00	267,222.00	161,419.00	136,363.00	149,797.00	109,829.00	99,038.00	107,720.00	126,136.00	116,699.00	1,680,315.00			0.00
Raw Flow: Avg - Raw Sewage Influent m³/d	3,378.13	2,688.75	7,293.06	8,907.40	5,207.06	4,545.43	4,832.18	3,542.87	3,301.27	3,474.84	4,204.53	3,764.48		4,603.60		9,500.00
Raw Flow: Max - Raw Sewage Influent m³/d	5,161.00	3,423.00	27,922.00	23,468.00	7,092.00	7,061.00	8,098.00	6,080.00	4,774.00	9,841.00	5,650.00	7,107.00			27,922.00	0.00
Raw Flow: Count - Raw Sewage Influent 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	94,246.00	67,291.00	216,624.00	261,919.00	160,918.00	142,961.00	153,273.00	113,554.00	100,190.00	106,789.00	121,216.00	109,581.00	1,548,552.00			0.00
Eff. Flow: Avg - Final Effluent m³/d	3,040.19	2,403.25	6,987.87	8,730.63	5,190.90	4,765.03	4,944.29	3,663.03	3,339.67	3,444.81	4,040.53	3,534.87		4,516.58		9,500.00
Eff. Flow: Max - Final Effluent m³/d	4,890.00	3,170.00	27,947.00	23,235.00	6,956.00	7,333.00	8,210.00	6,135.00	4,806.00	9,764.00	5,517.00	6,939.00			27,947.00	0.00
Eff. Flow: Count - Final Effluent 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
Carbonaceous Biochemical Oxygen Demand: CBOD																
Raw: Avg cBOD5 - Raw Sewage Influent mg/L	73.50	106.50	58.75	35.60	51.00	49.00	50.00	57.75	74.25	86.00	69.50	77.60		65.52	106.50	0.00
Raw: # of samples of cBOD5 - Raw Sewage Influent	4.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	5.00	52.00			0.00
Eff: Avg cBOD5 - Final Effluent mg/L	< 3.00	< 3.00	< 3.00	< 3.20	< 3.00	< 3.00	< 3.00	< 3.00	< 3.00	< 3.00	< 3.00	< 3.00		< 3.02	< 3.20	15.00
Eff: # of samples of cBOD5 - Final Effluent	4.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	5.00	52.00			0.00
Loading: cBOD5 - Final Effluent kg/d	< 9.121	< 7.210	< 20.964	< 27.938	< 15.573	< 14.295	< 14.833	< 10.989	< 10.019	< 10.334	< 12.122	< 10.605		< 13.64	< 27.94	142.500
Percent Removal: cBOD5 - Raw Sewage Influent %	95.92	97.18	94.89	91.01	94.12	93.88	94.81	95.96	96.51	95.68	96.13			95.01	97.18	0.00
Biochemical Oxygen Demand: BOD5																
Raw: Avg BOD5 - Raw Sewage Influent mg/L	131.00	192.25	94.75	67.20	79.25	80.00	67.40	100.50	152.75	162.40	152.25	134.40		117.08	192.25	0.00
Raw: # of samples of BOD5 - Raw Sewage Influent	4.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	5.00	52.00			0.00
Eff: Avg BOD5 - Final Effluent mg/L	< 3.00	< 4.25	< 4.50	< 5.60	< 8.25	< 3.25	< 4.60	< 7.50	< 3.00	< 3.40	< 3.25	< 3.40		< 4.48	< 8.25	0.00
Eff: # of samples of BOD5 - Final Effluent	4.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	5.00	52.00			0.00
Loading: BOD5 - Final Effluent kg/d	< 9.121	< 10.214	< 31.445	< 48.892	< 42.825	< 15.496	< 22.744	< 27.473	< 10.019	< 11.712	< 13.132	< 12.019		< 20.24	< 48.89	142.500
Percent Removal: BOD5 - Raw Sewage Influent %	97.71	97.79	95.25	91.67	89.59	95.94	93.18	92.54	98.04	97.91	97.87	97.47		95.41	98.04	0.00
Total Suspended Solids: TSS																
Raw: Avg TSS - Raw Sewage Influent mg/L	139.00	114.25	130.00	120.80	99.00	126.00	95.20	72.25	125.25	124.20	135.50	160.00		120.50	160.00	0.00
Raw: # of samples of TSS - Raw Sewage Influent	4.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	5.00	52.00			0.00
Eff: Avg TSS - Final Effluent mg/L	4.25	< 4.75	5.25	5.40	< 7.75	< 4.75	< 3.20	< 4.25	< 4.25	< 3.80	< 3.00	< 3.00		4.60	7.75	15.00
Eff: # of samples of TSS - Final Effluent	4.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	5.00	52.00			0.00
Loading: TSS - Final Effluent kg/d	12.921	< 11.415	36.686	47.145	< 40.230	< 22.634	< 15.822	< 15.568	< 14.194	< 13.090	< 12.122	< 10.605		20.32	47.15	142.500
Percent Removal: TSS - Raw Sewage Influent %	96.94	95.84	95.96	95.53	92.17	96.23	96.64	94.12	96.61	96.94	97.79	98.13		96.07	98.13	0.00
Total Phosphorus: TP																
Raw: Avg TP - Raw Sewage Influent mg/L	2.74	3.56	2.73	1.85	2.69	2.89	2.17	2.52	3.00	3.67	3.12	3.49		2.86	3.67	0.00
Raw: # of samples of TP - Raw Sewage Influent	4.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	5.00	52.00			0.00
Eff: Avg TP - Final Effluent mg/L	0.07	0.11	0.14	0.11	0.08	0.05	0.08	0.12	0.09	0.14	0.20	0.25		0.12	0.25	0.75
Eff: # of samples of TP - Final Effluent	4.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	5.00	52.00			0.00
Loading: TP - Final Effluent kg/d	0.213	0.252	0.961	0.943	0.415	0.226	0.406	0.440	0.284	0.475	0.798	0.891		0.54	0.96	7.100
Percent Removal: TP - Raw Sewage Influent %	97.44	97.05	94.97	94.17	97.02	98.36	96.22	95.24	97.16	95.24	93.67	92.78		95.86	96.36	0.00
Nitrogen Series																
Raw: Avg TKN - Raw Sewage Influent mg/L	30.80	39.03	25.03	14.16	23.28	24.38	20.56	28.03	29.35	34.22	28.98	32.20		27.33	39.03	0.00
Raw: # of samples of TKN - Raw Sewage Influent	4.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	5.00	52.00			0.00
Eff: Avg TAN - Final Effluent mg/L	0.11	1.68	0.71	2.29	7.62	< 0.21	4.58	8.74	2.64	8.58	0.80	< 0.20		3.23	8.74	10.00
Eff: # of samples of TAN - Final Effluent	4.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	5.00	52.00			0.00
Loading: TAN - Final Effluent kg/d	0.334	4.031	4.926	19.993	39.566	< 1.013	22.556	31.997	8.808	29.501	3.243	< 0.721		14.60	39.57	
Disinfection																
Eff: GMD E. Coli - Final Effluent cfu/100mL	6.62	3.94	34.61	50.47	34.72	6.32	95.60	326.15	8.82	71.91	17.02	2.99				200.00
Eff: # of samples of E. Coli - Final Effluent	4.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	5.00	52.00			0.00

Appendix B - Biosolids Quality Report

Biosolids Quality Report

Facility: RENFREW WASTEWATER TREATMENT FACILITY

Solids & Nutrients

Period: 01/01/2025 to 12/31/2025

Works: 5863 / Digester Type: Aerobic



Facility Classification: Class 3 Wastewater Treatment Total Design Capacity: 9500 m3/day

Note: all parameters in this report are derived from the Bslq Station

Month	Total Solids (mg/L)	Volatile Solids (mg/L)	Total Phosphorus (mg/L)	Total Ammonia Nitrogen (mg/L)	Nitrate as N (mg/L)	Nitrite as N (mg/L)	Total Kjeldahl Nitrogen (mg/L)	Ammonia + Nitrate (mg/L)	Potassium (mg/L)
Parameter Short Name	TS	VS	TP	NH3p_NH4p_N	NO3-N	NO2-N	TKN	Calculation in Report	K
T/S	Lab Published Month Mean	Lab Published Month Mean	Lab Published Month Mean	Lab Published Month Mean	Lab Published Month Mean	Lab Published Month Mean	Lab Published Month Mean	- no T/S	Lab Published Month Mean
Jan	12,200.00	7,350.00	306.00	10.00	68.70	0.40	716.00	39.35	45.60
Feb	12,200.00	7,760.00	310.00	11.00	6.80	0.40	882.00	8.90	37.30
Mar	16,600.00	10,700.00	440.00	14.00	37.80	0.40	1,240.00	25.90	71.00
Apr	16,600.00	9,230.00	396.00	69.00	205.00	6.80	943.00	137.00	80.30
May	16,400.00	9,040.00	473.00	344.00	50.20	0.90	950.00	197.10	75.10
Jun	16,600.00	9,400.00	397.00	11.00	174.00	4.90	778.00	92.50	53.90
Jul	15,100.00	11,200.00	389.00	8.00	152.00	7.40	707.00	80.00	85.00
Aug	15,800.00	8,720.00	535.00	4.00	211.00	2.10	902.00	107.50	66.00
Sep	14,500.00	8,070.00	450.00	11.00	145.00	1.70	761.00	78.00	68.40
Oct	11,500.00	10,700.00	1,170.00	11.00	126.00	1.50	2,680.00	68.50	69.60
Nov	13,700.00	8,830.00	401.00	9.00	80.40	1.70	860.00	44.70	68.80
Dec	9,840.00	6,270.00	277.00	74.00	15.60	2.10	690.00	44.80	45.30
Average	14,253.33	8,939.17	462.00	48.00	106.04	2.53	1,009.08	77.02	63.86
Total	171,040.00	107,270.00	5,544.00	576.00	1,272.50	30.30	12,109.00	924.25	766.30

Biosolids Quality Report

Facility: RENFREW WASTEWATER TREATMENT FACILITY

Metals & Criteria

Period: 01/01/2025 to 12/31/2025

Works: 5863 / Digester Type: Aerobic



Solids & Nutrients **Metals & Criteria** Last 4 Samples

Note: all parameters in this report are derived from the Bslq Station

Month	Arsenic (mg/L)	Cadmium (mg/L)	Cobalt (mg/L)	Chromium (mg/L)	Copper (mg/L)	Mercury (mg/L)	Molybdenum (mg/L)	Nickel (mg/L)	Lead (mg/L)	Selenium (mg/L)	Zinc (mg/L)
Parameter Short Name	As	Cd	Co	Cr	Cu	Hg	Mo	Ni	Pb	Se	Zn
T/S	Lab Published Month Mean	Lab Published Month Mean	Lab Published Month Mean	Lab Published Month Mean	Lab Published Month Mean	Lab Published Month Mean	Lab Published Month Mean	Lab Published Month Mean	Lab Published Month Mean	Lab Published Month Mean	Lab Published Month Mean
Jan	0.10	0.03	0.03	0.61	3.51	0.00	0.18	0.21	0.10	0.10	2.76
Feb	0.10	0.03	0.03	0.54	3.07	0.00	0.18	0.20	0.10	0.10	2.26
Mar	0.10	0.03	0.10	1.09	6.00	0.01	0.18	0.34	0.20	0.10	4.62
Apr	0.10	0.03	0.05	1.21	6.32	0.00	0.18	0.39	0.30	0.10	5.14
May	0.10	0.03	0.06	1.00	5.14	0.00	0.18	0.34	0.20	0.10	4.58
Jun	0.10	0.03	0.03	0.58	3.18	0.00	0.18	0.20	0.10	0.10	3.26
Jul	0.10	0.03	0.09	1.04	6.10	0.00	0.18	0.37	0.30	0.10	6.35
Aug	0.10	0.03	0.05	0.99	5.59	0.01	0.18	0.36	0.30	0.10	6.52
Sep	0.10	0.03	0.03	0.80	5.88	0.00	0.18	0.32	0.30	0.10	7.04
Oct	0.10	0.03	0.06	0.70	5.61	0.00	0.18	0.27	0.30	0.10	6.35
Nov	0.10	0.03	0.03	0.52	4.32	0.00	0.18	0.23	0.10	0.10	4.94
Dec	0.10	0.03	0.03	0.30	2.61	0.00	0.18	0.13	0.20	0.10	2.71
Average	0.10	0.03	0.05	0.78	4.78	0.00	0.18	0.28	0.21	0.10	4.71
Max. Permissible Metal Concentrations (mg/kg of Solids)	170.00	34.00	340.00	2,800.00	1,700.00	11.00	94.00	420.00	1,100.00	34.00	4,200.00
Metal Concentrations in Sludge (mg/kg)	7.02	2.10	3.45	54.84	335.18	0.27	12.63	19.64	14.62	7.02	330.51

Appendix C - Details of Abnormal Sewage Discharge Events

Event Details Summary

Facility Bypass

Date	Location	Details	Volume (m ³)	Start Time	End Time	Duration (h)	Discharge Receiver	Disinfection Provided
There were no facility bypass events reported during the reporting period.								

Facility Overflow

Date	Location	Details	Volume (m ³)	Start Time	End Time	Duration (h)	Discharge Receiver	Disinfection Provided
June 22, 2025	Renfrew WWTP Raw influent overflow channel	Extreme rain event caused power surge and outage, faulting all pumps in the plant. Influent overflowed the raw channel inlet weir. The event concluded when the pumps were reset.	870.05	00:30	01:10	0.67	Bonnechere River	Chlorine pucks in channel

Spills of Sewage

Date	Location	Details	Volume (m ³)	Start Time	End Time	Duration	Discharge Receiver	Disinfection Provided
November 2021 to February 25, 2025	445 Gillan Road	Investigation of a sewer backup into the homeowner's basement on February 11 th , revealed the sanitary sewer lateral inadvertently connected to the town's stormwater sewer lateral during construction. A vacuum truck was dispatched immediately to clean out the storm sewer, and repairs to the laterals were conducted on February 25 th . Neighbouring homes were also investigated to confirm proper sewer lateral installation. This event (incident #1-H9XCKQ) was reported to SAC by the Town.	300	N/A	N/A	3.25 years	Storm Sewer to Ravine at Intersection of Mayhew Ave. and Hall Ave. (180 m)	No

Appendix D - ECA Annual Report Requirements

Facility ECA #4237-ACPJ6Y, Section 10 (4)	Section in Report
a. a summary and interpretation of all monitoring data and a comparison to the effluent limits outlined in Effluent Limits Condition, including an overview of the success and adequacy of the Works;	Treatment Flows, Raw Sewage Quality, Effluent Quality
b. a description of any operating problems encountered and corrective actions taken;	Operating Issues/Problems
c. a summary of all maintenance carried out on any major structure, equipment, apparatus,	Maintenance
d. a summary of any effluent quality assurance or control measures undertaken in the reporting period;	Effluent Quality
e. a summary of the calibration and maintenance carried out on all effluent monitoring equipment; and	Maintenance
f. a description of efforts made and results achieved in meeting the objectives of Effluent Objectives Condition.	Raw Sewage Quality, Effluent Quality
g. an estimate of the 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;	Sludge Generation
h. a summary of any complaints received during the reporting period and any steps taken to address the complaints;	Summary of Complaints
i. a summary of all Bypass, Overflow, spill or abnormal discharge events;	Appendix D
j. a copy of all Notice of Modifications to Sewage Works submitted to the Water Supervisor as a result of Schedule B, Section 1, with a status report on the implementation of each modification;	Maintenance
k. a report summarizing all modifications completed as a result of Schedule B, Section 3; and	Maintenance
l. any other information the Water Supervisor requires from time to time	N/A

Collection CLI ECA #183-W601 - Schedule E	Section in Report
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

Collection CLI ECA #183-W601 - Schedule E	Section in Report
<p>4.6.8 Includes a summary of all Collection System Overflow(s) and Spill(s) of Sewage, including:</p> <ul style="list-style-type: none"> 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. 	<p>Operating Issues and Problems Appendix D</p>
<p>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:</p> <ul style="list-style-type: none"> 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. 	<p>Maintenance Operating Issues and Problems</p>