Mississippi Mills Wastewater System

Waterworks # 110000873

Annual Report

Prepared For: The Municipality of Mississippi Mills

Reporting Period of January 1st – December 31st 2023

Issued: March 25, 2024

Revision: 0

Operating Authority:

OCWA

ONTARIO CLEAN WATER AGENCY
AGENCE ONTARIENNE DES EAUX

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

Table of Contents

1 Revision History

2 Operations and Compliance Reliability Indices

3 Process Description

4 Treatment Flows

5 Raw Sewage Quality

6 Effluent Quality

7 Operating Issues/Problems

8 Maintenance

9 Sludge Generation

10 Summary of Complaints

11 Collection System Highlights

Appendix A – Performance Assessment Report and Raw Data

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
03-25-2024	0	Annual Report Issued	Lauren Lacombe

2 Operations and Compliance Reliability Indices

Compliance Event	Details
Ministry of Environment Inspections	No MECP Inspection during the reporting period
Ministry of Labour Inspections	No MOL Inspection during the reporting period
Non-Compliance	No non-compliance events during the reporting period
Community Complaints	No community complaints during the reporting period
Spills	No Spills at the Treatment Plant during the reporting period.
Overflows	Five (5) overflows during the reporting period
Bypass	No bypasses during the reporting period

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 (SPS) and one (1) trailer sewage dump station all of which flow to the wastewater treatment plant. 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 into the treatment plant headworks. There are authorized overflow points at the Riverfront SPS, White Tail SPS, Island SPS and Gemmils Bay SPS. The Gemmill's Bay SPS is equipped with a 425 kW standby diesel generator with automatic transfer switch. Riverfront SPS is equipped with a 600 volt 50 KW generator with an automatic transfer switch, Spring St. SPS is equipped with a standby diesel generator with automatic transfer switch, Whitetail SPS is equipped with a 20 kW standby generator set complete with auto transfer switch. There is a portable generator 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. Flow enters the treatment plant through influent channels which contain fine screens that lead to a screw compactor. Grit is then removed using a circular vortex grit removal system, as well as air lift and grit classifier system units. Aluminum sulphate (Alum) is added after grit removal, which is a chemical added to the process for phosphorus control.

Flow is then directed to secondary treatment which consists of two (2) treatment trains using the extended aeration activated sludge process. Each train has an aeration tank equipped with fine bubble aeration system, anoxic tank equipped with a mechanical mixer to keep the solids in suspension and rectangular secondary clarifier. The clarifiers are equipped with tank baffles and sludge collectors that scrape sludge that has settled in the bottom of the tank for further processing and double as a scum removal system. Alum is added to the process for a second time at the secondary clarifier for further phosphorus removal and assistance with settling the suspended solids. Tertiary treatment of clarifier effluent is achieved using Five (5) filter trains with three (3) filtration cells in each. Disinfection is provided using Ultraviolet (UV) lights. There is ability for chlorine disinfection in the event the UV units fail.

Settled solids from the biological process are pumped from the clarifier hoppers to the anoxic zone as return activated sludge to supplement biological activity and improve nitrification in the extended air process. The sludge is also pumped to a rotary disk thickener as waste activated sludge (WAS), once thickened the sludge is known as thickened waste activated sludge (TWAS). The TWAS is then sent to Autothermic 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) and dewatered in this process, there is also no supernatant produced in this process. The digested solids are pulled from the SNDR, then pressed to a cake form using a Fournier Press and conveyed to a storage barn, which is later land applied. Process water from the tertiary filters, rotary disk thickener, and Fournier press is collected in the filtrate tank which is returned to the headworks.

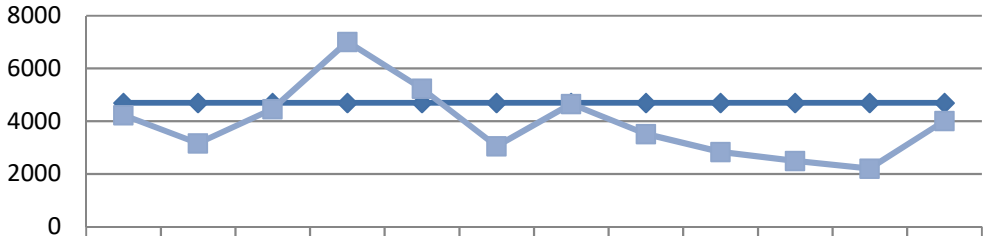
The facility is equipped with an odour control system known as a biofilter, media made from wood chips, which “scrubs” the air collected from the process vents from the septage receiving station, WAS holding tank, filtrate tank and ATAD reactor. The facility is also equipped with back-up power in the form of a 750 kW standby diesel generator.

The Mississippi Mills WWTP also consists of a septage receiving station consisting of a 45 cubic meter storage tank, two (one duty and one standby) dry-pit pumps, and a grinder on the inlet piping.

4 Treatment Flows

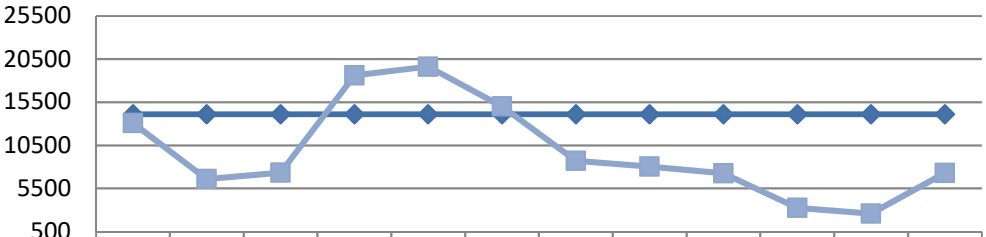
4.1 Raw Flow (m³/d)

Compliance is based on an annual average flow. For 2023, the annual average flow was 3598.5 m³/d or 76% of the rated capacity.



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Design Flow	4700	4700	4700	4700	4700	4700	4700	4700	4700	4700	4700	4700
Average Daily Flow	4236	3165	4468	7017	5236	3059	4654	3515	2841	2501	2208	4013

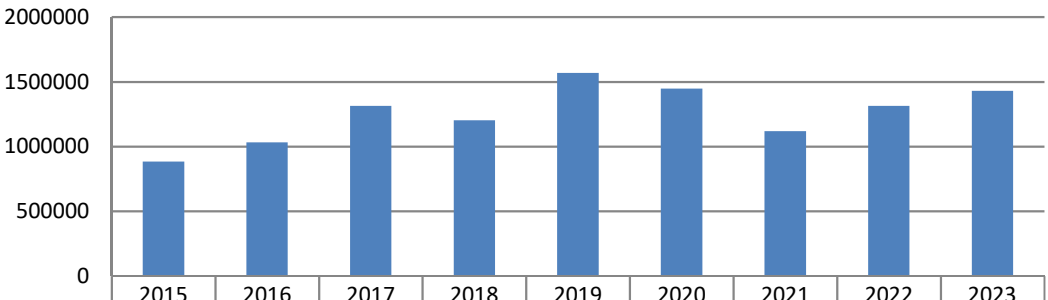
The flow spikes are associated to wet weather events such as rain and seasonal changes such as the spring snow melt.



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Peak Capacity	14100	14100	14100	14100	14100	14100	14100	14100	14100	14100	14100	14100
Maximum Daily Flow	13097	6602	7323	18617	19626	15008	8717	8026	7257	3241	2590	7312

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

4.1.1 Annual Comparison (m³)



	2015	2016	2017	2018	2019	2020	2021	2022	2023
Total Annual Flow	884055	1031585	1312674	1201247	1566983	1446310	1118526	1313442	1429611

4.2 Imported Sewage

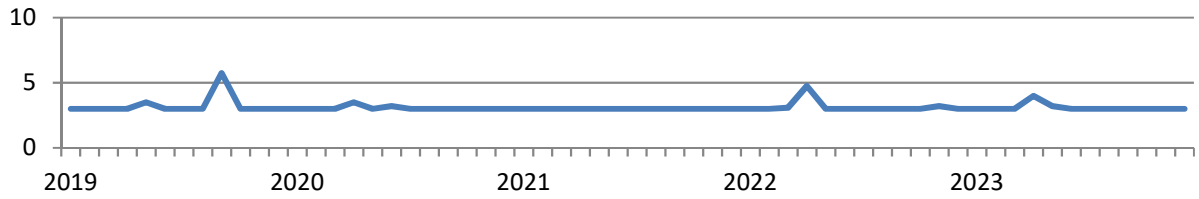
4.2.1 Septage Flow (m^3/d)

There was no septage accepted at this facility in 2023.

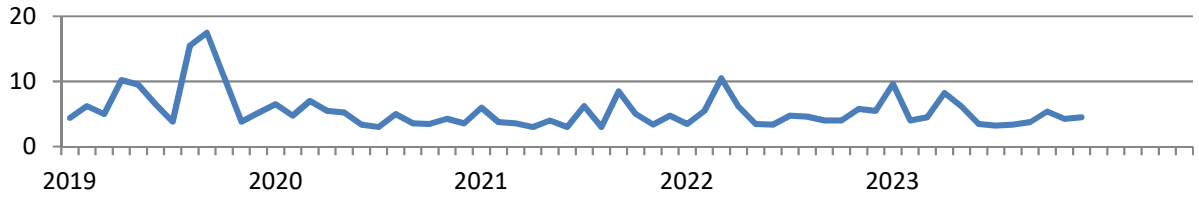
5 Raw Sewage Quality

Year Average Trends for Raw Sewage Quality. Additional details for the 2023 reporting period and specific monthly minimum, maximum and averages are included in the Performance Report located in Appendix A. Five (5) Year Average Trends from 2019-2023 for Raw Sewage Quality are graphed below:

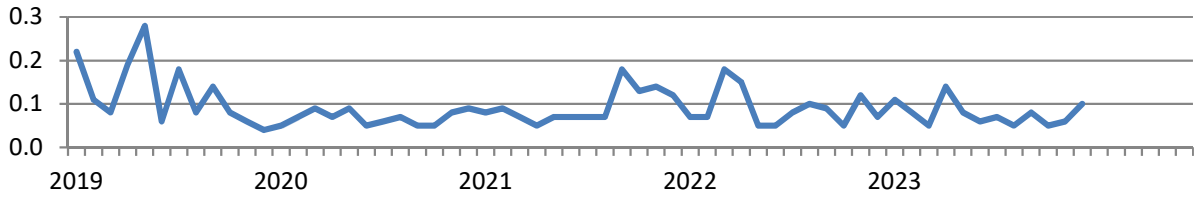
5.1 BOD5



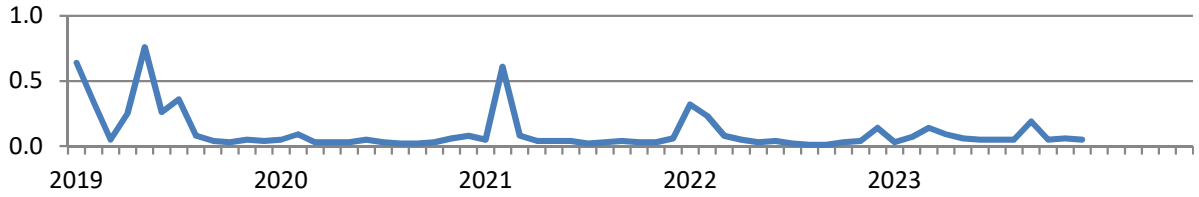
5.2 Total Suspended Solids



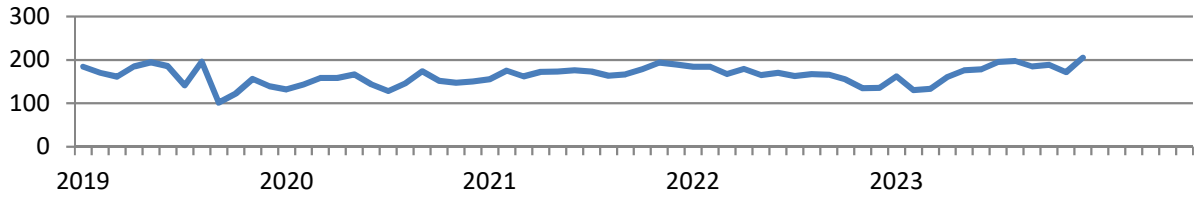
5.3 Total Phosphorus



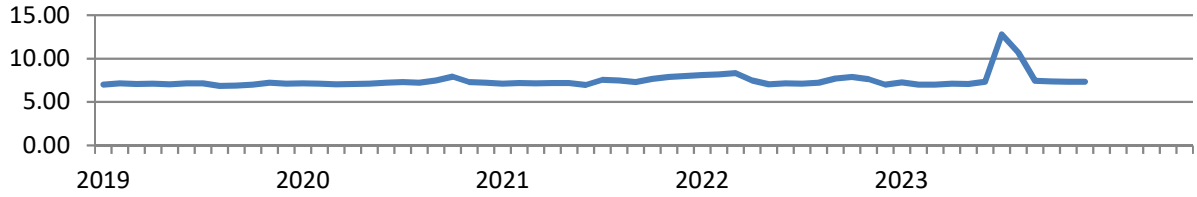
5.4 Total Ammonia Nitrogen



5.5 Alkalinity



5.6 pH



6 Effluent Quality

6.1 Effluent Quality Assurance and Control Measures Taken

This system is part of OCWA's Mississippi Cluster. The cluster is supported by the Eastern Regional Hub, and corporate resources. Operational Services are delivered by OCWA staff that live and work in the community. The systems are operated to meet compliance with applicable regulations. The system has comprehensive manuals detailing operations, maintenance, instrumentation, and emergency procedures. All procedures are treated as active documents and are updated as required. These documents are also part of OCWA's Quality & Environmental Management System.

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

All final effluent samples collected during the reporting period to meet legislated sampling requirements are submitted to Caduceon for analysis, with the exception of disinfection residuals 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 disinfection residuals 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.

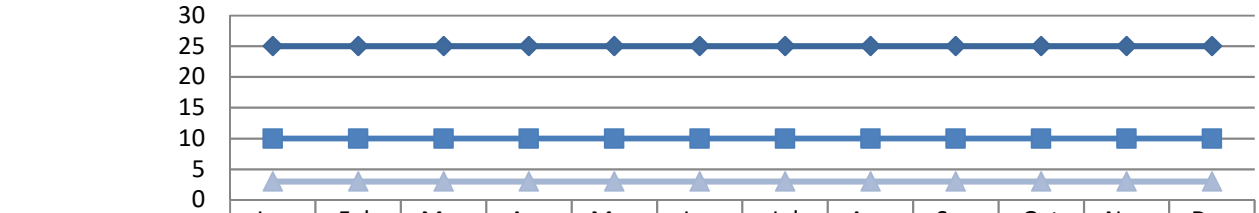
The operations team also has access to a network of operational compliance and process specialists to assist for emerging process issues. This aids in establishing additional control measures to ensure a quality effluent product.

Detailed individual sample results for both raw sewage and final effluent can be found in Appendix A.

6.2 CBOD5

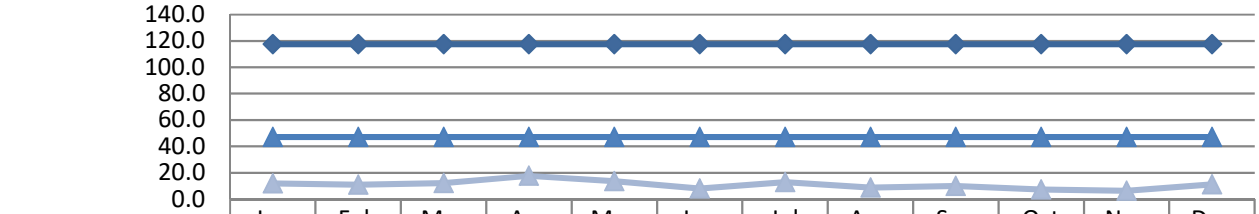
Compliance Limit for this parameter was MET.
Compliance Objective for this parameter was MET.

6.2.1 Concentration (mg/L)



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
ECA Limit	25	25	25	25	25	25	25	25	25	25	25	25
ECA Objective	10	10	10	10	10	10	10	10	10	10	10	10
Average	3	3	3	3	3	3	3	3	3	3	3	3

6.2.2 Loading (kg/d)

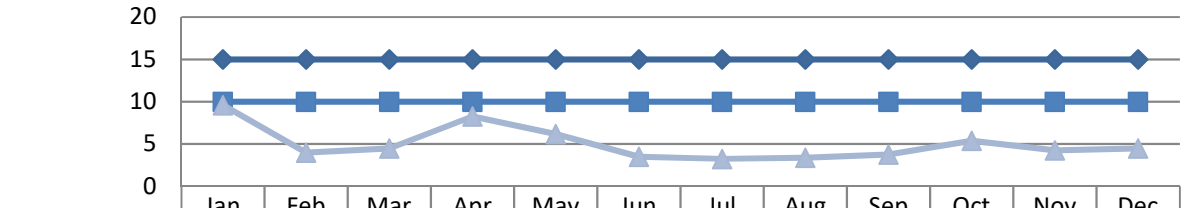


	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
ECA Limit	117.5	117.5	117.5	117.5	117.5	117.5	117.5	117.5	117.5	117.5	117.5	117.5
ECA Objective	47.0	47.0	47.0	47.0	47.0	47.0	47.0	47.0	47.0	47.0	47.0	47.0
Average	12	11	12	18	14	8	13	9	10	7	6	11

6.3 Total Suspended Solids

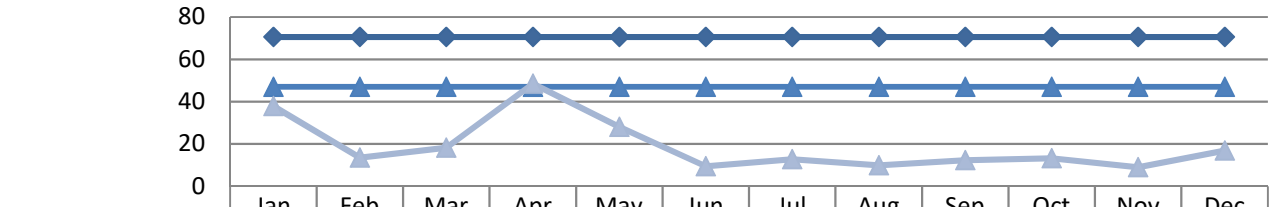
Compliance Limit for this parameter was MET.
Compliance Objective for this parameter was not MET.

6.3.1 Concentration (mg/L)



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Limit	15	15	15	15	15	15	15	15	15	15	15	15
Objective	10	10	10	10	10	10	10	10	10	10	10	10
Average	10	4	5	8	6	4	3	3	4	5	4	5

6.3.2 Loading (kg/d)

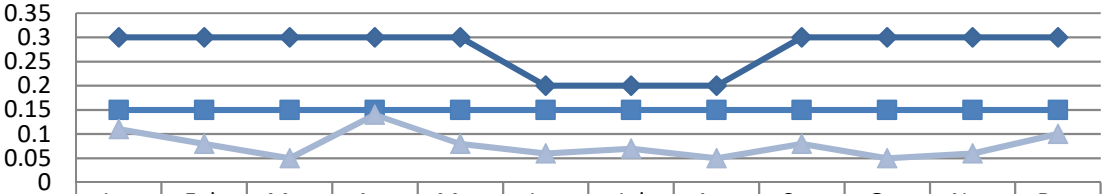


	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
ECA Limit	70.5	70.5	70.5	70.5	70.5	70.5	70.5	70.5	70.5	70.5	70.5	70.5
ECA Objective	47.0	47.0	47.0	47.0	47.0	47.0	47.0	47.0	47.0	47.0	47.0	47.0
Average	38	14	18	48	28	9	13	10	12	13	9	17

6.4 Total Phosphorus

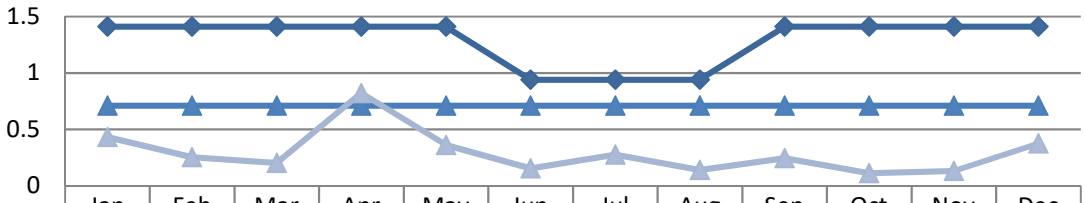
Compliance Limit for this parameter was MET.
Compliance Objective for this parameter was MET.

6.4.1 Concentration (mg/L)



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
ECA Limit	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.3	0.3	0.3	0.3
ECA Objective	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
Average	0.11	0.08	0.05	0.14	0.08	0.06	0.07	0.05	0.08	0.05	0.06	0.1

6.4.2 Loading (kg/d)



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
ECA Limit	1.41	1.41	1.41	1.41	1.41	0.94	0.94	0.94	1.41	1.41	1.41	1.41
ECA Objective	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71
Average	0.43	0.25	0.20	0.82	0.36	0.16	0.28	0.14	0.25	0.11	0.13	0.38

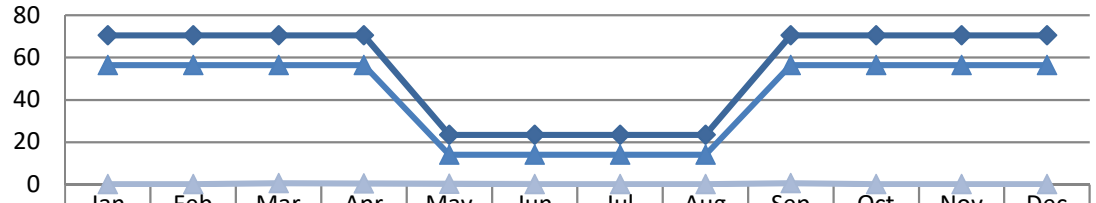
6.5 Total Ammonia Nitrogen

Compliance Limit for this parameter was MET.
Compliance Objective for this parameter was MET.

6.5.1 Concentration (mg/L)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
ECA Limit	15	15	15	15	5	5	5	5	15	15	15	15
ECA Objective	12.0	12.0	12.0	12.0	3.0	3.0	3.0	3.0	12.0	12.0	12.0	12.0
Average	0.03	0.07	0.14	0.09	0.06	0.05	0.05	0.05	0.19	0.05	0.06	0.05

6.5.2 Loading (kg/d)

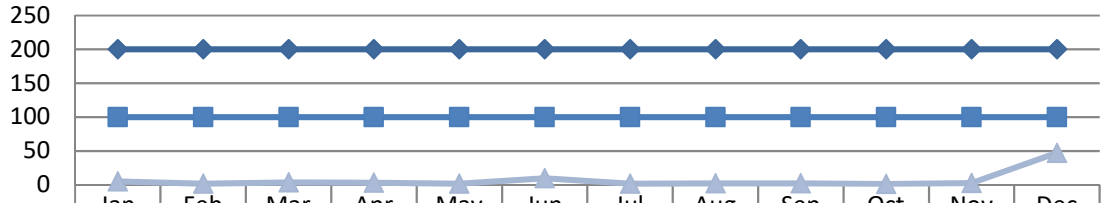


	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
ECA Limit	70.5	70.5	70.5	70.5	23.5	23.5	23.5	23.5	70.5	70.5	70.5	70.5
ECA Objective	56.4	56.4	56.4	56.4	14.1	14.1	14.1	14.1	56.4	56.4	56.4	56.4
Average	0.13	0.23	0.58	0.51	0.28	0.13	0.20	0.16	0.61	0.13	0.12	0.19

6.6 E-coli

Compliance Limit for this parameter was MET.
Compliance Objective for this parameter was MET.

Geometric Mean (cfu/100mL)

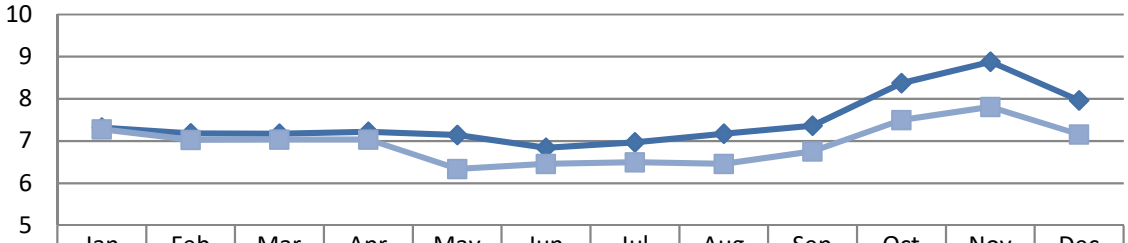


	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
ECA Limit	200	200	200	200	200	200	200	200	200	200	200	200
ECA Objective	100	100	100	100	100	100	100	100	100	100	100	100
Average	5	1	4	3	2	10	1	2	2	1	3	47

6.7 pH

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

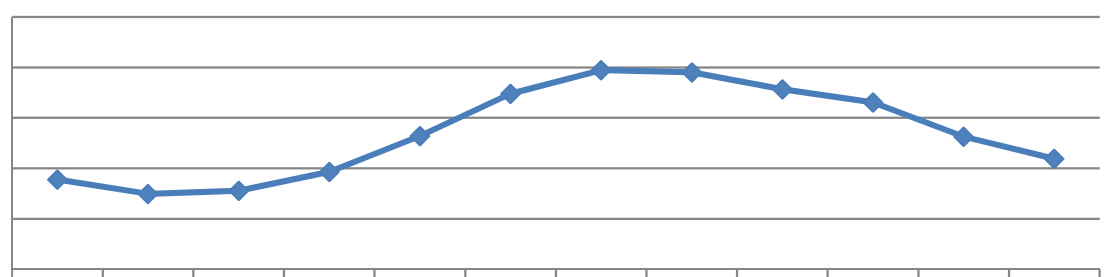
Compliance Objective range for this parameter is 6.5-9.0. This parameter was MET.



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Maximum	7.32	7.18	7.17	7.22	7.14	6.84	6.97	7.17	7.36	8.37	8.88	7.96
Minimum	7.28	7.03	7.04	7.04	6.34	6.46	6.50	6.46	6.76	7.50	7.81	7.16

6.8 Temperature

There are no compliance limits in relation to temperature.



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Average	8.9	7.5	7.8	9.7	13.2	17.4	19.7	19.5	17.8	16.6	13.1	11.0

6.9 Acute Lethality

There were four (4) samples collected in 2023 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		Rainbow Trout	Daphnia Magna
1st Quarter	2023-02-28	0%	0%
2nd Quarter	2023-05-16	0%	0%
3rd Quarter	2023-08-29	0%	0%
4th Quarter	2023-11-30	0%	0%

7 Operating Issues/Problems

The April monthly average concentrations of total suspended solids and total phosphorus exceeded the objective of the facility's ECA. The exceedance was a result of influent daily flow rates that exceeded the plant's rated capacity. The high flows were a result of infiltration due to the spring freshet and precipitation events. Flows that exceed the plants rated capacity can be directed to the attenuation pond, although the existing pond level controls the usage of this feature. Investigations have begun for a lagoon cleanout to increase the amount of functional space in the pond.

In early 2023, after the removal of roots from the outfall pipe, a cured-in-place liner was installed to prevent roots from protruding into the pipe again. During the outfall liner installation, the attenuation pond was critical for directing all flow as no flow could go through the outfall pipe in order for the work to be completed. Sludge handling processes were not operational while the plant was off. With no flow going to the plant during the day for extended periods of time (project was attempted twice, for 2-3 weeks in succession), biological processes were out of balance, and the pond level was at maximum before the spring freshet.

A suspected milk product was dumped into the collection system on November 29, 2023, which created a high BOD situation in the aeration tanks. A high BOD load affects the dissolved oxygen (DO) in the process which is critical to the health of the biomass to breakdown wastewater. As a result of the BOD influent the DO was drastically reduced, but the biomass did recover as the upset moved through the process and oxygen from the blowers was able to saturate the wastewater. No other processes were affected. Industrial users of the collection system were cautioned about dumping large amounts of industrial waste in the municipal sanitary collection system.

7.1 Effluent Quality Non-Compliance Summary

Date	Exceedance of	Limit	Value	Corrective Action
April 2023	Monthly Average concentration Total Suspended Solids ECA Objective	47 mg/L	48 mg/L	High flows – attenuate extra flow to the pond and increase alum
	Monthly Average concentration Total Phosphorus ECA Objective	0.71 mg/L	0.82 mg/L	High flows - attenuate extra flow to the pond and increase alum

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 Date and Time	End Date and Time
There were no spills during the reporting period.					

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 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.

8.1 Normal Maintenance and Repairs

Work Order	Details
3384895	Capital Replacement ORP/Temp Probes for ATAD/SNDR

Work Order	Details
3385950	Capital Fournier Press Stainless Steel Housing replacement
3481685	Capital Reassembled compressor #2
3523692	Capital UVT Sensor replaced
3526718	Capital Replacing Center Housing - Fournier Press 1
3527680	Capital Turbo Blower Tech Visit 1 Inspection
3574075	Capital - MMWWT Blower Replacement - Technology Review Proposal
3574108	Capital Turbo Blower Tech Visit 2 Inspection
3620687	Capital Septage Receiving Website Hosting
3622704	Capital PVC 1 1/2 Inch Pipe Sand filter replacement
3201254	Capital Final Effluent Radio Communication repaired
3201299	Capital Clarifier Chain and flight Relay replacement
3201919	Capital Replacement Polymer Injection Check Valve Fournier Press
3201920	Capital Disk Thickener Polymer Panel Check Valve M8 replacement
3202144	Capital UV2 CCB Communication Fault repair
3202842	Capital HVAC repair parts for air exchange in electrical rooms
3202866	Capital UV1 Hydraulic cleaning shaft replacement
3202873	Capital DO Replacement Probes
3203660	Capital Mobile barrel carrier for polymer purchased
3204878	Capital Backflow Preventer Boiler Room Failure repair
3206177	Capital spare radios purchase for final effluent communication
3206990	Capital ORP and pH Replacement Probes for ATAD/SNDR
3206998	Capital Fournier Press Inspection/Repair
3207038	Capital Clarifier Chain and flight Relay replacement
3207103	Capital fan motors for heaters replacement
3244825	Capital Replacement pH probe for handheld pH meter
3244835	Capital Fournier Press Control Panel UPS Replacement
3247670	Capital Sand Filter Replacement Parts purchased
3287543	Capital New bearings for Bio filter fan purchased
3288494	Capital ESA deficiency replaced disconnect in garage
3289433	Capital Backflow Preventer Boiler Room Issue repair
3290022	Capital Boiler 3 inspection and maintenance
3291535	Capital New low coolant sensor replacement for generator
3291793	Capital ATAD Communication Fault Capital Controls repair
3338089	Capital Replacement PLC Battery replacement
3340859	Capital Loss of SCADA trending repair
3341971	Capital HVAC repairs in boiler room
3341972	Capital HVAC repair parts for air exchange in electrical rooms
3384748	Capital Sand Filter Replacement Parts purchased
3384898	Capital TSS Probe Aeration 1 replacement
3385522	Capital HVAC & Facility Heating and Cooling Systems serviced
3385933	Capital BIO FILTER EXHAUST FAN repaired
3385952	Capital Alum Pump Repair Kits purchased
3386832	Capital Fournier Press Panel UPS replacement
3387389	Capital Refurb/Replacement of UPS (Fournier)
3387706	Capital Cell reception boosters installation
3431469	Capital Oil for Preventative Maintenance purchased

Work Order	Details
3431692	Capital Replace Rubber Parts Backflow Preventer purchased
3435479	Capital UVT serviced
3624863	Capital service kit for screw compressor purchased
3661588	Capital Workshop Light installation- Almonte Electric
3664511	Capital New thermostatic valve for screw compressor replacement
3480102	Capital Alarm systems communication update (Fail to test)
3480104	Capital Replacement TSS Probe Aeration 560
3480110	Capital Lift Table purchased
3481534	Capital Polymer Dosing System Water Flowmeter and IBC Tanks purchased
3483774	Capital - Refurb of Aeration Tank Actuators (FV-1253 and FV-1251)
3522678	Capital MAU1 and MAU2 repaired
3526739	Capital pH Probe for UV Channel replacement

8.2 Emergency Maintenance and Repairs

Work Order	Details
There were no emergency maintenance or repairs during the report.	

8.3 Flow Meter Calibrations and Maintenance

Location	Date of Calibration	Additional Maintenance
Meter Flow Dewatering Service	January 17th 2023	N/A
Meter Flow Dewatering Service	January 17th 2023	N/A
Meter Flow FIT 950 Service	January 17th 2023	N/A
Meter Flow FIT 940 Service	January 17th 2023	N/A
Meter Flow F171143 Service	January 17th 2023	N/A
Meter Flow Service WHITE TAIL SPS	January 17th 2023	N/A
Meter Flow Lagoon Eff Service	January 17th 2023	N/A

8.4 Notice of Modifications

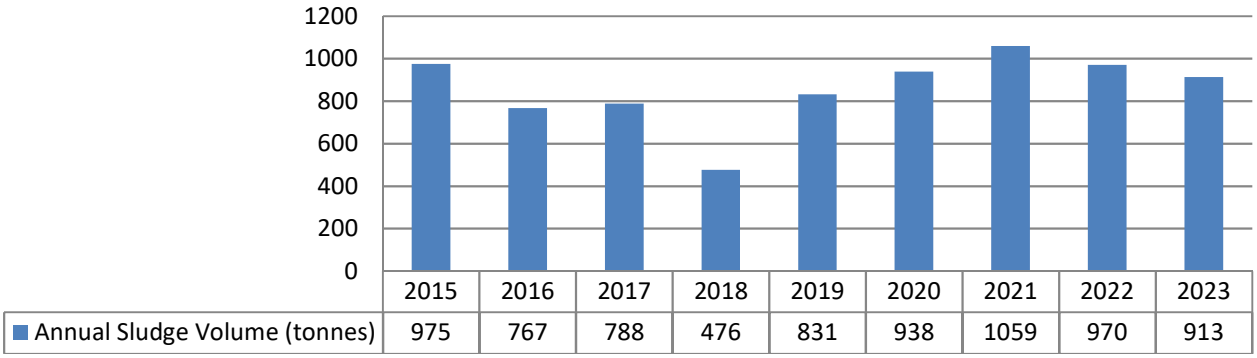
Date	Process	Modification	Status
There were no modifications made to the treatment facility during the reporting period.			

9 Sludge Generation

9.1 Sludge Disposal Summary

Date	Disposal Location	Approval Number	Total Volume (m3)
May 16-17, 2023	Cochran – Steele Farm	23782	450.50
November 2-3, 2023	Cochran – Clayton Farm	60926	462.54
		Total	913.04

9.2 Annual Comparison (m³/year)



	2015	2016	2017	2018	2019	2020	2021	2022	2023
Annual Sludge Volume (tonnes)	975	767	788	476	831	938	1059	970	913

It is anticipated that sludge volumes in 2024 will remain similar to the 2023 volumes.

10 Summary of Complaints

Location	Date	Nature of Complaint	Actions Taken
Christian St. SPS	May 18, 2023	Odour, Pooling water, Sinkhole	An industrial deodorizer was installed to mitigate odour. The town crew found a blockage in the lateral which was cleared and flushed. Topsoil was added to the area to prevent groundwater ponding. Continuing to monitor. The sinkhole was related to a culvert managed by Lanark County, both culvert and sinkhole have been repaired.

11 Collection System Highlights

The collection system highlights are provided by the Municipality of Mississippi Mills.

11.1 Collection Highlights

- One quarter of sewage collection system flushed/cleaned and inspected by CCTV
- Routine sewer inspection program
- Several repairs; laterals
- Relining of Wastewater Treatment Plant outfall pipe

11.2 Commissioning

- Princess Street sanitary sewer
- Little Bridge Street, Brae Street sanitary sewers (Downtown reconstruction project final Phase 4)

11.3 Planning Initiatives

- Union Street North Infrastructure Upgrade Design
- Mercer/Marshall Infrastructure Upgrade Design

Appendix A

Appendix A – Performance Assessment Report and Raw Data

Ontario Clean Water Agency
Agence Ontarienne Des Eaux

Performance Assessment Report

From 1/1/2023 to 12/31/2023

02/29/2024

Page 1 of 1

5678 MISSISSIPPI MILLS WASTEWATER TREATMENT FACILITY 110000873

	1 / 2023	2/ 2023	3/ 2023	4/ 2023	5/ 2023	6/ 2023	7/ 2023	8/ 2023	9/ 2023	10/ 2023	11/ 2023	12/ 2023	<--Total-->	<--Avg-->	<--Max-->	<-Criteria->
Flows																
Raw Flow: Total - Raw Sewage m³/d	131,307.72	88,609.66	138,496.79	210,506.73	162,305.15	91,774.09	144,262.37	108,976.19	85,217.46	77,521.31	66,230.59	124,402.79	1,429,610.85			0.00
Raw Flow: Avg - Raw Sewage m³/d	4,235.73	3,164.63	4,467.64	7,016.89	5,235.65	3,059.14	4,653.62	3,515.36	2,840.58	2,500.69	2,207.69	4,012.99		3,916.74		4,700.00
Raw Flow: Max - Raw Sewage m³/d	13,096.70	6,602.09	7,323.23	18,616.68	19,626.01	15,007.92	8,716.83	8,025.62	7,256.78	3,240.60	2,589.76	7,312.35			19,626.01	0.00
Raw Flow: Count - Raw Sewage 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	122,105.41	94,963.29	125,733.25	176,077.59	140,473.60	80,916.87	121,875.47	90,185.81	98,189.41	75,530.17	63,164.99	116,301.13	1,305,516.99			0.00
Eff. Flow: Avg - Final Effluent m³/d	3,938.88	3,391.55	4,055.91	5,869.25	4,531.41	2,697.23	3,931.47	2,909.22	3,272.98	2,436.46	2,105.50	3,751.65		3,576.76		
Eff. Flow: Max - Final Effluent m³/d	13,122.48	6,048.62	7,672.46	11,942.71	12,546.70	9,842.35	8,206.38	6,982.23	6,291.05	3,360.11	2,443.19	6,260.41			13,122.48	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: # of samples of cBOD5 - Raw Sewage	5.00	4.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	5.00	4.00	4.00	52.00			0.00
Eff: Avg cBOD5 - Final Effluent mg/L	< 3.00	< 3.25	< 3.00	< 3.00	< 3.00	< 3.00	< 3.25	< 3.00	< 3.00	< 3.00	< 3.00	< 3.00		< 3.04	<	25.00
Eff: # of samples of cBOD5 - Final Effluent	5.00	4.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	5.00	4.00	4.00	52.00			0.00
Loading: cBOD5 - Final Effluent kg/d	< 11.817	< 11.023	< 12.168	< 17.608	< 13.594	< 8.092	< 12.777	< 8.728	< 9.819	< 7.309	< 6.316	< 11.255		< 10.87	< 17.61	117.500
Percent Removal: cBOD5 - Raw Sewage %	97.29	97.20	96.83	95.80	96.12	98.06	96.41	97.32	97.47	97.13	97.74	94.94		96.86	98.06	0.00
Biochemical Oxygen Demand: BOD5																
Raw: # of samples of BOD5 - Raw Sewage	5.00	4.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	4.00	4.00	4.00	51.00			0.00
Eff: Avg BOD5 - Final Effluent mg/L	< 3.00	< 3.00	< 3.00	< 4.00	< 3.20	< 3.00	< 3.00	< 3.00	< 3.00	< 3.00	< 3.00	< 3.00		< 3.10	< 4.00	
Loading: BOD5 - Final Effluent kg/d	< 11.817	< 10.175	< 12.168	< 23.477	< 14.501	< 8.092	< 11.794	< 8.728	< 9.819	< 7.309	< 6.316	< 11.255		< 11.08	< 23.48	
Percent Removal: BOD5 - Raw Sewage %	97.88	98.84	97.38	96.03	97.40	98.65	97.25	97.97	98.05	97.95	98.29	97.33		97.75	98.84	0.00
Total Suspended Solids: TSS																
Raw: Avg TSS - Raw Sewage mg/L	155.60	182.25	162.50	108.00	175.00	297.50	148.00	149.20	186.25	175.00	215.50	312.00		188.90	312.00	0.00
Raw: # of samples of TSS - Raw Sewage	5.00	4.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	5.00	4.00	4.00	52.00			0.00
Eff: Avg TSS - Final Effluent mg/L	9.60	4.00	< 4.50	< 8.25	6.20	< 3.50	< 3.25	< 3.40	< 3.75	< 5.40	< 4.25	4.50		5.13	9.60	15.00
Eff: # of samples of TSS - Final Effluent	5.00	4.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	5.00	4.00	4.00	52.00			0.00
Loading: TSS - Final Effluent kg/d	37.813	13.566	< 18.252	< 48.421	28.095	< 9.440	< 12.777	< 9.891	< 12.274	< 13.157	< 8.948	16.882		18.37	48.42	70.500
Percent Removal: TSS - Raw Sewage %	93.83	97.81	97.23	92.36	96.46	98.82	97.80	97.72	97.99	96.91	98.03	98.56		96.96	98.82	0.00
Total Phosphorus: TP																
Raw: Avg TP - Raw Sewage mg/L	4.07	4.38	3.12	2.40	4.11	5.56	3.28	4.83	4.36	4.39	5.87	3.92		4.19	5.87	0.00
Raw: # of samples of TP - Raw Sewage	5.00	4.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	5.00	4.00	4.00	52.00			0.00
Eff: Avg TP - Final Effluent mg/L	0.11	0.08	0.05	0.14	0.08	0.06	0.07	0.05	0.08	0.05	0.06	0.10		0.08	0.14	0.30
Eff: # of samples of TP - Final Effluent	5.00	4.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	5.00	4.00	4.00	52.00			0.00
Loading: TP - Final Effluent kg/d	0.433	0.254	0.203	0.822	0.363	0.155	0.275	0.140	0.245	0.112	0.132	0.375		0.27	0.82	1.410
Percent Removal: TP - Raw Sewage %	97.30	98.29	98.40	94.17	98.05	98.97	97.86	99.01	98.28	98.95	98.94	97.45		97.97	99.01	0.00
Nitrogen Series																
Raw: Avg TKN - Raw Sewage mg/L	34.00	31.63	25.33	17.53	29.92	40.33	25.50	29.72	33.48	36.50	50.58	27.23		31.81	50.58	0.00
Raw: # of samples of TKN - Raw Sewage	5.00	4.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	5.00	4.00	4.00	52.00			0.00
Eff: Avg TAN - Final Effluent mg/L	< 0.03	< 0.07	< 0.14	< 0.09	< 0.06	< 0.05	< 0.05	< 0.05	< 0.19	< 0.05	< 0.06	< 0.05		< 0.07	< 0.19	15.00
Eff: # of samples of TAN - Final Effluent	5.00	4.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	5.00	4.00	4.00	52.00			0.00
Loading: TAN - Final Effluent kg/d	< 0.126	< 0.229	< 0.578	< 0.514	< 0.281	< 0.135	< 0.197	< 0.157	< 0.614	< 0.127	< 0.116	< 0.188		< 0.26	< 0.61	70.500
Disinfection																
Eff: GMD E. Coli - Final Effluent cfu/100mL	5.07	1.41	3.56	2.99	1.74	9.78	1.41	2.00	2.00	1.32	2.51	47.10				200.00
Eff: # of samples of E. Coli - Final Effluent	5.00	4.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	5.00	4.00	4.00	52.00			0.00

Raw Influent Lab Data 2023										
Date	CBOD5 mg/L	Total Phosphorous mg/L	Total Suspended Solids mg/L	Dissolved Ortho phosphorous	Total Keildjal Nitrogen mg/L	Total Ammonia Nitrogen	Nitrite mg/L	Nitrate mg/L	Alkalinity	pH
01/04/23	63.00	1.37	84	0.42	12.2	8.68	1.6	0.7	304	6.72
01/10/23	107.00	2.1	86	0.904	19	12.3	0.1	0.1	348	7.84
01/17/23	114.00	6.16	150	3.4	49.4	42	0.1	0.1	423	7.89
01/25/23	135.00	4.78	198	2.21	41.6	29.7	0.1	0.1	394	7.81
01/31/23	134.00	5.93	260	2.17	47.8	30.6	0.4	0.82	402	7.77
02/07/23	189.00	7.79	275	4.42	46.1	30.1	0.1	0.1	414	7.7
02/14/23	110.00	3.4	150	1.36	26.6	17.1	0.05	0.05	340	7.82
02/22/23	75.00	2.39	100	1.13	20.9	15.5	0.4	0.4	335	7.83
02/28/23	91.00	3.93	204	1.16	32.9	20.6	0.1	0.1	363	7.73
03/06/23	118.00	3.39	242	1.61	31.8	21.8	0.4	0.4	370	7.74
03/14/23	149.00	5.24	190	2.83	33.5	24.6	0.1	0.1	367	7.66
03/21/23	82.00	2.27	140	0.6	22.5	16.8	0.05	0.05	328	7.79
03/28/23	29.00	1.59	78	0.4	13.5	9.25	0.17	2.15	287	7.76
04/06/23	46.00	1.58	90	0.42	9	5.64	0.05	2.7	230	7.81
04/12/23	47.00	1.65	70	0.79	11.5	6.64	0.39	1.4	279	7.81
04/18/23	92.00	3.17	120	1.17	21.5	14.8	0.05	0.05	342	7.88
04/25/23	101.00	3.21	152	1.34	28.1	18.5	0.05	0.05	360	7.89
05/03/23	17.00	1.5	38	0.71	8.9	4.49	0.15	2.7	283	7.95
05/09/23	86.00	2.64	120	0.85	21.1	12.4	0.05	0.05	351	7.84
05/16/23	83.00	3.45	112	1.75	24.8	23.5	0.05	0.05	388	7.8
05/24/23	66.00	4.04	175	1.78	33.5	21.8	0.05	0.05	391	7.85
05/30/23	135.00	8.93	430	4.79	61.3	45.9	0.4	0.62	461	8
06/07/23	165.00	5.66	200	1.78	54.4	32.8	0.05	0.07	423	7.72
06/13/23	161.00	7.16	420	4.36	38.4	25.5	0.05	0.05	354	7.69
06/20/23	161.00	6.49	320	1.96	44.4	30.6	0.05	0.13	426	7.74
06/28/23	132.00	2.93	250	1.42	24.1	14.3	0.05	0.09	321	7.64
07/05/23	73.00	2.69	80	1.18	23.7	15.6	0.05	0.22	348	7.71

Raw Influent Lab Data 2023										
Date	CBOD5 mg/L	Total Phosphorous mg/L	Total Suspended Solids mg/L	Dissolved Ortho phosphorous	Total Keildjal Nitrogen mg/L	Total Ammonia Nitrogen	Nitrite mg/L	Nitrate mg/L	Alkalinity	pH
07/11/23	145.00	3.89	168	1.45	32.8	20.9	0.05	0.1	391	7.77
07/18/23	48.00	3.13	134	0.97	18.4	12.1	0.05	0.06	348	7.56
07/27/23	96.00	3.39	210	1.18	27.1	17	0.05	0.05	392	7.76
08/03/23	142.00	3.33	176	1.99	28.8	23.3	0.4	0.4	393	7.8
08/11/23	50.00	2.31	130	0.08	18.8	1.06	0.05	0.05	329	7.63
08/16/23	74.00	2.63	60	1.2	22.7	17.4	0.4	0.4	386	7.76
08/22/23	93.00	6.07	188	1.34	37.6	25.6	0.05	0.05	419	7.8
08/29/23	201.00	9.8	192	8.1	40.7	26.2	0.05	0.05	411	7.45
09/06/23	120.00	4.95	155	2.65	39	36	0.05	0.05	425	7.68
09/12/23	169.00	5.29	230	2.24	39.4	40.7	0.05	0.1	430	7.63
09/19/23	81.00	2.94	195	0.12	21.4	1.44	0.05	0.08	321	7.88
09/27/23	105.00	4.24	165	1.46	34.1	25.5	0.4	0.4	410	7.73
10/04/23	132.00	5.56	195	2.86	43.4	38.6	0.05	0.05	434	7.66
10/11/23	124.00	4.24	205	3.12	36.3	28.3	0.05	0.05	410	7.68
10/17/23	59.00	4.79	190	1.26	36.6	22.1	0.05	0.05	418	7.59
10/25/23	152.00	4.55	195	1.92	40.4	31.1	0.05	0.05	432	7.61
10/31/23	55.00	2.81	90	1.4	25.8	21.8	0.05	0.05	395	7.93
11/08/23	128.00	6.43	142	3.42	42.6	28.4	0.05	0.05	430	7.66
11/15/23	112.00	6.5	300	3.86	64.9	47.8	0.05	0.05	492	8.06
11/21/23	157.00	5.18	210	3.19	47.3	39.8	0.05	0.05	433	7.72
11/29/23	134.00	5.38	210	2.01	47.5	37.2	0.05	0.05	424	7.71
12/06/23	104.00	4.12	150	1.48	35.2	24.8	0.4	0.4	390	7.71
12/12/23	44.00	2.12	68	0.82	20.1	14	0.05	0.05	338	7.62
12/20/23	25.00	2.94	450	2.25	25.1	14.3	0.07	1.85	365	8.02
12/27/23	64.00	6.48	580	2	28.5	10.1	0.05	3.64	334	7.77

Final Effluent Lab Data 2023

Date	BOD5 mg/L	Total Suspended Solids mgL	Total Phosphorous mg/L	Unionized Ammonia mg/L	Total Ammonia Nitrogen mg/L	E-Coli CFU
January-04-23	3	11	0.24	0.01	0.01	10
January-10-23	3	13	0.11	0.01	0.01	14
January-17-23	3	11	0.12	0.01	0.07	12
January-25-23	3	8	0.03	0.01	0.02	2
January-31-23	3	5	0.05	0.01	0.05	0
February-07-23	3	4	0.2	0.01	0.04	0
February-14-23	3	4	0.03	0.01	0.05	0
February-22-23	3	5	0.05	0.01	0.05	0
February-28-23	3	3	0.02	0.01	0.13	4
March-06-23	3	6	0.05	0.01	0.36	8
March-14-23	3	3	0.04	0.01	0.08	4
March-21-23	3	6	0.05	0.01	0.06	5
March-28-23	3	3	0.06	0.01	0.07	0
April-06-23	5	15	0.31	0.01	0.18	10
April-12-23	3	8	0.11	0.01	0.07	2
April-18-23	3	3	0.08	0.01	0.05	2
April-25-23	5	7	0.06	0.01	0.05	2
May-03-23	4	9	0.11	0.01	0.11	2
May-09-23	3	3	0.04	0.01	0.05	2
May-16-23	3	6	0.1	0.01	0.05	2
May-24-23	3	10	0.1	0.01	0.05	0
May-30-23	3	3	0.05	0.01	0.05	2
June-07-23	3	3	0.06	0.01	0.05	0
June-13-23	3	3	0.06	0.01	0.05	2
June-20-23	3	5	0.05	0.01	0.05	52
June-28-23	3	3	0.06	0.01	0.05	88
July-05-23	3	3	0.04	0.01	0.05	1

Final Effluent Lab Data 2023

Date	BOD5 mg/L	Total Suspended Solids mgL	Total Phosphorous mg/L	Unionized Ammonia mg/L	Total Ammonia Nitrogen mg/L	E-Coli CFU
July-11-23	3	3	0.03	0.01	0.05	0
July-18-23	3	3	0.08	0.01	0.05	2
July-27-23	3	4	0.13	0.01	0.05	2
August-03-23	3	3	0.04	0.01	0.05	2
August-11-23	3	3	0.05	0.01	0.05	2
August-16-23	3	3	0.05	0.01	0.07	2
August-22-23	3	5	0.04	0.01	0.05	2
August-29-23	3	3	0.06	0.01	0.05	2
September-06-23	3	6	0.08	0.01	0.54	2
September-12-23	3	3	0.08	0.01	0.11	2
September-19-23	3	3	0.08	0.01	0.05	2
September-27-23	3	3	0.06	0.01	0.05	2
October-11-23	3	11	0.07	0.01	0.05	0
October-18-23	3	3	0.03	0.01	0.06	0
October-25-23	3	6	0.05	0.01	0.05	2
October-31-23	3	4	0.04	0.01	0.05	2
November-07-23	3	3	0.04	0.01	0.05	0
November-15-23	3	3	0.05	0.01	0.05	2
November-21-23	3	4	0.08	0.01	0.06	2
November-28-23	3	5	0.07	0.01	0.05	10
December-06-23	3	5	0.05	0.01	0.06	0
December-12-23	3	5	0.07	0.01	0.05	1
December-20-23	3	6	0.1	0.01	0.05	210
December-27-23	3	3	0.13	0.01	0.05	186

Final Effluent Lab Data 2023		
Date	**Temperature**	**pH**
01/04/23	9.9	7.32
01/10/23	8.7	7.32
01/17/23	8.1	7.29
01/25/23	9.1	7.28
01/31/23	8.3	7.17
02/07/23	6.8	7.18
02/14/23	8.8	7.02
02/22/23	7.4	6.99
02/28/23	6.9	7.03
03/06/23	7.9	7.02
03/14/23	9.6	7.17
03/21/23	8.2	7.01
03/28/23	7.7	7.04
04/06/23	6.7	7.22
04/12/23	8.2	7.18
04/18/23	10.2	7.04
04/25/23	11.1	7.11
05/03/23	9.9	6.92
05/09/23	11.6	7.04
05/16/23	13.4	7.14
05/24/23	13	6.61
05/30/23	17.1	6.34
06/07/23	12.9	6.84
06/13/23	16.2	6.46
06/20/23	18	6.54
06/28/23	15.1	6.62
07/05/23	21.6	6.5
07/11/23	17.4	6.76
07/18/23	18.9	6.92
07/27/23	17.7	6.97

Final Effluent Lab Data 2023		
Date	**Temperature**	**pH**
08/03/23	17.2	7.06
08/11/23	19	7.17
08/16/23	17.3	6.46
08/22/23	19.1	6.5
08/29/23	16	6.86
09/06/23	21.1	6.76
09/12/23	14.9	7.11
09/27/23	11.1	7.36
10/04/23	17.4	7.5
10/11/23	15.8	7.82
10/18/23	19.7	8.16
10/25/23	12	8.13
10/31/23	14	8.37
11/07/23	14.3	7.97
11/15/23	16.4	7.81
11/21/23	13.4	8.09
11/28/23	11.3	8.88
12/06/23	14.6	7.96
12/12/23	13.4	7.87
12/20/23	10	7.42
12/27/23	20.5	7.16

Appendix B

Appendix B - Biosolids Quality Report

Biosolids Quality Report **Facility: MISSISSIPPI MILLS WASTEWATER TREATMENT FACILITY**

Solids & Nutrients **Period: 01/01/2023 to 12/31/2023** **Works: 5678 / Digestor Type: Aerobic**

Ontario Clean Water Agency
Agence Ontarienne Des Eaux

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

Facility Works Number:	110000873	Receiver:	Mississippi River
Facility Owner:	Municipality: Municipality of	Service Population:	
Facility Classification:	Class 3 Wastewater Treatment	Total Design Capacity:	14100 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)
Parameter Short Name	TS	VS	TP	NH3p_NH4p_N	NO3-N	NO2-N	TKN	Calculation in Report
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
Jan	44,066.67	24,800.00	973.00	6.02	194.80	1.00	1,733.83	100.41
Feb	41,400.00	22,950.00	724.67	31.91	185.85	0.62	1,584.00	108.88
Mar	44,550.00	18,900.00	790.17	8.98	178.53	3.98	1,830.00	93.75
Apr	44,400.00	22,200.00	785.33	89.17	115.47	3.08	1,646.67	102.32
May	47,655.56	22,866.67	936.44	776.56	0.79	11.16	2,248.89	388.67
Jun	60,050.00	29,700.00	1,163.83	968.00	0.73	0.40	2,686.67	484.37
Jul	51,700.00	27,433.33	1,176.67	685.50	0.63	68.65	2,656.67	343.07
Aug	66,966.67	35,722.22	1,123.56	326.78	62.81	1.74	2,036.11	194.79
Sep	56,883.33	32,850.00	1,308.67	45.83	76.85	0.77	1,945.17	61.34
Oct	64,800.00	31,422.22	1,911.11	34.44	76.23	0.10	2,698.89	55.34
Nov	59,800.00	29,883.33	1,790.00	3.67	167.07	0.25	2,833.33	85.37
Dec	63,033.33	40,516.67	1,129.83	7.83	152.70	0.40	3,096.67	80.27
Average	53,775.46	28,270.37	1,151.11	248.72	101.04	7.68	2,249.74	174.88
Total	645,305.56	339,244.44	13,813.28	2,984.67	1,212.47	92.15	26,996.89	2,098.57

Appendix C

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
There were no facility overflow events reported during the reporting period.								

Collection Overflow

Date	Location	Details	Volume (m^3)	Start Time	End Time	Duration (h)	Discharge Receiver	Disinfection Provided
2023-04-05	Gemmill's Bay SPS	An extreme rain event and snow melt caused an increase in the flow entering the pumping station	7,031	15:00	22:00	31.0	Mississippi River	Chlorine pucks in channel
2023-04-30	Gemmill's Bay SPS	An extreme rain event caused an increase in the flow entering the pumping station	8,528	22:33	21:22	~23.0	Mississippi River	Chlorine pucks in channel
2023-06-28	Gemmill's Bay SPS	An extreme rain event caused an increase in the flow entering the pumping station	2,644	01:39	10:30	~9.0	Mississippi River	Chlorine pucks in channel
2023-07-19	Gemmill's Bay SPS	An extreme rain event caused an increase in the flow entering the pumping station	207.9	15:32	16:27	55 mins	Mississippi River	Chlorine pucks in channel
2023-09-18	Gemmill's Bay SPS	An extreme rain event caused an increase in the flow entering the pumping station	1693.4	17:27	21:11	3.75	Mississippi River	Chlorine pucks in channel

Spills of Sewage

Date Incident #	Location	Details	Volume (m^3)	Start Time	End Time	Duration (h)	Discharge Receiver	Disinfection Provided
2023-05-01 1-3FRLC7	Water Street in the collection system	Section of collection piping was being bypassed using an above ground pumping station to facilitate maintenance to the collection system. During a heavy rain event the high level alarms on the 8'' bypass pump failed to increase pump RPM based on the level controllers which lead to the increase in volume in the upstream system. Upon discovery staff manually increased the RPM to begin to reduce these levels. An additional 3" pump and 6'' pump was brought onsite and put into service. After 16:45, the additional 6" pump was pulled and staff were on site overnight to monitor the pump and flows.	Unknown	7:00	16:22	9.7	Ground Basements	No

Appendix D

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