

Mississippi Mills Wastewater System

Waterworks # 110000873

Annual Report

Prepared For: The Municipality of Mississippi Mills

Reporting Period of January 1st – December 31st 2025

Issued: March 24th, 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	1637-AC8NT7	August 8, 2016	N/A

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1 Revision History

Date	Rev#	Revisions	Revised By
03-24-2026	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	Two (2) non-compliance events
Community Complaints	No community complaints
Spills	Three (3) Spill events
Spills of Sewage	No Spills of Sewage events
Overflows	No overflow events
Bypass	No bypass events

3 Process Description

The Mississippi Mills wastewater treatment system consists of a gravity fed separated collection system which consists of eight (8) sewage pumping stations and one (1) RV sewage dump station. Flow from seven (7) sewage pumping stations (SPS) - Christian Street SPS, Hope and Glass SPS, Island Street SPS, Riverfront SPS, Robert Street SPS, Spring Street SPS, White Tail Ridge SPS and the trailer sewage dump station, is directed to the main pumping station: Gemmill's Bay SPS. Gemmill's Bay SPS then pumps sewage via forcemain to the treatment plant headworks. There are no authorized overflow points in the collection system, as it is classified as a separated sewer system. Gemmill's Bay SPS, Riverfront SPS, Spring St. SPS, and Whitetail SPS are equipped with standby generators complete with auto transfer switches. There are three portable generators to power the remaining stations in case of a power loss event.

The Mississippi Mills Wastewater Treatment Plant (WWTP) is a Class III facility, located at 212 Wolf Grove Road in Almonte, ON and includes a septage receiving station that consists of a 45 m³ storage tank, with a grinder on the inlet piping, and a septage transfer pump. Influent flow enters the treatment plant through influent channels in headworks, which contain fine screens, a screening compactor and a vortex grit removal system. Aluminum sulphate (Alum), a coagulant, is added after grit removal to aid in settling and phosphorus control.

Flow is then directed to two secondary treatment trains in parallel, using extended aeration activated sludge. Each train has an aeration tank equipped with fine bubble aeration system and anoxic zone, which then flow to two rectangular secondary clarifiers. The clarifiers are equipped with collector rakes

that scrape settled sludge into the sludge hopper at the bottom of the tank for further processing. The rakes also act as a surface scum removal system. Alum is added to the process for a second time at the secondary clarifier influent for further phosphorus removal and assistance with settling the suspended solids. Tertiary treatment of clarifier effluent is achieved using four (4) up-flow sand filter trains with three (3) filtration cells in each. Disinfection is then provided to the filter effluent using Ultraviolet (UV) lights.

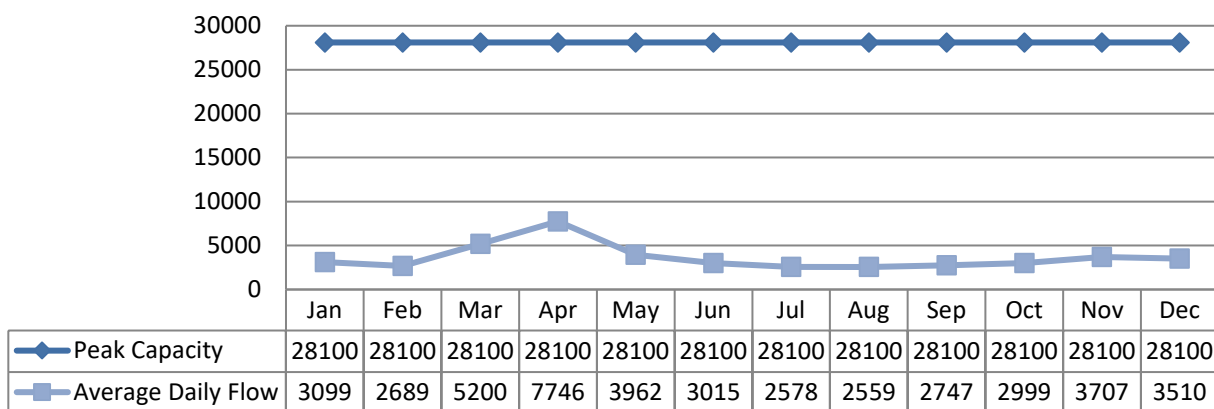
Settled solids from the biological process are pumped as return activated sludge (RAS) from the clarifier hoppers to the anoxic zone, to supplement biological activity and improve nitrification in the extended air process. The sludge is also pumped out of the clarifiers to rotary disk thickeners as waste activated sludge (WAS). Once thickened, the sludge is known as thickened waste activated sludge (TWAS). The TWAS is then sent to Autothermal Thermophilic Aerobic Digesters (ATAD), there is no supernatant produced in this process. After digestion has occurred, the solids are transferred to a Solids Nitrification/Denitrification Reactor (SNDR) for nitrogen removal. There is also no supernatant produced in this process. The digested solids are pumped from the SNDR and dewatered to a cake form using a Fournier Press. The dewatered cake (biosolids) are conveyed to a storage facility. The biosolids are then used for beneficial re-use and land applied as a soil conditioner/fertilizer. This is governed by the Ministry of Environment and Parks (MECP) and third party contractors. Process water from the tertiary filters, rotary disk thickener, and Fournier press is collected in the filtrate tank, and is then returned to headworks.

The facility is equipped with a biofilter odour control system. The biofilter consists of wood chip media, which “scrubs” the air collected from the process vents, ATADs and SNDR, to remove any odour. The facility is also equipped with back-up power in the form of a 750 kW standby diesel generator.

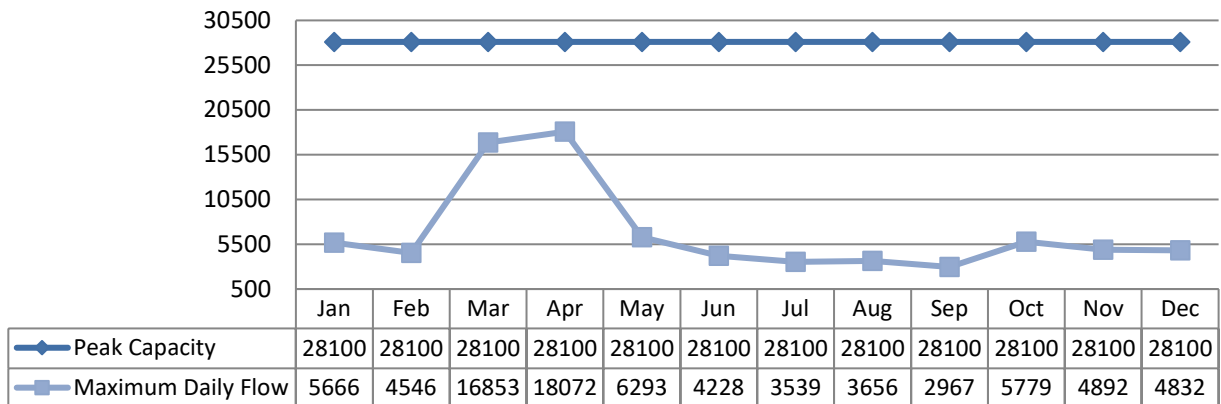
4 Treatment Flows

4.1 Raw Flow (m³/d)

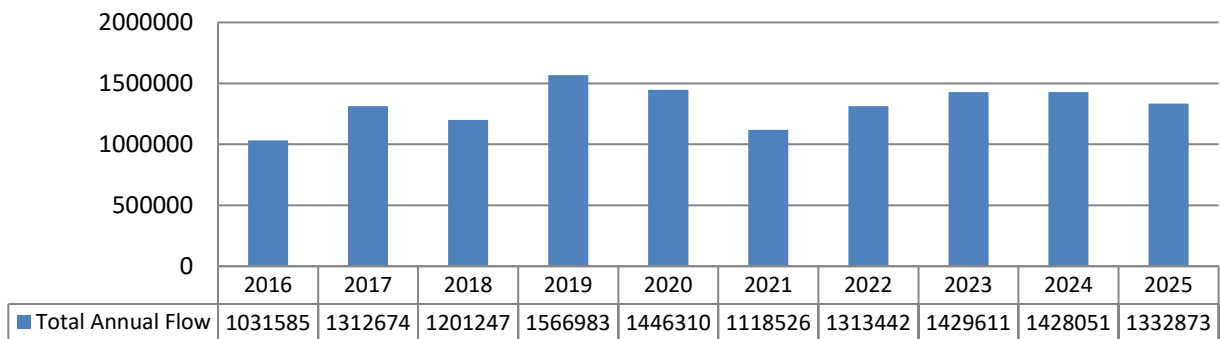
For 2025, the annual average flow was 3651.71 m³/d or 77.7% of the rated capacity. Elevated flows are directly related to snow melt and wet weather events. Use of the attenuation pond may affect raw influent flow when returning flows from the pond for treatment, as flows returned from attenuation discharge upstream of influent flow meters and are measured and counted a second time. Peak capacity of 28,100 m³/day is the maximum flow the equipment in headworks is capable of processing.



4.1.1 Raw Influent Peak Flow



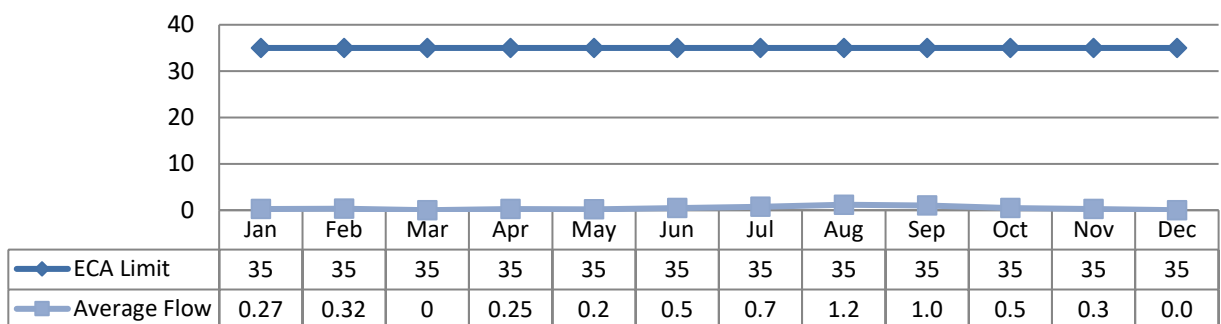
4.1.2 Raw Influent Flow Annual Comparison (m³)



4.2 Imported Sewage

Septage is received in the headworks Septage bay, and then pumped to the raw influent channel before the fine screens. Total Septage received in 2025 was 158 m³. Compliance for this parameter was MET.

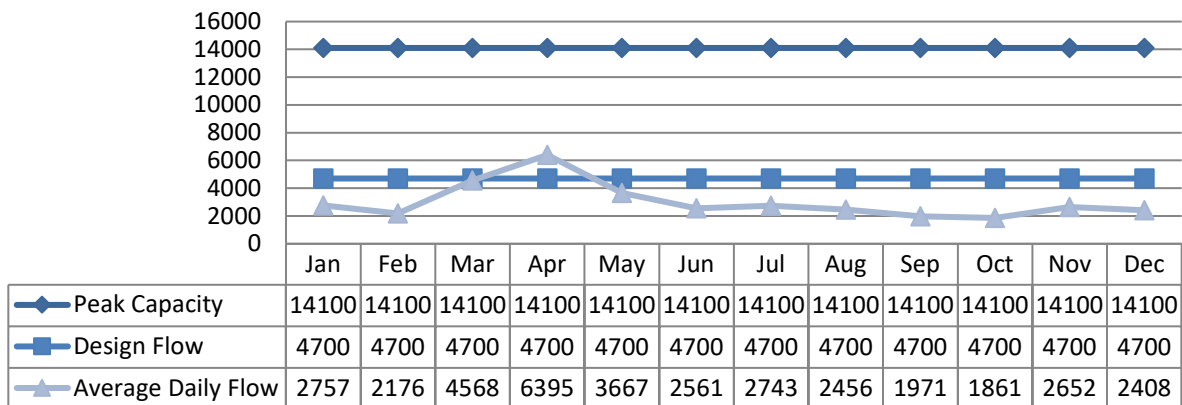
4.2.1 Septage Received (m³/d)



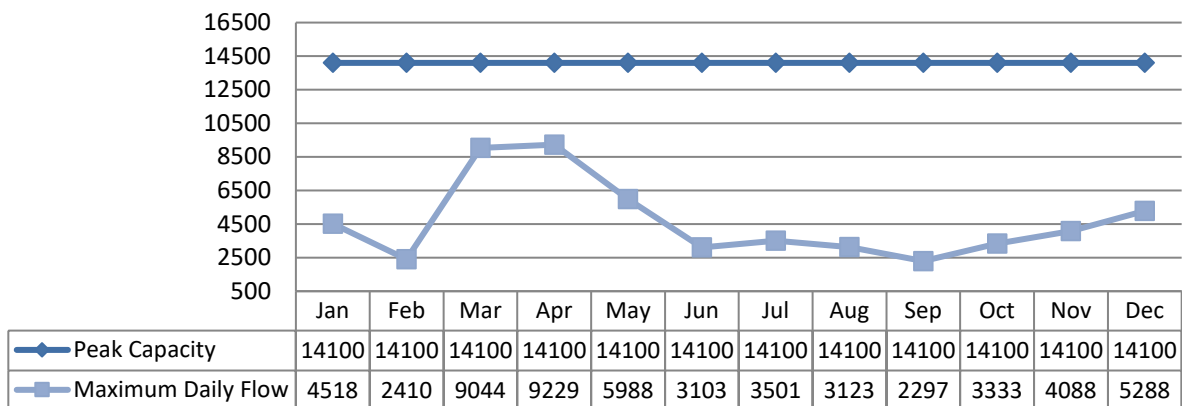
4.3 Effluent Flows

The annual average effluent flow was 3020.63 m³/d or 64% of the rated capacity. Elevated flows during spring months are directly related to snow melt and wet weather events. Excess influent flows exceeding 8,000 to 11,000 m³/day instantaneous flow are sent to the attenuation pond, and then returned to the plant for processing during lower flows.

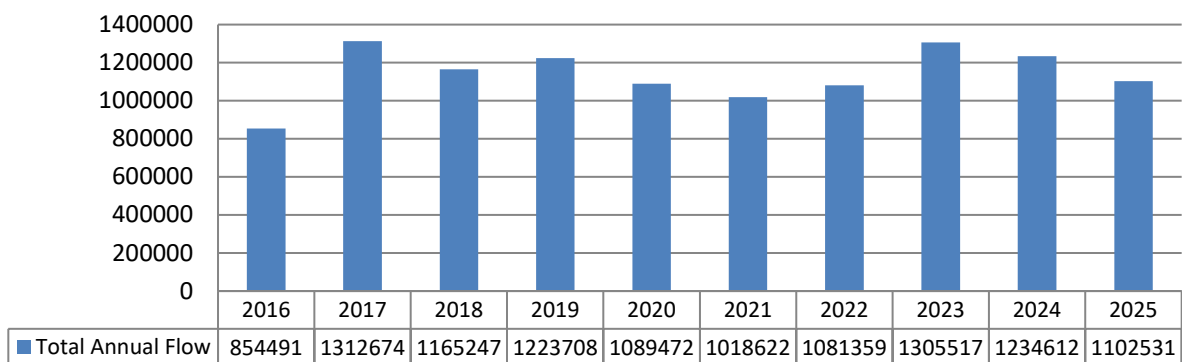
4.3.1 Average Effluent Flow



4.3.2 Effluent Peak Flow



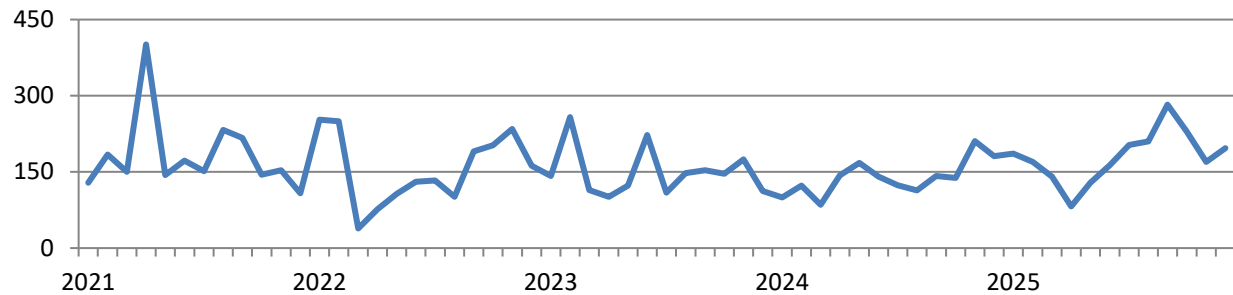
4.3.3 Effluent Annual Comparison



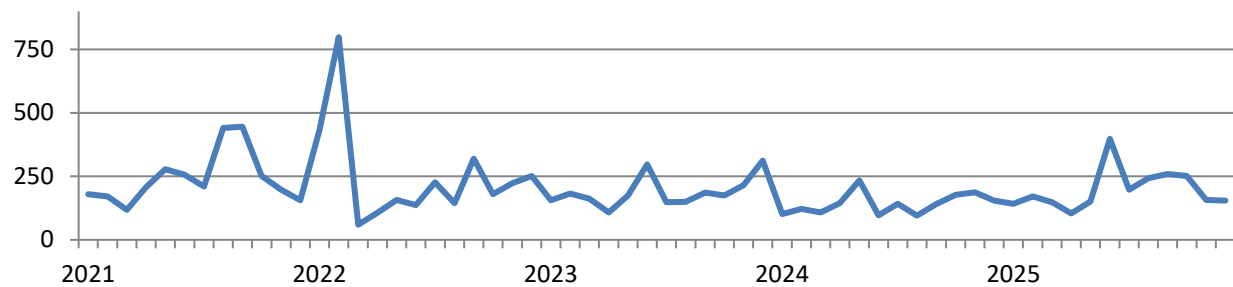
5 Raw Sewage Quality

Five (5) Year Average Trends from 2021-2025 for Raw Sewage Quality are graphed below. Additional details for the 2025 reporting period and specific monthly minimum, maximum and averages are included in the Performance Assessment Report located in Appendix A.

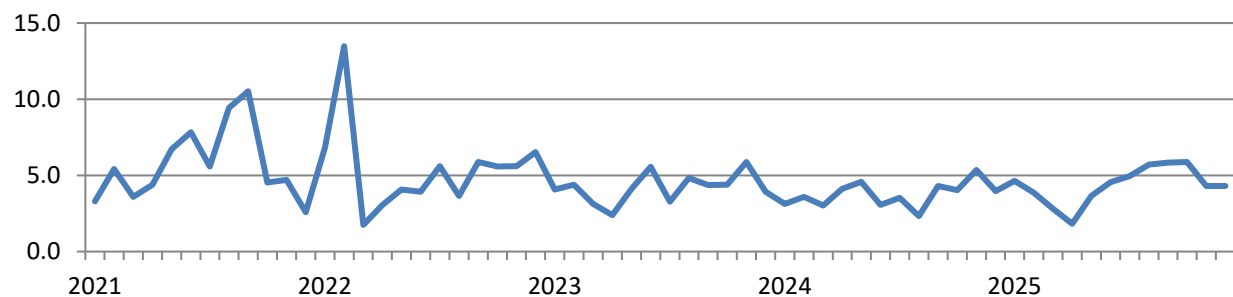
BOD5 mg/L



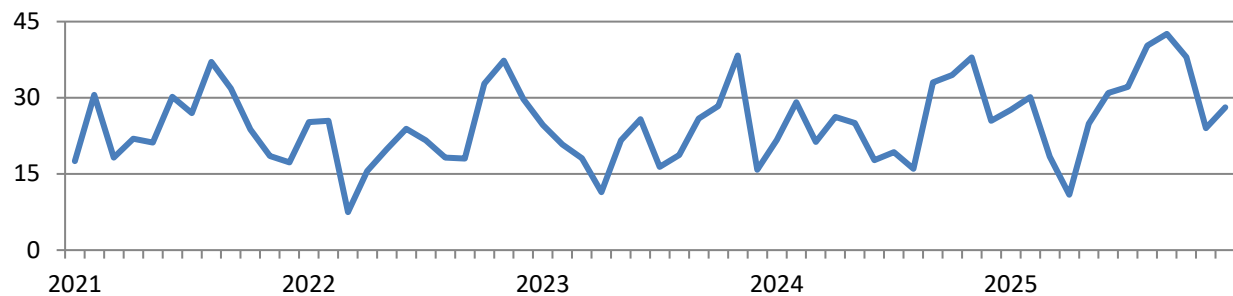
Total Suspended Solids mg/L



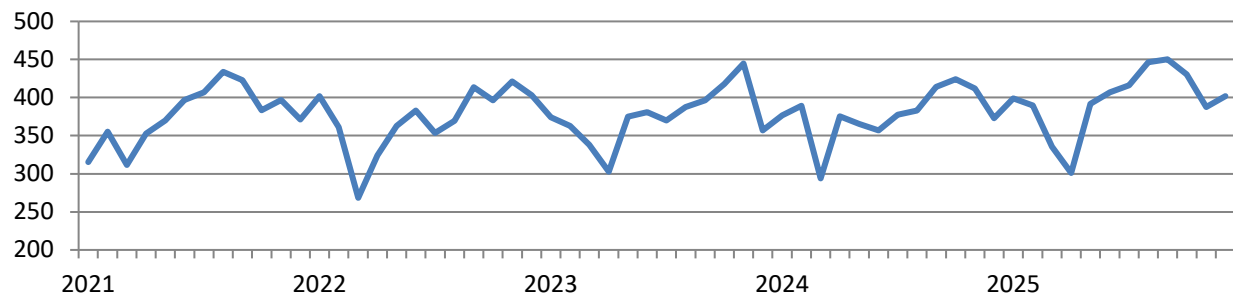
Total Phosphorus mg/L



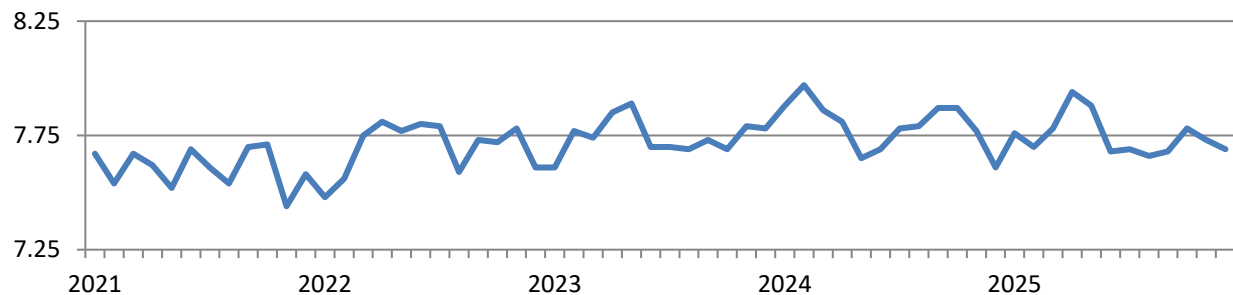
Total Ammonia Nitrogen mg/L



Alkalinity mg/L



pH



6 Effluent Quality

6.1 Effluent Quality Assurance and Control Measures Taken

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

Operators complete in-house rounds and routine 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 samples collected during the reporting period to meet legislated sampling requirements are submitted to Caduceon 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.

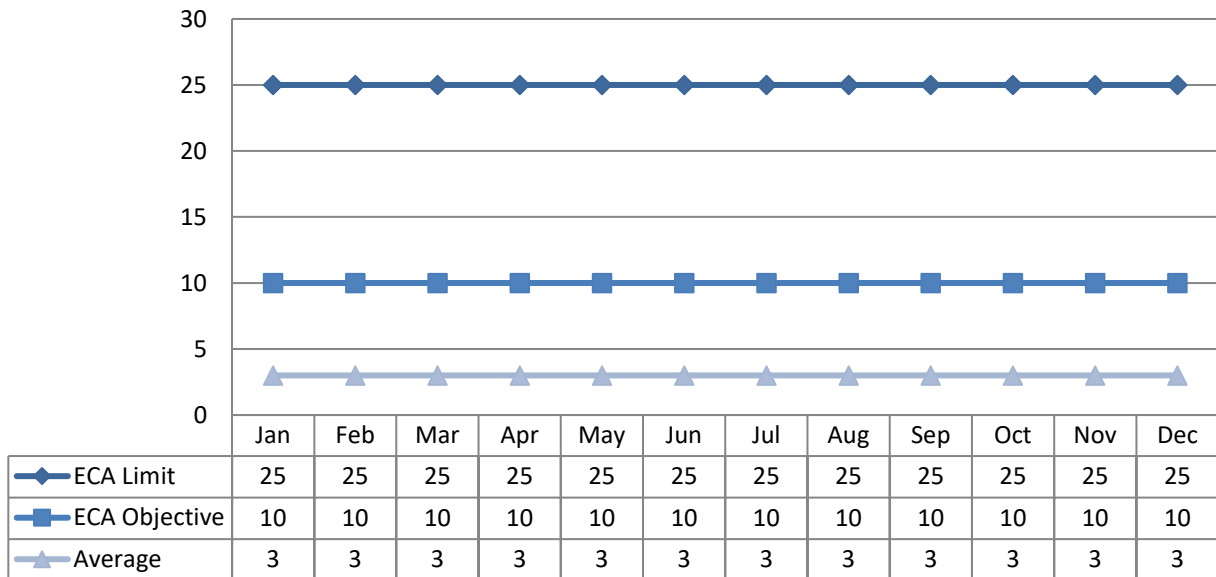
The operations team also has access to a network of operational compliance and process specialists to assist for emerging process issues. This aids in establishing additional control measures to ensure a quality effluent product. Detailed individual sample results for both raw sewage and final effluent can be found in Appendix A.

6.2 CBOD₅

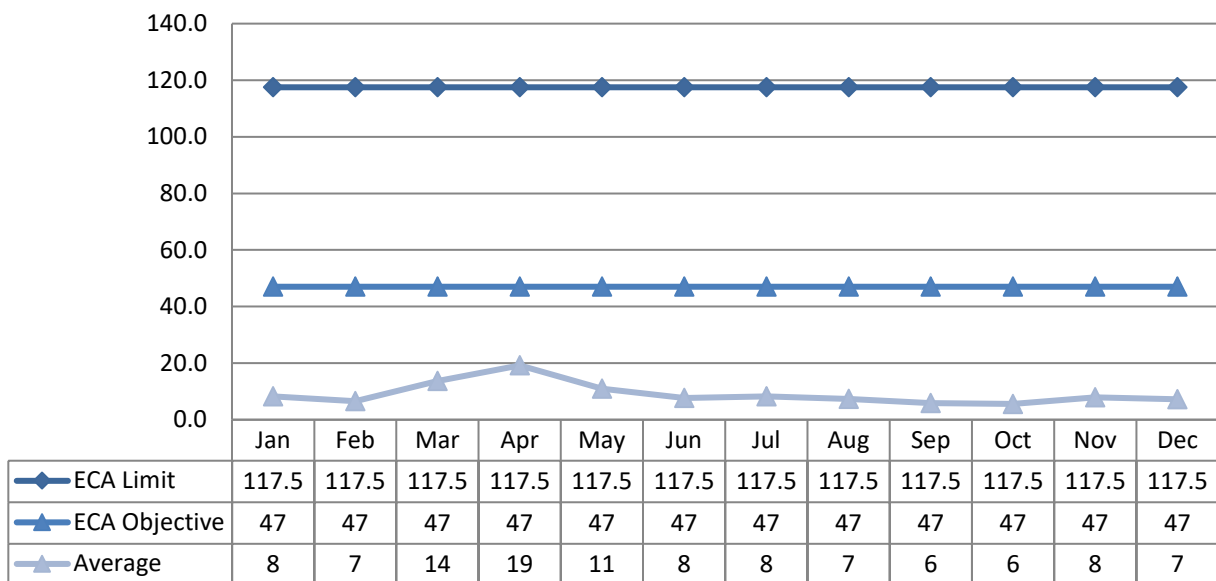
Compliance concentration and loading Limits for this parameter were MET.

Compliance concentration and loading Objectives for this parameter were MET.

6.2.1 Concentration (mg/L)



6.2.2 Loading (kg/d)

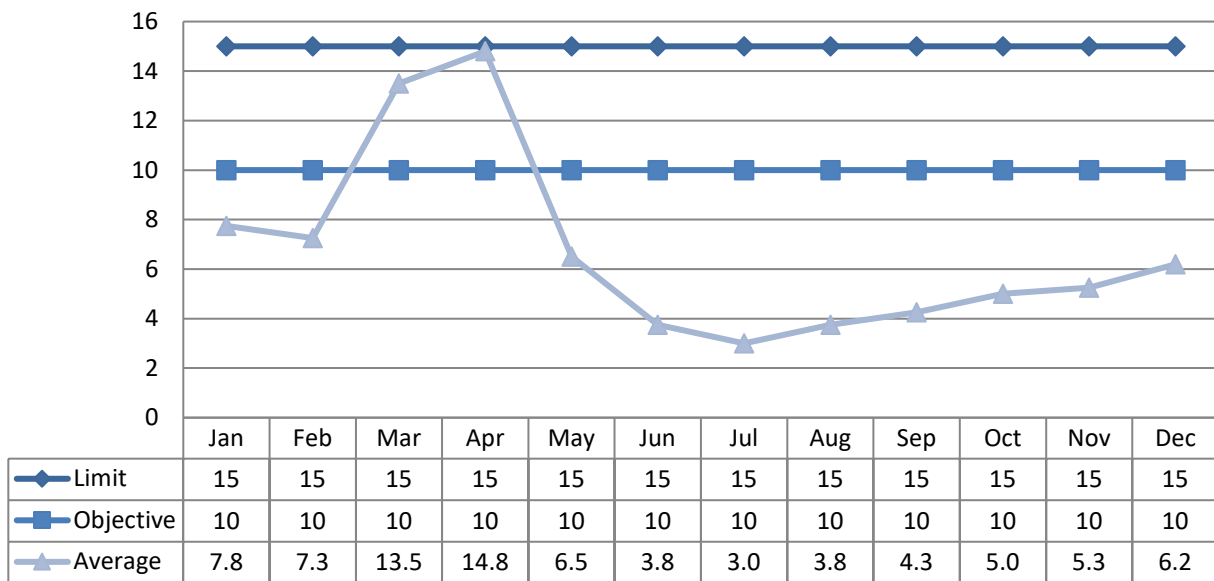


6.3 Total Suspended Solids

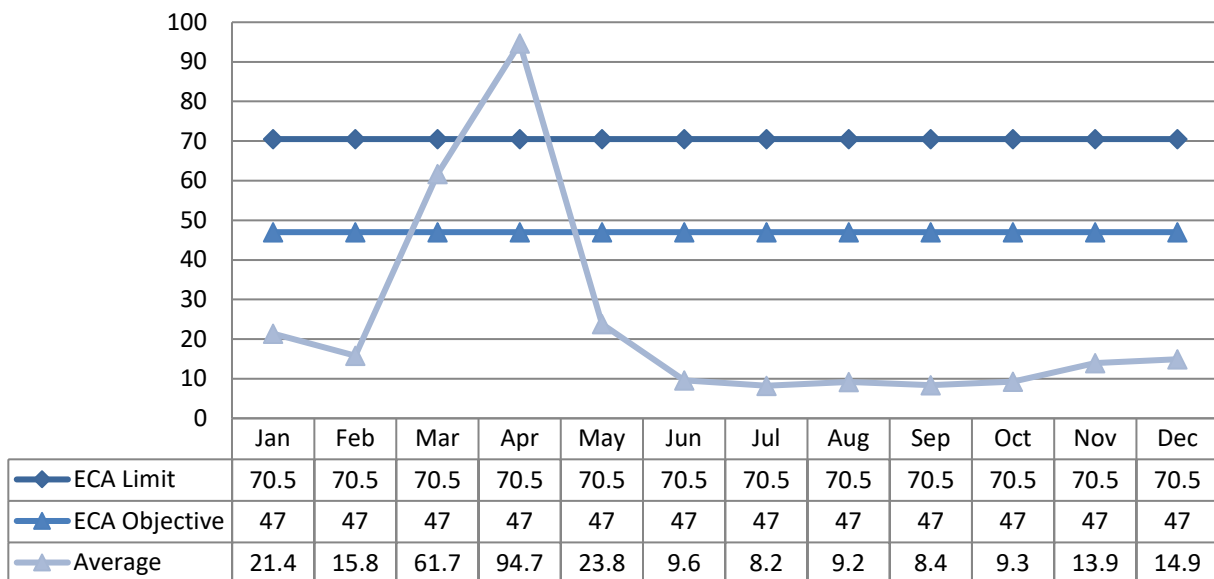
Compliance concentration Limit for this parameter was MET. Compliance loading Limit was not met in April.

Compliance concentration and loading Objectives for this parameter were NOT MET in March and April. These exceedances are directly related to high flow events.

6.3.1 Concentration (mg/L)



6.3.2 Loading (kg/d)

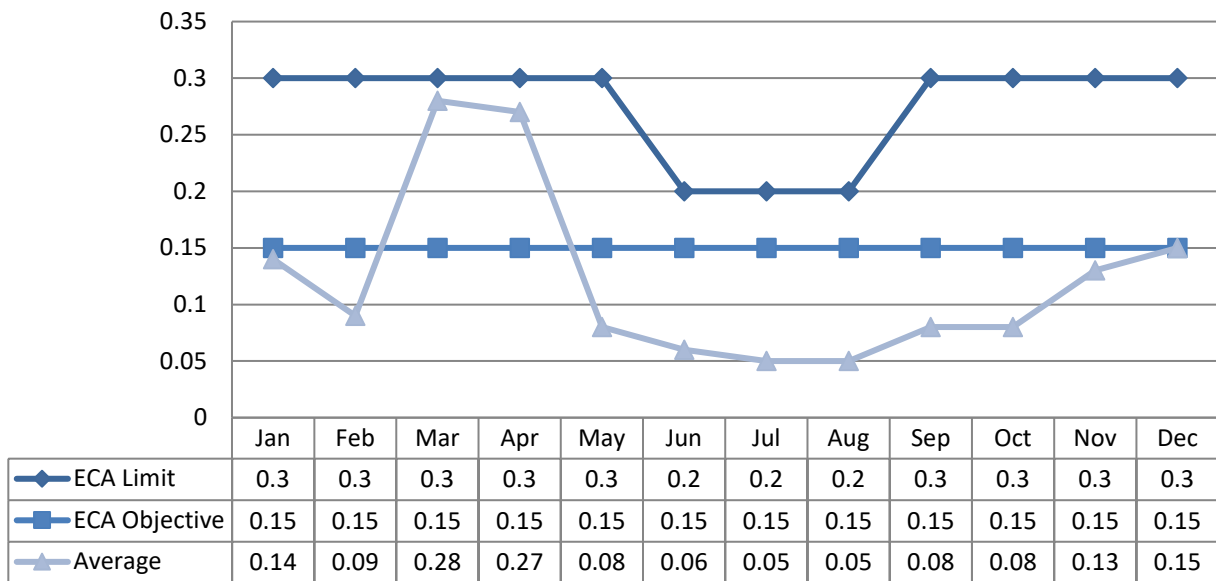


6.4 Total Phosphorus

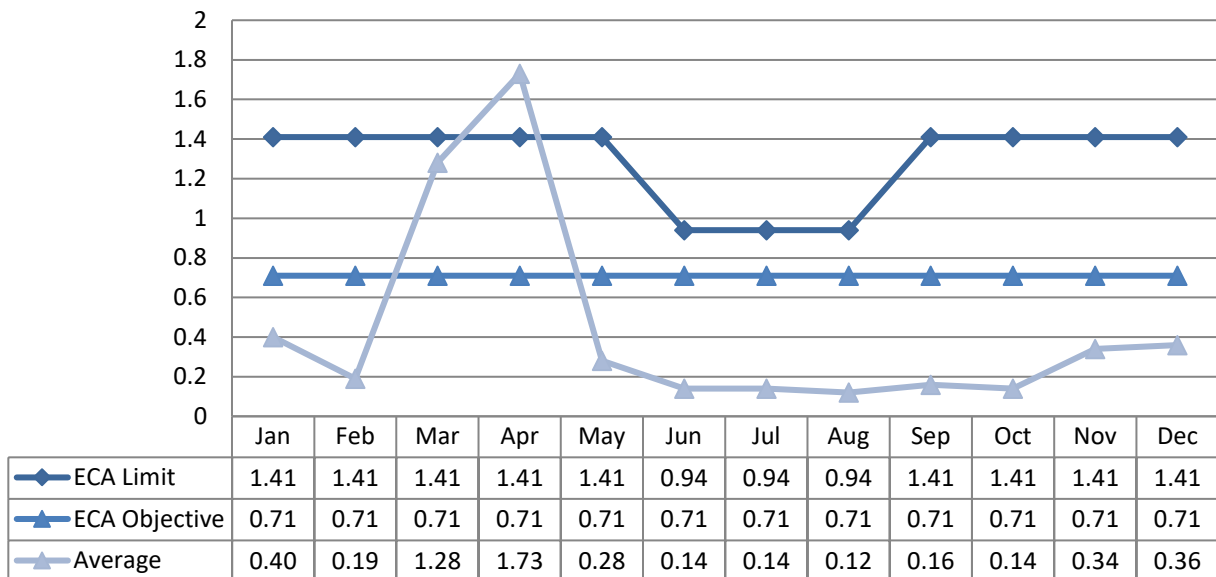
Compliance concentration and loading Limits for this parameter were MET.

Concentration Objective for this parameter was NOT MET March, April and December, and loadings Objective was not met March and April.

6.4.1 Concentration (mg/L)



6.4.2 Loading (kg/d)

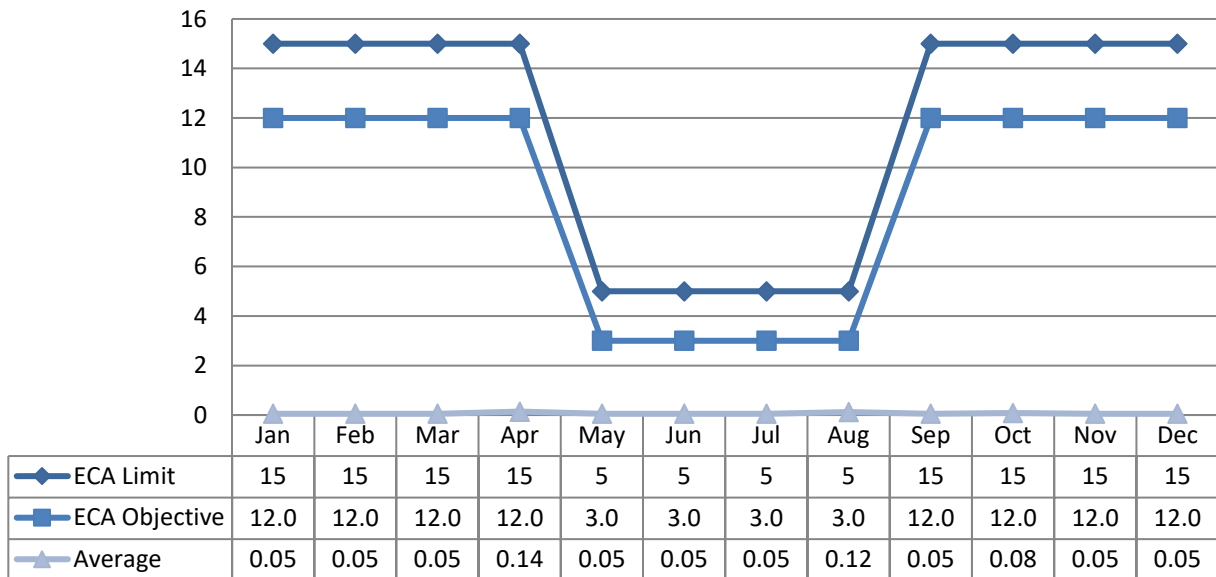


6.5 Total Ammonia Nitrogen

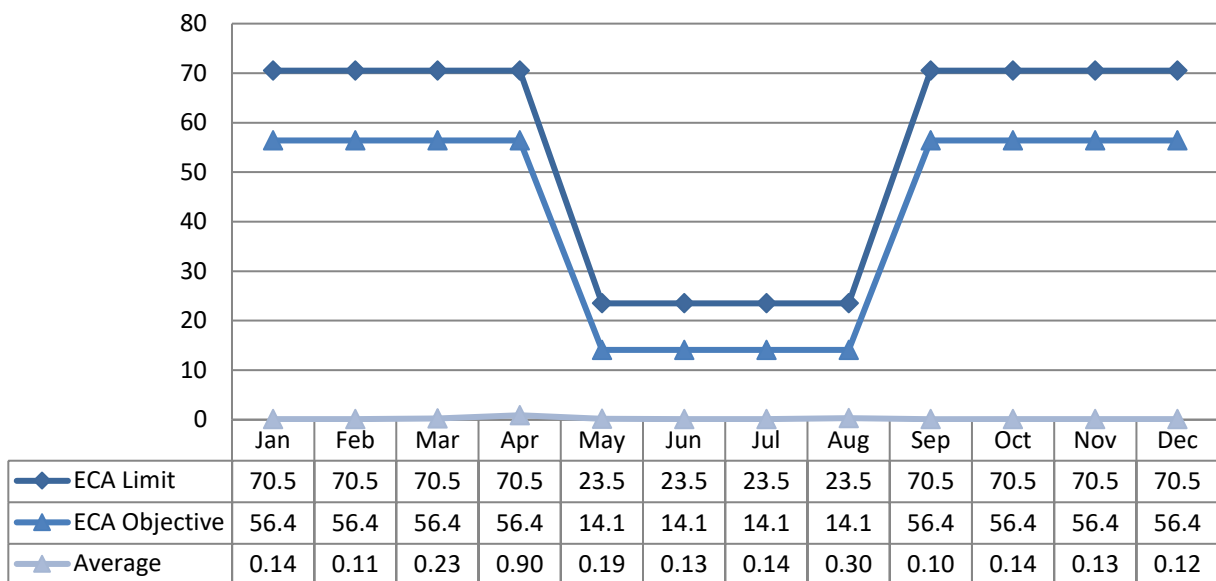
Compliance concentration and loading Limits for this parameter were MET.

Compliance concentration and loading Objectives for this parameter were MET.

6.5.1 Concentration (mg/L)



6.5.2 Loading (kg/d)

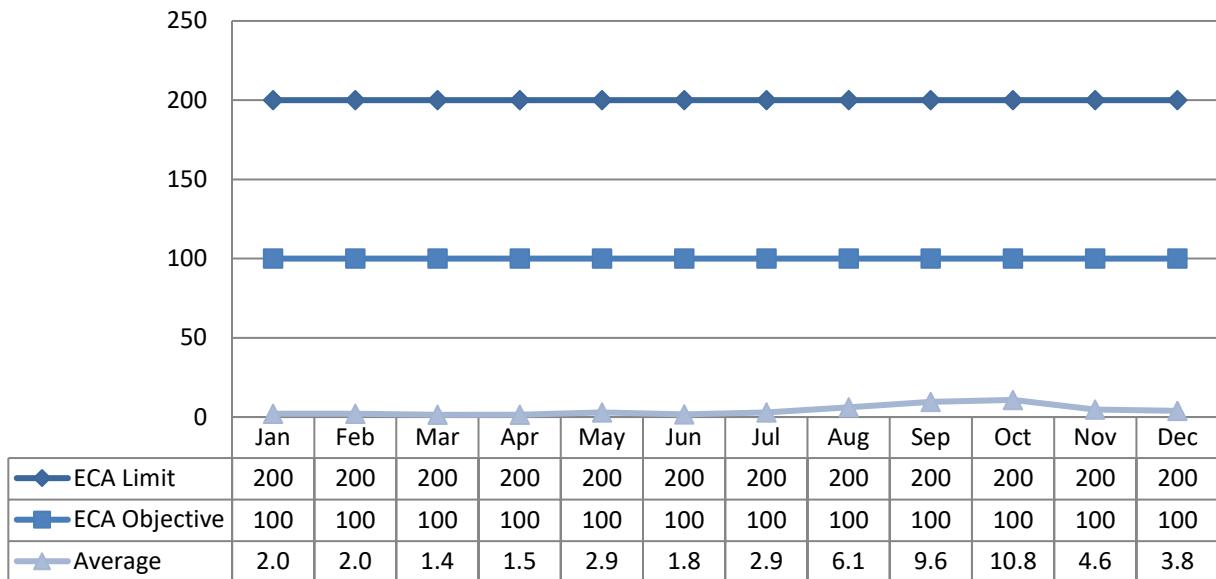


6.6 E-coli

Compliance Limit for this parameter was MET.

Compliance Objective for this parameter was MET.

6.6.1 Geometric Mean (cfu/100mL)

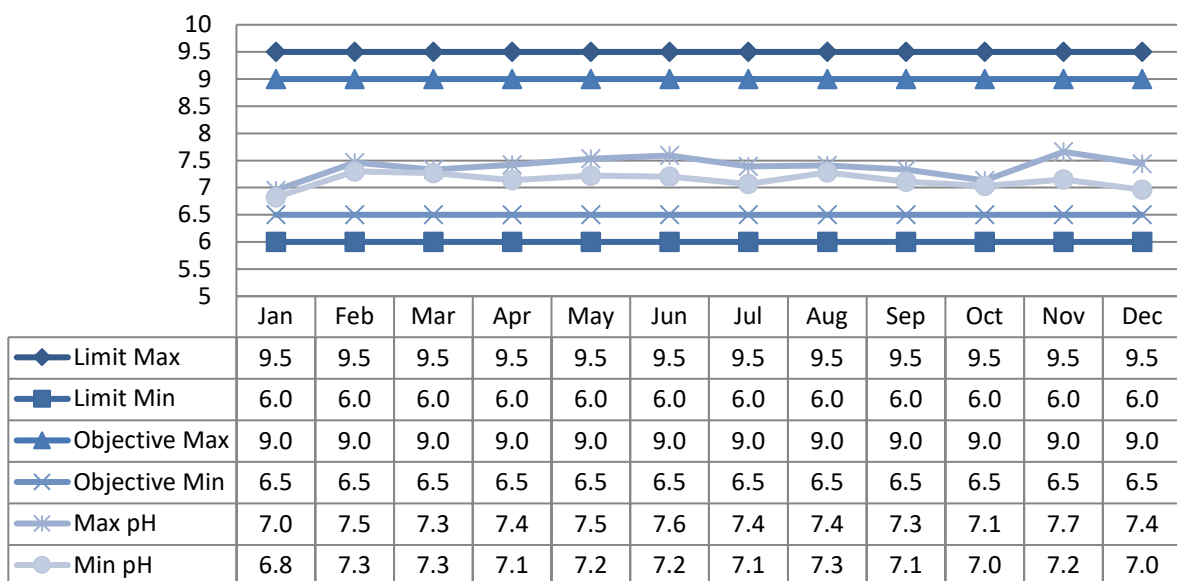


6.7 pH

Compliance Limit range for this parameter is 6.0-9.5, compliance was MET.

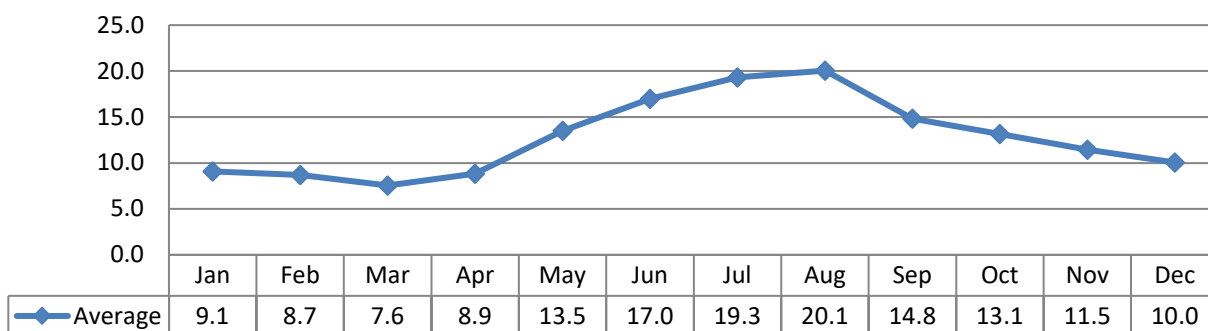
Compliance Objective range for this parameter is 6.5-9.0, compliance was MET.

6.7.1 pH Range



6.8 Temperature

There are no compliance limits in relation to 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	March 4 th , 2025	0%	0%
2 nd Quarter	May 28 th , 2025	0%	0%
3 rd Quarter	August 6 th , 2025	0%	0%
4 th Quarter	November 18 th , 2025	0%	0%

7 Operating Issues/Problems

CBOD5, Total Ammonia Nitrogen, E.Coli and pH compliance limits and objectives were met for all months in 2025. Total suspended solids (TSS) and total phosphorous (TP) concentrations were within the compliance limits for all months, but the loadings limits were exceeded in April due to spring high flow events. It is noted that ECA loading limits are calculated using the effluent limit concentration at average day flow.

Extreme rain and snow melt caused influent flows to exceed 18,000 m³/day, although a peak flow of 9,229 m³/day was processed through the plant, as half of the flows were diverted to the attenuation pond to reduce the hydraulic loading on the facility. At this point the attenuation pond was nearing its maximum height, and a contingency plan to divert some flow to the next lagoon Cell C was made in conjunction with Ministry approval in the event the attenuation pond was unable to hold any more flow. In preparation for this, water from Cell C was transferred to Cell B to make room for overflow. No flow was discharged from the attenuation pond to Cell C. Due to the higher flows, suspended solid, and phosphorous concentrations, the TSS and TP loadings were over the limit for April. After the event,

concentration and loadings returned to normal levels.

There were two disinfection bypasses reported, one from a brown out (power blip), and one from a loaded generator transfer, both causing the UV lights to turn off briefly. These are normal occurrences as power transfer from grid to generator is not instantaneous. Through discussion with the Ministry, it was determined brief power outages during power transfer to generator, or minor brown outs are not considered a reportable event if less than fifteen minutes in duration. There were no UV equipment failures during either of these events.

In May, both filtrate tank pumps failed, resulting in a filtrate tank bypass. Filtrate tank pump #2 was taken out of service for repair on May 14th, and replaced with a spare pump. The replacement pump operated at a lower rate, resulting in extended run times without successfully pumping the tank down, and was also taken out of service on May 22nd. On May 24th the remaining online pump #1 faulted due to a tripped leak detection sensor. This resulted in the filtrate tank level increasing and flowing out the bypass pipe, which feeds directly to the UV Channel prior to the UV lights. Pump #1 was inspected, repaired and restored to service immediately, and successfully pumped the tank level down. Pump #2 required parts for repair and was returned to service once the parts arrived.

7.1 Effluent Quality Non-Compliance Summary

Date	Exceedance of	Limit	Value	Corrective Action
April 2025	Total Suspended Solids Loading Limits	70.5 kg/day	94.7 kg/day	Exceedances are related to high flow events. During the events, excessive flows were sent to the attenuation pond, while flow through the plant was optimized. Due to the hydraulic overloading, clarifier sludge blankets were carried into tertiary filters and contributed suspended solids and phosphorous to the Final Effluent. Filter maintenance was ongoing throughout the month, and as high flows subsided the Total Suspended Solids and Phosphorous loadings returned to normal levels.
April 2025	Total Phosphorous Loading Limit	1.41 kg/day	1.73 kg/day	

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 C.

7.3 Spills (Other than Sewage)

Date	Location	Details	Volume (m)	Start and End Time	Duration (h)	Discharge Receiver	Disinfection Provided
May 24 th	Filtrate Tank	Filtrate Tank pumps failed, filtrate spilled over into the UV channel prior to the UV lights.	141.65	09:28 to 10:59	1.5	Mississippi River	Yes
September 17 th	UV Channel	Disinfection system bypass from a loaded generator transfer. As power was transferred to the generator, power was lost to the UV system briefly.	24	09:55 to 10:05	10 minutes	Mississippi River	No
December 30 th	UV Channel	Two power blips caused the plant processes to lose power briefly. The UV disinfection system lost power at 17:11 for 47 seconds, and again at 17:15 for 15 seconds. The time the power was out was too short for the generator to turn on.	2.1	17:11 to 17:16	1 minute, 2 seconds	Mississippi River	No

8 Maintenance

Routine planned maintenance activities are scheduled in WMS and include:

- 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 issues.

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.

Investigation into the Final Effluent service water system and minor plumbing maintenance was conducted, with the aim to bring this system back online. Y-strainers were installed on the effluent service water pump discharge, and the polymer carry water and makeup lines for Fournier Press and Disk Thickener were separated from the effluent discharge lines, so polymer systems will run off distribution service water only. Replacement effluent service water pumps and VFDs are under consideration for 2026 maintenance.

8.1 Normal Maintenance and Repairs

Work Order	Details
4337914	Heat Pump 2 Bearing Replacement
4337907	Heat Pump Motor Vibration Analysis
4338456	Pump M-921 Bearing Inspection
4339166	Bearing Replacement HP#2A and HP#3
4339505	TSS/ DO probe Replacement
4378467	Thermaer #2 Replace Motor Bearings and Alignment
4485985	Fournier Press #1 Feed Valve Cleaning
4485103	Filter Train E Drain Line Unplugged
4426689	Influent Sampler Fridge Refurbished
4508134	Pressure Washer Wand Repair
4552809	Filtrate Pump #1 Repair
4488023	Sludge Pump Fournier Press #1 Inspection and Line Cleaning
4427871	SNDR Drain Valve Clean and Lubricate
4486506	Rebuild Disk Thickener Spare Polymer Pump
4607778	Sludge Pump Fournier Press #1 Rotor and Stator Replacement
4608777	CP7 HMI Failure - Logic Rebuild
4552808	Unplug Floor Drain Fournier Press #1
4554659	Filtrate Pump #2 Inspection and Impellor Adjustment
4817200	Influent Sampler Coupling Repair
4863287	UV Bank 1A Cable Replacement
4485075	Wash Press Unplugged
4862358	Clarifier #2 Shear Pin Replacement
4664911	Transfer Pump #1 Seal Adjustment and Oil Change
4817441	Blower Valve FV-1253 Repair

Work Order	Details
4335552	New pH Handheld Analyzer and Probe
4607610	HACH Annual Analyzer Service
4425731	Annual Fire System Inspection
4428474	Final Effluent Sampler Replacement
4378878	Aeration 2 DO and TSS Probe Purchase
4554921	Backflow Preventer Annual Service
607323	Handheld Gas Detector and Calibration Tank Replacement
4864311	Service Water System Logic Optimization
4759729	Lifting Devices Inspection
4764827	UV Bulbs and Sleeves Purchase
4489853	Floor Stripping and Waxing
4816246	Raw Channel and Filtrate Tank Clean Outs

8.2 Emergency Maintenance and Repairs

Work Order	Details
4337647	Boiler Water Pump Replacements and Repairs
4337648	Boiler 2 water pump Replacement
4760977	Attenuation Pump 1 Auto Control SCADA Program Repair
4761229	Grit Vortex Water Solenoid Valve Replacement
4425720	Air Compressor Blow Off Valve Replacement
4428802	Raw Influent Sampler Refurbishment
4485038	Atlas Dewatering Lagoon Pump Rental
4554719	Repair Filtrate pump #2
4908150	Fournier Press Logic and UPS Failure Repair
4707867	Fire Alarm Panel Loop Fault Repairs
4709253	CP 7 Logic Control Rebuild
4815633	Headworks Oxygen Sensor Replacement
4818676	Clarifier 2 Chain and Flight Repair
4608305	SNDR VFD and CP 7 Communication and Integration Repair

8.3 Flow Meter Calibrations and Maintenance

Location	Date of Calibration	Additional Maintenance
FIT-310 Septage Inlet Grinder	January 15, 2025	NA
FIT-350 Septage Outlet	January 15, 2025	NA
FIT-611 RAS 1	January 15, 2025	NA
FIT-631 RAS 3	January 15, 2025	NA
FIT-621 RAS 2	January 15, 2025	NA

Location	Date of Calibration	Additional Maintenance
FIT-612 WAS 1	January 15, 2025	NA
FIT-622 WAS 2	January 15, 2025	NA
FIT-632 WAS 3	January 15, 2025	NA
FIT-750 Filtrate Tank	January 15, 2025	NA
FIT-1091 Service Water	January 15, 2025	NA
FIT-405 Attenuation Pumps	January 15, 2025	NA
FIT-946 Fournier Press #1 Polymer	January 15, 2025	NA
FIT-940 Fournier Press #1 Sludge	January 15, 2025	NA
FIT-956 Fournier Press #2 Polymer	January 15, 2025	NA
FIT-950 Fournier Press #2 Sludge	January 15, 2025	NA
FIT-470 Raw Sewage Vortex #1	January 15, 2025	NA
FIT-480 Raw Sewage Vortex #2	January 15, 2025	NA
FIT-01 White Tail Ridge SPS	January 15, 2025	NA
FIT-700 Sludge Flow	January 15, 2025	NA
FIT-1180 Final Effluent	January 15, 2025	NA

8.4 Notice of Modifications

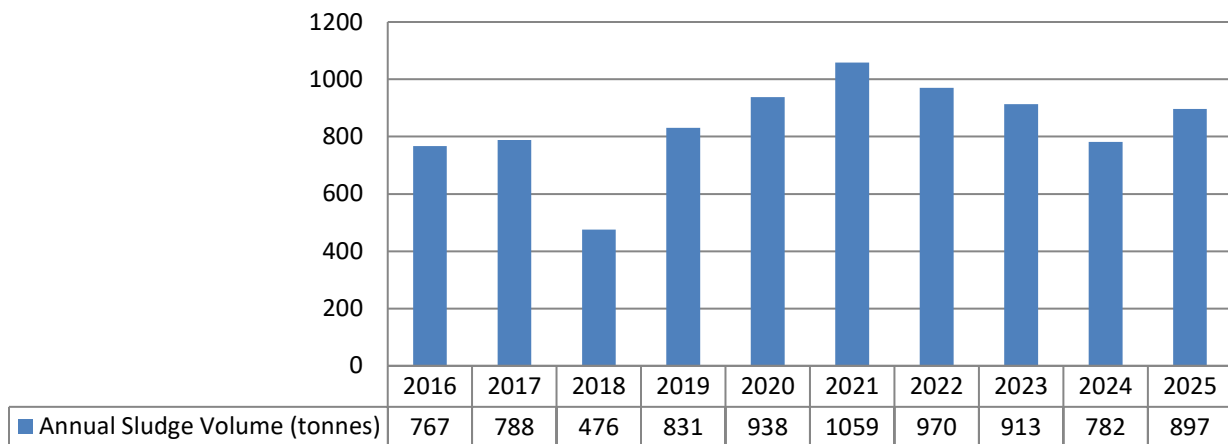
Date	Process	Modification	Status
May 29, 2025	Attenuation Pond	Attenuation pond berm built to access the attenuation pond flow outlet for maintenance.	Completed

9 Sludge Generation

9.1 Sludge Disposal Summary

Date	Disposal Location	Approval Number	Metric Tonnes
May 21, 2025	Cochrane Farms	60929	248.85
May 28, 2025	Cochrane Farms	60929	208.41
November 19, 2025	Lingerlane Farm	60926	219.00
November 20, 2025	Lingerlane Farm	60926	220.26
Total			896.52

9.2 Annual Comparison (Metric Tonnes/year)



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

10 Summary of Complaints

Location	Date	Nature of Complaint	Actions Taken
There were no Complaints during the reporting period.			

11 Collection System Highlights

The CLI-ECA is prepared by the Town of Mississippi Mills.

Appendix A – Performance Assessment Report and Raw Data

Performance Assessment Report

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

03/12/2026

Page 1 of 1

5678 MISSISSIPPI MILLS WASTEWATER TREATMENT FACILITY 110000873

	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 m ³ /d	96,064.87	75,291.86	161,197.58	232,393.10	122,806.50	90,463.80	79,906.58	79,337.16	82,419.25	92,975.17	111,211.25	108,806.17	1,332,873.29			0.00
Raw Flow: Avg - Raw Sewage m ³ /d	3,098.87	2,689.00	5,199.92	7,746.44	3,961.50	3,015.46	2,577.63	2,559.26	2,747.31	2,999.20	3,707.04	3,509.88		3,651.71		4,700.00
Raw Flow: Max - Raw Sewage m ³ /d	5,665.66	4,545.71	16,853.39	18,072.19	6,292.50	4,227.98	3,538.52	3,656.15	2,966.59	5,779.01	4,891.52	4,832.24			18,072.19	0.00
Raw Flow: Count - Raw Sewage m ³ /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 m ³ /d	85,463.33	60,918.40	141,603.35	191,864.36	113,683.71	76,829.83	85,022.65	76,137.56	59,142.14	57,678.72	79,546.20	74,640.76	1,102,531.01			0.00
Eff. Flow: Avg - Final Effluent m ³ /d	2,756.88	2,175.66	4,567.85	6,395.48	3,667.22	2,560.99	2,742.67	2,456.05	1,971.40	1,860.60	2,651.54	2,407.77		3,020.63		0.00
Eff. Flow: Max - Final Effluent m ³ /d	4,518.40	2,409.70	9,044.09	9,229.25	5,988.48	3,102.78	3,501.16	3,122.79	2,296.50	3,332.89	4,088.00	5,288.33			9,229.25	0.00
Eff Flow: Count - Final Effluent m ³ /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: # of samples of cBOD5 - Raw Sewage	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	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00		3.00		25.00
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	8.271	6.527	13.704	19.186	11.002	7.683	8.228	7.368	5.914	5.582	7.955	7.223		9.06	19.19	117.500
Percent Removal: cBOD5 - Raw Sewage %	97.20	97.19	95.64	92.82	96.62	97.58	97.91	98.16	98.27	98.30	97.29	96.99		97.00	98.30	0.00
Biochemical Oxygen Demand: BOD5																
Raw: # of samples of BOD5 - Raw Sewage	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	3.25	3.25	3.20	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.40		3.10	3.40	0.00
Loading: BOD5 - Final Effluent kg/d	8.271	7.071	14.846	20.466	11.002	7.683	8.228	7.368	5.914	5.582	7.955	8.186		9.35	20.47	0.00
Percent Removal: BOD5 - Raw Sewage %	98.39	98.08	97.70	96.11	97.67	98.16	98.52	98.57	98.94	98.69	98.23	98.27		98.11	98.94	0.00
Total Suspended Solids: TSS																
Raw: Avg TSS - Raw Sewage mg/L	142.00	170.50	147.75	104.20	151.00	397.50	197.40	242.50	258.75	251.00	157.50	154.00		196.21	397.50	0.00
Raw: # of samples of TSS - Raw Sewage	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	7.75	7.25	13.50	14.80	6.50	3.75	3.00	3.75	4.25	5.00	5.25	6.20		6.79	14.80	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	21.366	15.774	61.666	94.653	23.837	9.604	8.228	9.210	8.378	9.303	13.921	14.928		20.51	94.65	70.500
Percent Removal: TSS - Raw Sewage %	94.54	95.75	90.86	85.80	95.70	99.06	98.48	98.45	98.36	98.01	96.67	95.97		95.64	99.06	0.00
Total Phosphorus: TP																
Raw: Avg TP - Raw Sewage mg/L	4.64	3.87	2.82	1.82	3.65	4.56	4.95	5.71	5.84	5.88	4.30	4.30		4.35	5.88	0.00
Raw: # of samples of TP - Raw Sewage	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	0.15	0.09	0.28	0.27	0.08	0.06	0.05	0.05	0.08	0.08	0.13	0.15		0.13	0.28	0.30
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	0.400	0.190	1.279	1.727	0.284	0.141	0.143	0.123	0.158	0.145	0.338	0.356		0.38	1.73	1.410
Percent Removal: TP - Raw Sewage %	96.87	97.74	90.07	85.13	97.88	98.79	98.95	99.12	98.63	98.67	97.03	96.56		96.29	99.12	0.00
Nitrogen Series																
Raw: Avg TKN - Raw Sewage mg/L	38.70	37.75	25.33	16.64	32.03	40.18	43.12	55.38	59.18	50.38	36.28	39.56		39.38	59.18	0.00
Raw: # of samples of TKN - Raw Sewage	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	0.05	0.05	0.05	0.14	0.05	0.05	0.05	0.12	0.05	0.08	0.05	0.05		0.07	0.14	15.00
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	0.145	0.109	0.228	0.895	0.193	0.128	0.137	0.301	0.103	0.145	0.133	0.120		0.20	0.90	70.500
Disinfection																
Eff: GMD E. Coli - Final Effluent cfu/100mL	2.00	2.00	1.41	1.52	2.91	1.78	2.91	6.07	9.64	10.81	4.82	3.84				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

Raw Influent Lab Data 2025										
Date	CBOD5 mg/L	Total Phosphorous mg/L	Total Suspended Solids mg/L	Dissolved Reactive Phosphate/Orthophosphate mg/L	Total Keildjal Nitrogen mg/L	Total Ammonia Nitrogen mg/L	Nitrite mg/L	Nitrate mg/L	Alkalinity	pH
01/07/2025	56.00	3.07	78.00	1.58	28.80	20.90	0.40	0.40	373.00	7.82
01/14/2025	99.00	4.06	74.00	2.09	39.60	26.10	0.40	0.40	388.00	7.80
01/21/2025	120.00	3.97	206.00	2.90	40.90	29.00	0.40	0.40	399.00	7.71
01/28/2025	154.00	7.44	210.00	5.97	45.50	34.30	0.40	0.40	435.00	7.72
02/04/2025	133.00	4.85	255.00	3.90	46.80	39.30	0.40	0.40	415.00	7.75
02/11/2025	121.00	3.93	165.00	2.65	38.60	31.60	0.40	0.40	398.00	7.73
02/19/2025	113.00	3.71	90.00	2.59	37.20	29.40	0.40	0.40	393.00	7.61
02/25/2025	60.00	3.00	172.00	2.60	28.40	20.30	1.00	1.00	353.00	7.71
03/04/2025	118.00	5.31	280.00	2.87	45.60	33.50	0.40	0.40	420.00	7.81
03/11/2025	83.00	3.14	160.00	1.88	29.10	22.10	0.40	0.40	349.00	7.59
03/18/2025	25.00	0.98	45.00	0.44	9.30	5.00	0.40	3.09	252.00	7.91
03/25/2025	49.00	1.85	106.00	0.79	17.30	13.10	1.04	0.40	321.00	7.81
04/01/2025	33.00	1.64	82.00	0.62	12.20	6.13	0.40	2.00	235.00	7.86
04/08/2025	29.00	1.93	130.00	1.46	17.70	12.50	0.83	0.40	325.00	8.02
04/15/2025	62.00	1.81	92.00	0.71	17.00	12.40	0.40	0.40	331.00	7.95
04/23/2025	44.00	2.00	102.00	0.83	18.70	12.20	0.40	0.40	308.00	7.94
04/29/2025	41.00	1.70	115.00	0.73	17.60	11.40	0.05	0.05	306.00	7.92
05/06/2025	62.00	2.54	110.00	1.36	22.80	17.00	0.05	0.05	361.00	7.93
05/13/2025	100.00	2.91	140.00	1.88	27.50	22.70	0.40	0.41	391.00	7.91
05/21/2025	91.00	4.61	174.00	1.73	40.00	34.30	0.40	0.40	410.00	7.81
05/27/2025	102.00	4.55	180.00	2.50	37.80	25.60	0.05	0.05	405.00	7.85
06/03/2025	139.00	3.47	270.00	2.27	37.50	29.00	0.05	0.60	403.00	7.69
06/10/2025	106.00	5.05	260.00	2.34	39.10	26.90	0.40	0.40	383.00	7.59
06/17/2025	149.00	5.47	700.00	3.57	47.50	38.20	0.40	0.40	445.00	7.65
06/24/2025	101.00	4.26	360.00	2.54	36.60	29.60	0.40	0.40	396.00	7.80
07/03/2025	133.00	4.44	100.00	2.94	39.00	34.90	0.41	0.46	414.00	7.56

Raw Influent Lab Data 2025										
Date	CBOD5 mg/L	Total Phosphorous mg/L	Total Suspended Solids mg/L	Dissolved Reactive Phosphate/Or thophosphate mg/L	Total Keildjal Nitrogen mg/L	Total Ammonia Nitrogen mg/L	Nitrite mg/L	Nitrate mg/L	Alkalinity	pH
07/09/2025	90.00	4.54	200.00	2.57	44.10	30.40	0.40	0.40	410.00	7.63
07/15/2025	149.00	4.82	215.00	3.04	42.70	32.40	0.40	0.40	422.00	7.67
07/22/2025	183.00	5.69	280.00	3.27	46.20	33.20	0.40	0.40	425.00	8.05
07/29/2025	162.00	5.27	192.00	3.00	43.60	29.80	0.40	0.40	410.00	7.56
08/06/2025	152.00	4.75	210.00	3.19	46.40	36.10	0.40	0.40	429.00	7.62
08/12/2025	184.00	7.85	370.00	4.25	74.60	49.90	0.43	0.40	486.00	7.66
08/19/2025	175.00	5.59	215.00	3.54	54.00	40.60	0.35	0.20	448.00	7.69
08/26/2025	140.00	4.64	175.00	2.53	46.50	34.40	0.40	0.40	422.00	7.65
09/03/2025	181.00	7.21	260.00	5.63	89.10	62.60	0.40	0.40	510.00	7.47
09/09/2025	187.00	5.20	270.00	3.58	48.60	36.20	0.40	0.40	447.00	7.77
09/16/2025	167.00	5.37	315.00	2.61	50.30	35.70	0.40	0.40	423.00	7.78
09/23/2025	158.00	5.56	190.00	0.38	48.70	35.80	1.03	0.40	421.00	7.70
10/02/2025	184.00	5.98	250.00	4.11	49.80	43.40	0.40	0.40	456.00	7.70
10/08/2025	168.00	5.63	180.00	3.56	49.60	34.80	0.40	0.40	414.00	7.66
10/15/2025	175.00	6.28	200.00	3.91	52.90	37.60	0.40	0.91	440.00	7.84
10/21/2025	185.00	5.74	370.00	4.12	48.00	32.80	0.05	0.34	400.00	7.85
10/28/2025	171.00	5.78	255.00	3.16	51.60	41.40	0.40	0.40	442.00	7.86
11/04/2025	98.00	5.21	185.00	2.77	44.20	29.90	0.40	0.40	404.00	7.89
11/13/2025	110.00	4.56	165.00	1.70	36.30	22.00	0.40	0.40	388.00	7.58
11/18/2025	98.00	3.27	135.00	0.14	28.50	17.20	0.40	0.40	362.00	7.62
11/25/2025	137.00	4.16	145.00	2.12	36.10	26.90	0.40	0.40	397.00	7.81
12/02/2025	67.00	3.49	75.00	1.94	33.50	24.20	0.40	0.40	382.00	7.93
12/09/2025	112.00	4.37	135.00	2.35	42.20	30.60	1.06	0.40	433.00	7.70
12/16/2025	158.00	5.60	230.00	3.09	47.50	33.00	0.40	0.40	424.00	7.54
12/23/2025	65.00	3.54	125.00	1.84	32.50	21.10	0.95	0.40	367.00	7.58
12/30/2025	96.00	4.50	205.00	3.40	42.10	31.70	0.40	0.40	403.00	7.68

Final Effluent Lab Data 2025						
Date	CBOD5 mg/L	Total Suspended Solids mg/L	Total Phosphorous mg/L	Unionized Ammonia mg/L	Total Ammonia Nitrogen mg/L	E-Coli CFU
01/07/2025	3.00	10.00	0.17	0.01	0.05	2.00
01/14/2025	3.00	4.00	0.16	0.01	0.05	2.00
01/21/2025	3.00	7.00	0.12	0.01	0.05	2.00
01/28/2025	3.00	10.00	0.13	0.01	0.06	2.00
02/04/2025	3.00	7.00	0.04	0.01	0.05	2.00
02/11/2025	3.00	6.00	0.10	0.01	0.05	2.00
02/19/2025	3.00	11.00	0.14	0.01	0.05	2.00
02/25/2025	3.00	5.00	0.07	0.01	0.05	2.00
03/04/2025	3.00	7.00	0.11	0.01	0.05	2.00
03/11/2025	3.00	6.00	0.09	0.01	0.05	2.00
03/18/2025	3.00	32.00	0.72	0.01	0.05	0.00
03/25/2025	3.00	9.00	0.20	0.01	0.05	0.00
04/01/2025	3.00	24.00	0.48	0.01	0.07	0.00
04/08/2025	3.00	17.00	0.14	0.01	0.05	1.00
04/15/2025	3.00	15.00	0.24	0.01	0.16	2.00
04/23/2025	3.00	11.00	0.40	0.01	0.05	4.00
04/29/2025	3.00	7.00	0.09	0.01	0.37	1.00
05/06/2025	3.00	9.00	0.07	0.01	0.05	2.00
05/13/2025	3.00	7.00	0.09	0.01	0.06	3.00
05/21/2025	3.00	5.00	0.09	0.01	0.05	2.00
05/27/2025	3.00	5.00	0.06	0.01	0.05	6.00
06/03/2025	3.00	4.00	0.05	0.01	0.05	5.00
06/10/2025	3.00	4.00	0.07	0.01	0.05	1.00
06/17/2025	3.00	4.00	0.06	0.01	0.05	2.00
06/24/2025	3.00	3.00	0.04	0.01	0.05	0.00
07/03/2025	3.00	3.00	0.06	0.01	0.05	6.00
07/09/2025	3.00	3.00	0.05	0.01	0.05	5.00

Final Effluent Lab Data 2025						
Date	CBOD5 mg/L	Total Suspended Solids mg/L	Total Phosphorous mg/L	Unionized Ammonia mg/L	Total Ammonia Nitrogen mg/L	E-Coli CFU
07/15/2025	3.00	3.00	0.05	0.01	0.05	7.00
07/22/2025	3.00	3.00	0.05	0.01	0.05	0.00
07/29/2025	3.00	3.00	0.05	0.01	0.05	0.00
08/06/2025	3.00	3.00	0.05	0.01	0.28	10.00
08/12/2025	3.00	3.00	0.05	0.01	0.05	1.00
08/19/2025	3.00	4.00	0.05	0.01	0.11	17.00
08/26/2025	3.00	5.00	0.05	0.01	0.05	8.00
09/03/2025	3.00	7.00	0.07	0.01	0.06	77.00
09/09/2025	3.00	3.00	0.11	0.01	0.05	2.00
09/16/2025	3.00	4.00	0.05	0.01	0.05	2.00
09/23/2025	3.00	3.00	0.09	0.01	0.05	28.00
10/02/2025	3.00	4.00	0.08	0.01	0.08	6.00
10/08/2025	3.00	3.00	0.05	0.01	0.05	10.00
10/15/2025	3.00	3.00	0.04	0.01	0.05	4.00
10/21/2025	3.00	7.00	0.10	0.01	0.05	44.00
10/28/2025	3.00	8.00	0.12	0.01	0.16	14.00
11/04/2025	3.00	7.00	0.14	0.01	0.05	38.00
11/13/2025	3.00	7.00	0.14	0.01	0.05	6.00
11/18/2025	3.00	3.00	0.08	0.01	0.05	2.00
11/25/2025	3.00	4.00	0.15	0.01	0.05	0.00
12/02/2025	3.00	7.00	0.10	0.01	0.05	2.00
12/09/2025	3.00	7.00	0.14	0.01	0.05	0.00
12/16/2025	3.00	3.00	0.16	0.01	0.05	70.00
12/23/2025	3.00	10.00	0.20	0.01	0.05	3.00
12/30/2025	3.00	4.00	0.14	0.01	0.05	2.00

Final Effluent Lab Data 2024		
Date	Temperature	pH
01/07/2025	9.09	6.82
01/14/2025	10.00	6.95
01/21/2025	9.10	6.87
01/28/2025	8.09	6.89
02/04/2025	9.30	7.41
02/11/2025	9.20	7.46
02/19/2025	8.10	7.34
02/25/2025	8.20	7.30
03/04/2025	7.50	7.31
03/11/2025	8.60	7.29
03/18/2025	6.40	7.27
03/25/2025	7.70	7.33
04/01/2025	7.30	7.14
04/08/2025	7.50	7.28
04/15/2025	8.70	7.14
04/23/2025	9.67	7.42
04/29/2025	11.10	7.15
05/06/2025	12.40	7.22
05/13/2025	12.90	7.28
05/21/2025	14.60	7.53
05/27/2025	14.10	7.27
06/03/2025	14.70	7.29
06/10/2025	17.40	7.59
06/17/2025	17.50	7.20
06/24/2025	18.30	7.31
07/03/2025	19.30	7.29
07/09/2025	18.90	7.39
07/15/2025	19.40	7.30
07/22/2025	19.80	7.07
07/29/2025	19.10	7.39

Final Effluent Lab Data 2024		
Date	Temperature	pH
08/06/2025	20.70	7.28
08/12/2025	21.20	7.34
08/19/2025	20.10	7.29
08/26/2025	18.20	7.41
09/03/2025	19.80	7.33
09/09/2025	13.20	7.18
09/16/2025	13.70	7.17
09/23/2025	12.60	7.11
10/02/2025	10.40	7.06
10/08/2025	12.80	7.07
10/15/2025	12.50	7.13
10/21/2025	17.50	7.03
10/28/2025	12.50	7.11
11/04/2025	12.00	7.23
11/13/2025	11.50	7.31
11/18/2025	10.90	7.66
11/25/2025	11.40	7.15
12/02/2025	10.80	7.44
12/09/2025	9.40	7.04
12/16/2025	10.20	7.16
12/23/2025	10.10	7.32
12/30/2025	9.70	6.96

Appendix B - Biosolids Quality Report

Solids and Nutrients

Customized Monthly Vertical Report

From 01/01/2025 to 12/31/2025

Facility Name: MISSISSIPPI MILLS WASTEWATER
TREATMENT FACILITY

Receiver: Mississippi River

Facility Org Number: 5678

Facility Owner: Municipality: Municipality of Mississippi Mills

Service Population:

Works: 110000873

Facility Classification: Class 3 Wastewater Treatment

Total Design Capacity: 14100 m³/day

[illegible]

Metals

Customized Monthly Vertical Report

Facility Name: MISSISSIPPI MILLS WASTEWATER

TREATMENT FACILITY

Receiver: Mississippi River

Facility Org Number: 5678

Facility Owner: Municipality: Municipality of

Mississippi Mills

Service Population:

Works: 110000873

Facility Classification: Class 3 Wastewater Treatment

Total Design Capacity: 14100 m³/day

From 01/01/2025 to 12/31/2025

[illegible]

Appendix C - Details of Abnormal Sewage Discharge Events

Date	Location	Details	Volume (m)	Start and End Time	Duration (h)	Discharge Receiver	Disinfection Provided
No Facility Spills of Sewage events during the reporting period							

Date	Location	Details	Volume (m³)	Start Time	End Time	Duration (h)	Discharge Receiver	Disinfection Provided
No Facility Bypass events during the reporting period.								

Date	Location	Details	Volume (m³)	Start Time	End Time	Duration (h)	Discharge Receiver	Disinfection Provided
No Facility Overflow event during the reporting period.								

Appendix D - ECA Annual Report Requirements

Facility ECA # 1637-AC8NT7 - Section 9 (4)	Section in Report
(a) a summary and interpretation of all monitoring data and a comparison to the effluent limits outlined in Condition 6, including an overview of the success and adequacy of the Works;	See Raw Sewage Quality, Imported Waste Quality and Effluent Quality
(b) a description of any operating problems encountered and corrective actions taken;	See Operating Issues/Problems
(c) a summary of all maintenance carried out on any major structure, equipment, apparatus, mechanism or thing forming part of the Works;	See Maintenance
(d) a summary of any effluent quality assurance or control measures undertaken in the reporting period;	See Effluent Quality
(e) a summary of the calibration and maintenance carried out on all effluent monitoring equipment;	See Maintenance
(f) a description of efforts made and results achieved in meeting the Effluent Objectives of Condition 5;	See Effluent Quality
(g) a tabulation of the volume of sludge removed from the Works during the reporting period and a summary of the locations to where the sludge was disposed;	See Sludge Generation
(h) a summary of any complaints received during the reporting period and any steps taken to address the complaints;	See Summary of Complaints
(i) a summary of all by-pass, spill or abnormal discharge events; and	See Appendix D
(j) a copy of all Notice of Modifications submitted to the Water Supervisor as a result of Schedule A, subsection 1, with a status report on the implementation of each modification;	See Maintenance
(k) a report summarizing all modifications completed as a result of Schedule A, subsection 3; and	See Maintenance
(l) any other information the Water Supervisor requires from time to time.	N/A