ONTARIO CLEAN WATER AGENCY
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2024 Annual Performance Report for the Haileybury Sewage Treatment System & Sewage Collection System

January 1, 2024 to December 31, 2024

PREPARED BY

Ontario Clean Water Agency
on behalf of the City of Temiskaming Shores

Date: March 26, 2025
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Revision History

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Executive Summary

The Haileybury Sewage Treatment System is located at 275 View Street in the community of Haileybury within the City of Temiskaming Shores. The sewage treatment plant is designed to treat a daily average flow of 2728 m^3/day and a peak flow of 7392 m^3/day. It is classified as a Class 2 wastewater treatment system under Ontario Regulation 129/04 and operates under Environmental Compliance Approval (ECA) No. 7579-BTFKMN for Municipal and Private Sewage Works issued on September 18, 2020.

The Haileybury Sewage Collection System is a Class 1 wastewater collection system under Ontario Regulation 129/04 that follows the requirements of ECA No. 218-W601 for Municipal Sewage Collection Systems issued on October 27, 2023.

This report summarizes the requirements of each Approval and describes the operational performance of the system to ensure production of quality effluent.

The Haileybury sewage treatment system operated well in 2024 producing a high quality effluent that met the effluent limits and objectives specified in the system's ECA.

The system met the rated capacity limit having an annual average daily flow to the lagoon of 1898 m^3, which is 70% of the rated capacity. The total volume of influent flow measured in 2024 was 694,784.

There was one (1) overflow event that occurred in the sewage collection system during the reporting period which is described in Section 10.

All requirements specified in the system's ECA and any issues experienced at the facility are further explained throughout the report.

Introduction

Condition 11(4) of ECA No. 7579-BTFKMN for the Haileybury Sewage Treatment Plant requires the Owner to prepare and submit a performance report to the Ministry of the Environment's District Manager on an annual basis by March 31st for the preceding calendar year. The 2024 Annual Performance Report was prepared by the Ontario Clean Water Agency (OCWA) on behalf of the City of Temiskaming Shores and is based on information kept on record by OCWA. The report has been completed in accordance with the approval and contains, but is not limited to the following information outlined in the ECA:

- A summary and interpretation or all influent monitoring data and a review of the historical trend of the sewage characteristics and flow rates;
- A summary and interpretation or all final effluent monitoring data, including concentration, flow rates, loading and a comparison to the design objectives and compliance limits in this Approval, including an overview of the success and adequacy of the Works;
- A summary of any deviation from the monitoring schedule and reasons for the current reporting year and a schedule for the next reporting year;
- A summary of all operating issues encountered and corrective actions taken;
- A summary of all normal and emergency repairs and maintenance carried out on any major structure, equipment, apparatus or mechanism forming part of the Works;
- A summary of any effluent quality assurance or control measures undertaken;
- A summary or the calibration and maintenance carried out on all influent monitoring equipment to ensure that the accuracy is within the tolerance of that equipment as required in this Approval or recommended by the manufacturer;
- A summary of efforts made to achieve the design objectives in the Approval, including an assessment of the issues and recommendations for proactive actions if any are required under the following situations:
    - *i* when any of the design objectives is not achieved more than 50% of the time in a year, or there is an increasing trend in deterioration of final effluent quality;
    - *ii* when the annual average daily influent flow reaches 80% of the rated capacity;
- A tabulation of the volume of sludge generated, an outline of anticipated volumes to be generated in the next reporting period and a summary of the locations to where the sludge was disposed;
- A summary of any complaints received and any steps taken to address the complaints;
- A summary of all bypasses, overflows, other situations outside normal operating conditions and spills within the meaning of Part X of EPA and abnormal discharge events;

- A summary of all Notice of Modifications to Sewage Works completed under paragraph 1.d of Condition 10, including a report on the status of implementation of all modifications;
- A summary of efforts made to achieve conformance with Procedure F-5-1 including but not limited to projects undertaken and completed in the sanitary sewer system that result in overall bypass/overflow elimination including expenditures and proposed projects to eliminate bypass/overflows with estimated budget forecast for the year following that for which the report is submitted;
- Any changes or updates to the schedule for the completion of construction and commissioning operation of major process(es)/equipment groups in the Proposed Works.

Condition 4.0(4.6) of the ECA No. 218-W601 for the Haileybury Sewage Collection System requires the Owner to prepare and submit an annual performance report to the Ministry of the Environment's Director on or before March 31st of each year and covers a period from January 1st to December 31st of the preceding calendar year. This report must include, but is not limited to the following information;

- 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;
- Includes a summary of any operating problems encountered and corrective actions taken;
- 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;
- Includes a summary of any complaints related to the Sewage Works received during the reporting period and any steps taken to address the complaints.
- 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;
- Includes a summary of all Collection System Overflow(s) and Spill(s) of Sewage, including: dates, volumes and durations. If applicable, loadings for total suspended solids, BOD_5, total phosphorus, and total Kjeldahl nitrogen, and sampling results for *E.coli*, disinfection, if any and any adverse impact(s) and any corrective actions, if applicable;
- Includes a summary of efforts made to reduce Collection System Overflows, Spills, STP Overflows, and/or STP Bypasses, including the following items, as applicable:
    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.

The two reports have been merged into one and is presented as the 2024 Annual Performance Report. The report was prepared by the Ontario Clean Water Agency (OCWA) on behalf of the City of Temiskaming Shores and is based on information kept on record by OCWA.

1 System Description

Sewage System Name:	**Haileybury Sewage Treatment System**
Sewage System Works Number:	110000310
Sewage System Address:	275 View Street, Haileybury Ontario
Sewage System Owner:	Corporation of the City of Temiskaming Shores
Sewage Treatment ECA:	7579-BTFKMN, issued September 18, 2020
Sewage Collection ECA:	218-W601, issued October 27, 2023
Reporting Period:	January 1, 2024 to December 31, 2024

Capacity of Works:	2728 m^3/day annual average, 7392 m^3/day peak
Service Area:	Community of Haileybury
Service Population:	4200
Effluent Receiver:	Lake Timiskaming
Major Process:	Activated Sludge and Extended Aeration Sewage Treatment Plant

The Haileybury Sewage Treatment Plant is a Class 2 wastewater treatment plant located at 275 View Street in the City of Temiskaming Shores. It serves a population of approximately 4200 residents within the community of Haileybury and has an average rated capacity of 2728 m^3/day and peak flow capacity of 7392 m^3/day. The facility consists of two treatment trains; Unit 1 is an activated sludge plant constructed in 1965 and Unit 2 is an extended aeration plant constructed in 1984. The wastewater treatment plant consists of the following:

Inlet Headworks – is comprised of a grit channel, manual coarse bar screens, and a flow splitting weir to divide the raw sewage flow into two (2) parallel treatment Units, 1 and 2. There is an emergency overflow weir with a 450 mm diameter by-pass pipe to the chlorine contact tank (Treatment Unit #2).

The Control Building – inside the building there are two (2) air blowers, one duty and one standby, that supply compressed air to fine bubble diffusers in the aeration tanks and sludge holding tanks (aerobic digester), and pumps in both Treatment Units #1 and #2 to transfer sludge from the holding tanks for disposal.

The chemical feed system is comprised of two (2) chemical storage tanks and two (2) feed pumps for sodium hypochlorite injection into both chlorine contact chambers. The system is used seasonally from May 1st to November 1st each year.

There is one 200 kW emergency standby diesel generator located just outside the building. This stand-by generator can maintain all aspects of the operation during a power outage.

Treatment Units – Treatment Unit #1 has a rated capacity of approximately 1120 m^3/day (peak flow of 3032 m^3/day) and Treatment Unit #2 has a rated capacity of approximately 1610 m^3/day (peak flow of 4360 m^3/day). Both Treatment Units contain; a grinder unit equipped with emergency overflow provisions, aeration tanks equipped with fine air bubble diffusers, clarifier tanks, chlorine contact chambers for seasonal disinfection from May 1st to October 31st, sludge holding tanks (aerobic digestion) equipped with medium/coarse air bubble diffusers and a flow measurement system consisting of an ultrasonic flow metering device (Milltronics) over a weir. One outfall sewer combines the effluent from both treatment units prior to discharging into Lake Temiskaming.

Dechlorination System – A temporary dechlorination system consisting of a chemical solution (sodium bisulphite) and a pace-to-flow chemical pumping system is used to reduce the effluent total chlorine residual levels to the Federal regulatory requirements set out in the Wastewater System Effluent Regulation (WSER) effective January 1, 2021 (<= 0.02 mg/L). The injection point is located on piping where the effluent from the two plants combine before discharging into Lake Timiskaming.

Digester – Two digesters produce aerobic sludge which hauled to the New Liskeard Lagoon for disposal (approved under ECA No. 5103-CDFJWC). The New Liskeard Lagoon ECA allows a maximum sludge volume of 8800 m^3/year that can be imported from the Haileybury sewage treatment plant to the sludge storage lagoon.

The Haileybury sewage collection system consists of truck sewers, separate sewers, nominally separate sewers, forcemains and two (2) sewage pumping stations that direct sanitary sewage to the Haileybury sewage treatment plant. One station is located on Farr Drive and the other on Brewster Street.

Farr Drive SPS is located at 299 Farr Drive. The station consists of a 32.6 m^3 concrete wet well that is equipped with two (2) suction pipes that are connected to two (2) dry mounted pumps (one duty and one standby) with variable frequency drives. Each pump is rated at 139 L/s at TDH of 19.5 m. The station has an emergency overflow pipe that discharges to Lake Temiskaming. The station is powered by a motor control center (MCC) and is fully controlled by a PLC SCADA system. A 200 mm diameter force main directs sewage from the pumping station to the Haileybury wastewater treatment plant.

Back up power is fed to the station by an over head power line fed from a Diesel Generator located at the Haileybury sewage treatment plant.

Brewster Street SPS is located on corner Lakeshore Road and Brewster Street. The station consists of a 4.4 m diameter by approximately 10 meter deep fiberglass wet well with a capacity of 46.7 m^3. It is equipped with two (2) submersible pumps, (one duty and one stand-by). Each pump has a rated capacity of 24.7 L/s at a TDH of 10.2 m, complete with an ultrasonic transducer with back-up float level switches, control panel, provision for connection to a portable generator, ventilation pipes, discharge piping, valves and all other appurtenances to allow for the complete operation of the pumping station. The station is powered by a motor control center (MCC) and is fully controlled by a PLC SCADA system.

During normal flow conditions, the wastewater is pumped to the Farr Drive sewage pumping station. During high flow events, a 30 kW portable diesel generator is installed to allow the wastewater to be pumped to the Farr Drive sewage pumping station.

2 Monitoring Program

2.1 Monitoring Program as Outlined in the Environmental Compliance Approval

Table 1: Analytical Parameters

BOD_5	Five Day Biochemical Oxygen Demand – is measured in an unfiltered sample; includes carbonaceous and nitrogenous oxygen demand. It refers to the amount of oxygen consumed by organic matter in a specific volume of water at a specific temperature over a 5 day period. High BOD_5 in effluent means a large quantity of oxygen was needed to break down the organic matter and identifies a large amount of organic matter in the effluent indicating inadequate treatment.
$cBOD_5$	Five-day carbonaceous biochemical oxygen demand – represents the oxygen depletion associated with the biodegradation of organic compounds and the oxidation of inorganic compounds such as ferrous iron and sulphide within 5 day period and at a specific temperature. High $cBOD_5$ in sewage effluent means a large quantity of oxygen was needed to break down the organic and inorganic matter in the effluent indicating inadequate treatment.
TSS	Total Suspended Solids – the dry weight of suspended particles that are not dissolved in water and can be filtered. TSS is composed of settleable solids and non-settleable solids depending on the size, shape and weight of the solid particles. Settable solids are large sized particles that tend to settle more rapidly in a given period of time. High TSS may decrease water's natural dissolved oxygen levels and increase water temperature which may prevent organisms from surviving in the waters.
TP	Total Phosphorus – a measure of all phosphorus found in a sample, whether it is dissolved or particulate. Phosphorus is an essential nutrient that contributes to

Table 1: Analytical Parameters

	plant productivity. TP is commonly used to determine the health of water bodies and excess TP can stimulate algae and weed growth that may cause fluctuations in dissolved oxygen in the receiving waters.
TAN	Total Ammonia Nitrogen – the total amount of nitrogen in the forms of Ammonium (NH_4) and Ammonia (NH_3). Ammonia is one of several forms of nitrogen that exist in aquatic environments and can cause direct toxic effects on aquatic life. High levels of ammonia can corrode and damage critical pieces of infrastructure.
TKN	Total Kjeldahl Nitrogen – measures both total organic nitrogen and ammonium. Excess nitrogen in water bodies can lead to harmful algal blooms and other negative impacts on aquatic ecosystems.
NH_3	Un-ionized Ammonia - a neutral toxic form of nitrogen in an un-ionized state. Ammonia is an environmental concern, especially because of its danger to human or aquatic life.
DO	Dissolved Oxygen – the amount of oxygen that is available in water to sustain life, including living bacteria.
E. coli	*Escherichia coli* – Thermally tolerant forms of Escherichia bacteria that can live in the intestines of humans and warm-blooded animals. There are hundreds of *E. coli* strains and most are relatively harmless, however a notorious exception is *E. coli* strain 0157:H7, an emerging pathogen that produces a powerful toxin and can cause severe illness. *E. coli* is used as the most widely adopted indicator of faecal pollution in water and wastewater.
pH	Potential of Hydrogen – expresses the degree or intensity of both acidic and alkaline reactions on a scale from 0 to 14 with 7 being neutral, number less than 7 signify increasingly greater acidic solutions, and numbers greater than 7 signify increasingly basic or alkaline reactions. Very high or very low pH levels can be corrosive to pipes, screening equipment and pumps, can damage biological processes and form undesirable toxic gases or heavy metals.
TCR	Total Residual Chlorine – is the sum of the free chlorine residual and the combined available chlorine residual. Chlorine is the most widely used disinfectant for municipal wastewater because it destroys target organisms by oxidizing cellular material.

Table 2: Sampling Requirements for the Raw Sewage (Influent)

Parameter	Type of Sample	Minimum Frequency
BOD_5	24 hour composite	weekly
TSS	24 hour composite	weekly
TP	24 hour composite	weekly
TKN	24 hour composite	weekly

Table 3: Sampling Requirements for the Final Effluent

Parameter	Type of Sample	Minimum Frequency
$cBOD_5$	24 hour composite	weekly
TSS	24 hour composite	weekly
TP	24 hour composite	weekly
TAN (NH_3^- + NH_4 as N)	24 hour composite	weekly
E.coli	grab	weekly
DO	grab/field	weekly
pH	grab/field	weekly
Temperature	grab/field	weekly
TCR	grab/field	Daily
Unionized Ammonia	calculation	weekly

Notes:

TCR is measured daily from May 1 to October 31, except weekends and statutory holidays during seasonal disinfection.

pH and temperature of the Final Effluent are determined in the field at the time of sampling for Total Ammonia Nitrogen in order to calculate unionized ammonia.

Table 4: Influent and Effluent Monitoring Schedule

2024 Schedule	2024 Sample Dates	2025 Sample Dates
Weekly on Tuesdays (Refer to Appendix A)	Refer to Appendix A	Weekly on Wednesdays (Refer to Appendix A)

2.2 Deviations from the Monitoring Program

In 2024, influent and effluent samples were collected on a rotational basis between 0800 hours to 1600 hours every Tuesday unless, it was holiday (i.e. Easter Monday, Canada Day, Christmas Day, New Year Day etc…) or samples did not arrive to the laboratory on time due to shipping issues or frozen samples upon delivery.

Two (2) sampling deviations occurred during in 2024:

- **Scheduled Sample Date: Tuesday, December 24th** – samples were collected on Monday, December 23rd to allow the samples to be brought to the laboratory for December 24th for processing. December 25th and 26th were STAT holidays
- **Scheduled Sample Date: Tuesday, December 31st** – samples were collected on Monday, December 30th to allow the samples to be brought to the laboratory for December 31st for processing. January 1st was a STAT holiday.

Sampling will occur on every Wednesday in 2025 because regular sampling on Mondays is impractical as the auto-sampler has to be turned on the day before sampling and having an operator working each Sunday is unfeasible. Thursday and Friday could also result in extra weekend charges, not to mention, if the sample didn't arrive at the laboratory due to courier issues or freezing then the system would be out of compliance with no opportunity to resample for the week. Sampling on the weekend is also not feasible due to excess shipping, lab and overtime charges.

Refer to Appendix A for the 2024 and 2025 sample schedule for the Haileybury Sewage Treatment System.

3 Interpretation of Monitoring and Analytical Data

3.1 Influent Flow

The influent flow is a measurement based on the total volume of wastewater taken in each day. Influent flows are estimated using the flow measurements of the final effluent as the flow streams are not significantly different in flow rates and quantities.

The rated capacity of the Haileybury Sewage Treatment Plant is of 2728 m^3/day (average daily flow). The average daily flow is defined as the cumulative total sewage flow of influent into the sewage treatment plant during a calendar year divided by the number of days during which sewage was flowing to the sewage treatment plant that year.

Compliance is achieved when the annual average daily flow does not exceed 2728 m^3/day or a peak design flow of 7392 m^3/day. The annual average daily flow for 2024 was 1898 m^3/day, which represents 70% of the rated capacity. A peak flow of 11,244 m^3/day was reached on April 12th during an extreme rainfall event.

The total amount of sewage received by the plant in 2024 was 694,784 m^3.

In the last 11 years the system exceeded 80% of the average rated capacity only once; in 2019 (81%).

In an effort to keep annual flows below 80%, the City has a program in place to reduce infiltration using municipal service permits that address proper connections to the sanitary sewer system for new construction. They conduct routine maintenance and perform regular camera inspections of the sanitary sewer system to identify sources of inflow, infiltration and restrictive conditions. Also, the frequency and duration of bypass and overflow events are monitored which will help determine steps to reduce the infiltration into the system.

Figure 1 compares the monthly influent flow rates recorded in 2024 to the rated capacity and peak capacity of the plant.

Flow trends are critical to assessing the adequacy of size of the treatment system. Figure 2 shows both the annual average and annual peak values from 2014 to 2024 plotted against the rated capacity and peak flow capacity of the wastewater system.

3.1.1 Monthly Influent Flows

Table 5: Comparison of the Monthly Influent Flows to the Rated Capacity

2023	Total Influent Flow (m^3/d)	Average Daily Influent Flow (m^3/d)	% of the Avg. Capacity (2728 m^3/d)	Maximum Influent Flow (m^3/d)	% of the Max. Capacity (7392 m^3/d)
January	40,518	1307	48%	1563	21%
February	45,924	1584	58%	4820	65%
March	88,803	2865	105%*	7377	100%
April	106,907	3564	131%*	11,244	152%*
May	51,787	1671	61%	2848	39%
June	43,421	1447	53%	3744	51%
July	40,858	1318	48%	2294	31%
August	38,227	1233	45%	3315	45%
September	49,011	1634	60%	4154	56%
October	50,540	1630	60%	6248	85%
November	86,068	2869	105%**	10,617	144%**
December	52,720	1701	62%	6708	91%

* Snow melt and heavy rainfall resulted in the system exceeding its average rated capacity in March, and April and an extreme rainfall event caused the plant to exceed its maximum rated capacity in April.

** A heavy rain event at the beginning of November caused the system to exceed its average and maximum capacities for the month.

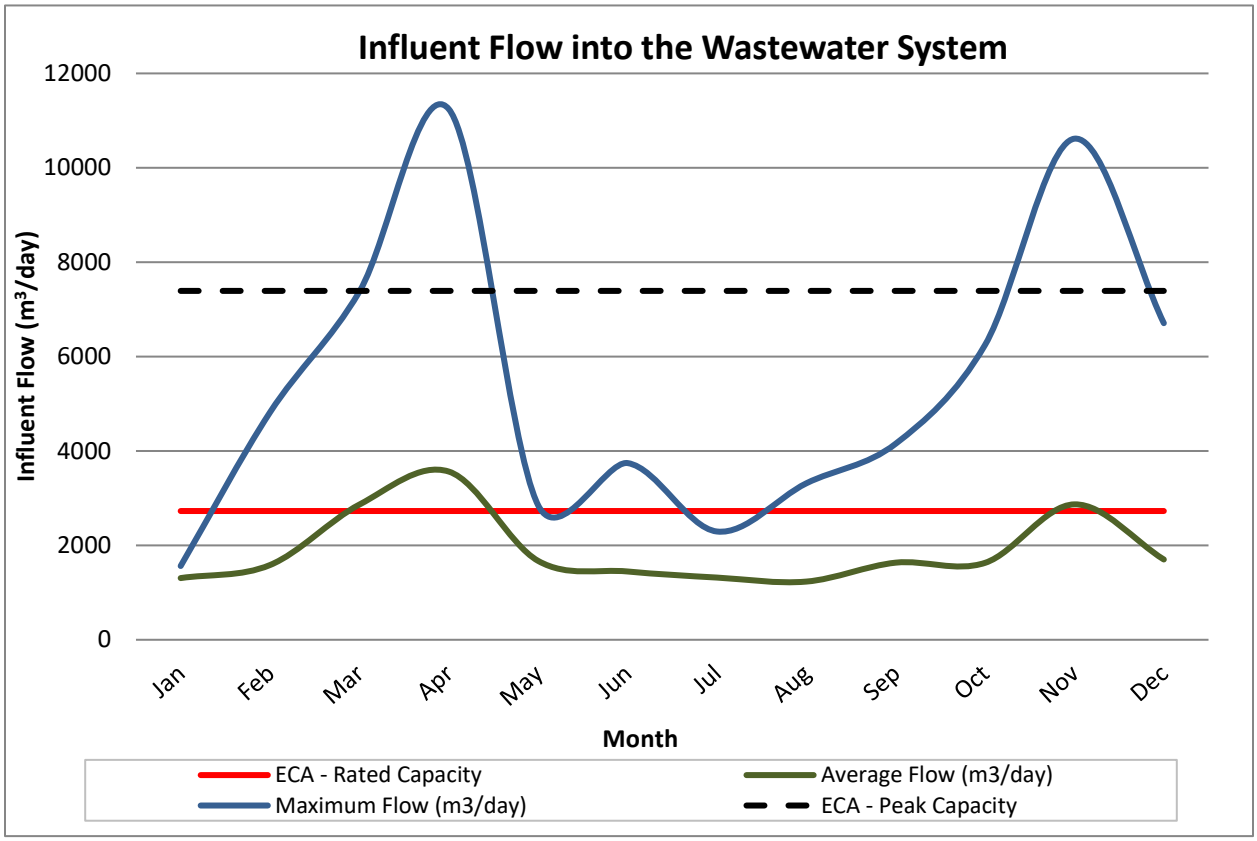


Figure 1 – 2024 Influent Flow into the Haileybury Sewage Treatment Plant

3.1.2 Annual Influent Flows

Table 6: Comparison of the Annual Influent Flow to the Rated Capacity

Rated Design Capacity (m^3/day)	2728	Maximum Flow Capacity (m^3/day)	7392
2024 Average Flow (m^3/day)	1898	2024 Maximum Flow (m^3/day)	11,244
Percent of Capacity (%)	70%	Percent of Capacity (%)	152%
Total volume of sewage influent in 2024		694,784 m^3	

3.1.3 Historical Influent Flows

Table 7: Comparison of Historical Influent Flows (2014 to 2024)

Year	Total Influent Flow (m^3/d)	Average Day Flow (m^3/d)	% of the Avg. Capacity (2728 m^3/d)	Maximum Influent Flow (m^3/d)	% of the Max. Capacity (7392 m^3/d)
2024	694,784	1898	70%	11,244	152%
2023	753,081	2063	76%	11,387	154%
2022	664,391	1820	67%	9615	130%
2021	626,414	1716	63%	9818	133%
2020	756,825	2068	76%	9606	130%
2019	802,526	2199	81%	12,029	163%
2018	600,743	1646	60%	8484	115%
2017	666,403	1826	67%	8253	112%
2016	656,451	1794	66%	8139	110%
2015	663,598	1818	67%	11,337	146%
2014	788,837	2161	79%	10,779	146%

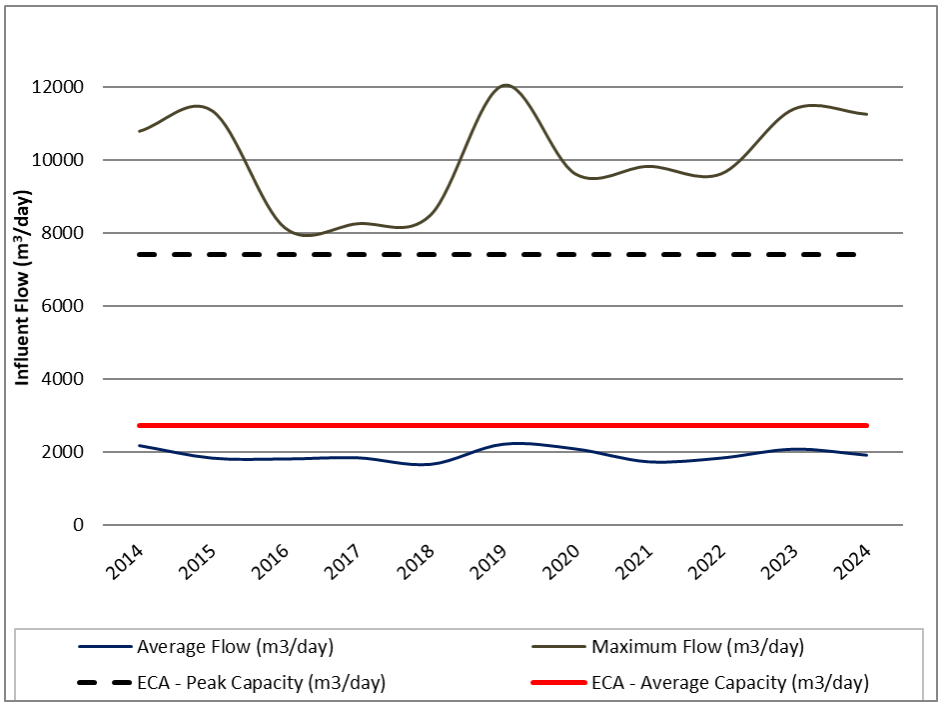


Figure 2 – Historical Influent Flow Trends (2014 to 2024)

3.2 Effluent Flows

The effluent from the clarifiers in both treatment trains passes through v-notch weirs equipped with milltronics measuring devices before discharging to Lake Temiskaming through a combined outfall sewer. For this facility, the influent flow is measured using the effluent flows meters as the flow streams are similar in flow rate and quantity. A summary and interpretation of the flow data is found in Section 3.1.

3.3 Influent (Raw Sewage) Quality

Influent samples are required to be collected on a weekly basis. This section summaries the annual average and annual maximum concentrations of analytical parameters tested in 2024. A monthly summary of the influent data is available in Appendix B.

Table 8: Influent Concentrations

Parameter	Annual Average	Annual Maximum
BOD_5 (mg/L)	90.8	339
TSS (mg/L)	97.2	287
TP (mg/L)	1.84	5.63
TKN (mg/L)	20.2	59.9

"<" means values include results that were less than the laboratory's method detection limit

3.3.1 Historical Trends of Influent Characteristics

The characteristics of the raw wastewater influence the design and efficacy of the wastewater treatment process. Influent data and trends for BOD_5, TSS, TP and TAN/TKN from 2014 to 2024 are provided in Appendix C.

The trends show that the average BOD_5 concentration varied from 44 to 153 mg/L over the last 11 years with a maximum level of 1100 mg/L on September 27, 2022.

The average TSS concentration ranged from 46 to 363 mg/L with a maximum concentration of 11,800 mg/L on August 9, 2022.

The average TP levels remained fairly low and consistent over the last 11 years (1.4 to 3.8 mg/L). A maximum result of 25 mg/L occurred on August 9, 2022.

The average ammonia concentrations remained fairly consistent over the last 11 years averaging approximately 17 mg/L. A maximum TKN level of 60 mg/L occurred in 2024.

3.4 Effluent Quality

The Haileybury sewage effluent quality is based on the carbonaceous biochemical oxygen demand ($cBOD_5$), total suspended solids (TSS), total phosphorus (TP), pH, total chlorine residual

and *E.coli* levels. In 2024, the system produced a high quality effluent which met the compliance limits specified in the system's ECA.

An annual summary of the final effluent parameter levels are shown in Table 9, along with the monthly *E.coli* levels. An annual summary of the effluent loadings are provided in Table 10.

Table 9: Effluent Concentrations

Parameter	Annual Minimum	Annual Maximum	Annual Average	Compliance Limit	Exceedance
$cBOD_5$ (mg/L)	< 0.50	36	< 1.92	25 (annual average)	No
TSS (mg/L)	< 0.67	116	< 6.52	25 (annual average)	No
TP (mg/L)	0.028	1.88	0.134	1.0 (annual average)	No
TAN (mg/L)	< 0.01	0.27	< 0.05	N/A	No
pH	6.24	7.82	7.17	6.0 to 9.5 (inclusive)	No
Dissolved Oxygen	7.95	10.4	9.28	N/A	N/A
Temperature (°C)	8.3	23	15	N/A	N/A
Un-ionized Ammonia (mg/L)	0.0000	0.0022	0.0002	N/A	N/A
TCR (mg/L) [3]	0.00	0.02	0.01	0.5 (maximum) [1]	No
Parameter	**Monthly Minimum**	**Monthly Maximum**	**Monthly Average**	**Compliance Limit**	**Exceedance**
E.coli (cfu/100mL)	6	36	15	200 (monthly MGM) [2]	No
E.coli (cfu/100mL)	6	39,983	7988	Results for entire reporting period (monthly MGM)	N/A

"<" means values include results that were less than the laboratory's method detection limit.

cfu ≡ colony forming units.

NOTE 1: The Provincial total residual chlorine (TRC) limit of 0.5 mg/L (maximum at any time) only comes into effect when chlorination is carried out between May 1st and October 31st each year.

A Federal regulatory limit of <= 0.02 mg/L for total chlorine residual in wastewater effluent came into effect on January 1, 2021.

NOTE 2: The *E. coli* limit of 200 cfu/100mL as a monthly geometric mean (MGM) only comes into effect when chlorination is carried out between May 1st and October 31st each year. Minimum, maximum and geometric average results are calculated from results during this period.

Table 10: Effluent Loadings

Parameter	Annual Minimum	Annual Maximum	Annual Average	Compliance Limit (Annual Avg.)	Exceedance
$cBOD_5$ (kg/d)	1.0	21	3.6	68.2	No
TSS (kg/d)	< 1.2	83	< 12	68.2	No
TP (kg/d)	0.07	1.34	0.25	2.7	No

"<" means values include results that were less than the laboratory's method detection limit.

Appendix B includes a Monthly Process Data Report which summarizes the effluent monitoring and analysis conducted at the facility during the reporting period.

3.5 Sewage Treatment Program Success and Adequacy

The Performance Summary shows the efficiency of the plant performance through pollutant removal rates from raw sewage through to the final effluent.

Table 11 demonstrates that the system's treatment process was very successful in reducing the levels of BOD_5/$cBOD_5$, TSS, TP and total ammonia (TKN/TAN) from the influent, producing high quality effluent.

Table 11: Performance Summary

Parameter	Influent *(annual average)*	Effluent *(annual average)*	% Removal
BOD_5/$cBOD_5$ (mg/L)	90.8 (BOD_5)	< 1.9 ($cBOD_5$)	98%
TSS (mg/L)	97.2	< 6.5	93%
TP (mg/L)	1.84	0.13	93%
TKN/TAN (mg/L)	20.2 (TKN)	< 0.05 (TAN)	100%

4 Effluent Quality Assurance and Control Measures Undertaken

The following activities are included in regular operator and supervisory activities to assure high level performance of the sewage treatment operations including high effluent quality and accurate flow monitoring:

- Operational staff have current and appropriate level of certification for the operation of the facility and continue to learn and achieve knowledge of the process and equipment. Experienced staff has a high level of regulatory competence. New staff receives on-going training to achieve operational knowledge and regulatory competence.
- The pumping stations and the treatment plant are inspected by a certified OCWA operator regularly during the work week.
- Certified operators conduct daily reviews of selected data from continuous monitoring equipment which is captured by a remote monitoring system.
- In-house tests; pH, temperature, DO and total chlorine residual are conducted by licensed operators for monitoring purposes using standard methods for Water and Wastewater.
- Samples are collected as required and analyzed by Testmark Laboratories. Analysis of the samples is conducted in accordance with the Standard Council of Canada (SCC), in cooperation with the Canadian Association for Laboratory Accreditation Inc. (CALA). Quality control procedures are method specific and include laboratory duplicate samples, spiked blanks and spiked duplicates.
- A sampling system which includes an excel developed sample calendar, which is updated at the beginning of each year, and a chain of custody binder are used to ensure all samples are collected as per the requirements identified in the system's ECA.
- Operations and Compliance staff review facility round sheets and laboratory reports to monitor the routine operation of the treatment system and ensure compliance with the ECA.
- All process and laboratory data is logged in a process data management system.
- Routine maintenance is scheduled and tracked to completion using OCWA's Workplace Maintenance System (WMS). Instrumentation equipment is tested and maintained as per manufacturer's recommendations.
- Certified operators monitor chemical usage and make adjustments as required.
- Sodium hypochlorite is added to the treatment process from May 1st to October 31st to reduce *E.coli* levels and sodium bisulphite is added to the effluent to lower the chlorine concentration before discharging to Lake Temiskaming.
- The Haileybury sewage effluent had a history of elevated *E. coli* levels during the seasonal disinfection period when trying to meet the Federal regulatory requirement for total chlorine residual set out in the Wastewater System Effluent Regulation (<= 0.02 mg/L; quarterly average). In May of 2022, a chemical solution (sodium bisulphite) and feed system was implemented to allow better operational control of the dechlorination process and improve the reduction of *E. coli* levels. No total chlorine residual or *E.coli* exceedances occurred in 2024 demonstrating that the control measure was effective.

- Any bypass, overflow or upset events that occur in the system are tested, monitored and reported to the local Health Unit and Spills Action Center (SAC) and local Health Unit.
- All flow, influent and effluent quality data is reviewed by the Overall Responsible Operator and Compliance staff to identify any changes in concentrations and/or emerging trends. All non-compliances are reported to Ministry's Spills Action Center (SAC) and the local MECP inspector.

5 Efforts Made to Meet Effluent Objectives

The Effluent Design Objectives are those levels of performance which can be achieved by treatment processes treating normal strength municipal sewage under optimum conditions. A sewage treatment facility should be able to produce annual average effluent quality approximately equal to the Effluent Design Objectives, but should not exceed the Effluent Compliance Limits. The objectives are used to promote continuous improvement in the operations of the works and to trigger corrective action before environmental impairment occurs.

OCWA uses a number of best efforts to achieve the Effluent Objectives.

- Certified operational staff have a high level of process knowledge and regulatory proficiency.
- The mechanical elements in the facility are regularly inspected, well maintained and kept in good repair. OCWA uses a computerized maintenance management program which generates works orders to ensure maintenance of equipment is proactively performed.
- Raw wastewater and effluent samples are collected as required and analyzed by Testmark Laboratories, an accredited laboratory. OCWA reviews these results on a regular basis to confirm compliance with ECA objective and limits.
- In-house sampling and testing for selected operational parameters provides real-time results which are used to enhance process and operational performance.
- Operations, maintenance and emergency procedures are available to ensure facilities are operated in compliance with applicable legal instruments. Facility staff has access to a network of operational compliance and support experts at the region and corporate levels.
- Sodium hypochlorite is added to the treatment process from May 1st to October 31st to reduce effluent *E.coli* levels within regulatory limits and objectives.
- Sodium bisulphite is also added from May 1st to October 31st to ensure effluent total chlorine residuals are maintained within effluent limits and objectives.
- A five year rolling recommended capital and major maintenance report is used to assist the Owner and OCWA with planning infrastructure needs for the short and long terms. A

letter summarizing capital work recommendations a provided to the Owner each year for their approval.

The systems' ECA requires a summary of efforts made to achieve the design objectives in the Approval, including an assessment of the issues and recommendations for proactive actions if any are required under the following situations:

- when any of the design objectives is not achieved more than 50% of the time in a year, or if there is an increasing trend in deterioration of final effluent quality;

The Haileybury sewage treatment plant met the design objectives for all effluent parameters in 2024.

Table 12: Effluent Concentration Objectives

Parameter	Annual Average	Objective	Averaging Period	Exceedance
$cBOD_5$ (mg/L)	1.92	15	Annual average	No
TSS (mg/L)	< 6.52	15	Annual average	No
TP (mg/L)	0.13	1.0	Annual average	No
TAN (mg/L)	< 0.05	10	Annual average	No
Parameter	**Annual Results** (min to max)	**Objective**	**Averaging Period**	**Exceedance**
pH	6.24 to 7.82	6.0 to 9.5	Inclusive	No
TRC (mg/L)	0.00 to 0.02	0.5	Single result [1]	No
E.coli (cfu/100 mL)	6 to 36	150	Monthly MGM [1]	No

"<" means values include results that were less than the laboratory's method detection limit.

cfu ≡ colony forming units.

NOTE 1: The *E. coli* objective of 150 cfu/100mL as a monthly geometric mean (MGM) and the TCR objective of 0.5 mg/L only comes into effect when chlorination is carried out between May 1st and October 31st each year.

6 Operating Problems & Corrective Actions

Operating problems encountered during 2024 are summarized below.

1. The Haileybury sewage treatment plant exceeded its peak design capacity for Train No. 1 and/or train No. 2 on seven occasions in 2024. Heavy snowmelt and /or rainfall caused the plant to exceed its allowable peak flow capacities on March 5th and 9th , April 12th, 13th and 14th, November 6th and December 30th. Refer to Table 16 under Section 10.2.

   Additional sampling was conducted for the above mentioned exceedances as required under Condition 9(2) of the system's ECA that requires daily effluent sampling on any day

there is a situation outside normal operating conditions. Additional sampling results are included in the effluent monitoring.

2. Farr Drive SPS – One (1) overflow event occurred during periods of very heavy rain on April 12th due to an extreme rainfall event.

7 Maintenance Procedures Performed on the Works

Routine maintenance schedules are entered in OCWA's computerized Workplace Management System (WMS). This is a comprehensive maintenance program that is based on a pro-active and preventive approach. This program includes but is not limited to running weekly, monthly, and annually checks as required or as recommended by manufacturer's instructions. All routine and preventative maintenance was conducted in 2024. A summary of maintenance performed, which includes preventative work, capital projects and emergency repairs is available in Appendix D.

Significant maintenance that took place during 2024:

Haileybury Sewage Treatment Plant

- Replaced failed pressure sensor on the raw sampler,
- Repaired influent autosampler,
- Replaced failed sodium hypochlorite pump and installed a chemical tank level detector,
- Replaced DO sensor cap,
- Installed ventilation for the see can housing the dechlorination system,
- Installed safety chains for openings in railings,
- Installed tarps on the sodium hypochlorite tanks (UV protection).

Farr Drive Sewage Pumping Station

- Installed an intrusion alarm.

Brewster (Lakeshore) Sewage Pumping Station

- Replaced Pump No. 1.

8 Calibration & Maintenance of all Monitoring Equipment

Influent and effluent monitoring equipment is calibrated based on requirements of the system's ECA or manufactures recommendations. Flow meters are calibrated annually to ensure a required accuracy of +/- 15%. pH meters, DO meters and chlorine residual analyzers are calibrated to ensure an acceptable tolerance and accuracy as specified by the manufacturer.

Routine maintenance was conducted as scheduled by qualified Instrumentation Technicians during the reporting period. Refer to Table 15 for a summary of calibrations conducted in 2024.

Table 13: Calibration Summary

Instrument	Calibration Dates	% Accuracy	Requirement
Effluent Flow Meter – Train 1	April 11, 2024	98.4%	+/- 15%
Effluent Flow Meter – Train 2	April 10, 2024	100%	+/- 15%
On-line DO Analyzer – Train 1	April 11, 2024	Within tolerance	
On-line DO Analyzer – Train 2	April 11, 2024	Within tolerance	
Portable Chlorine Analyzer	Jan. 5 & Jul 26, 2024	Within tolerance	
Portable pH Ultrapen	Jan. 26, Apr. 11, Jul 23 and Oct. 10, 2024	Within tolerance	
Portable pH/DO Analyzer	Jan. 3, Apr. 3, Jul. 23 and Oct. 25, 2024	Within tolerance	

9 Sludge Generation and Disposal

A total sludge volume of 2706.4 m^3 was removed from the Haileybury Sewage Treatment Plant in 2024 and hauled to the New Liskeard Lagoon for disposal which is approved under ECA No. 5103-CDFJWC. The New Liskeard Lagoon ECA allows a maximum sludge volume of 8800 m^3/year that can be imported from the Haileybury STP to the Cell E of the lagoon for disposal. It is anticipated that the volume of sludge generated in 2024 will be similar to 2023 as no changes to population or process are expected.

All digested sludge is removed regularly on an as-needed basis by certified haulage trucks owned by the City of Temiskaming Shores (ECA No. A841393) or by Phippen Waste Management (ECA No. AB17724).

The sludge is tested on an annual basis and analyzed for the parameters listed in Appendix E - Sludge Quality.

Table 14: Summary of Hauled Sludge Volumes

Month	Volume of Sludge Hauled (m^3)
February	326.4
March	108.8
April	503.2
May	272.0

Month	Volume of Sludge Hauled (m^3)
July	95.2
August	217.6
September	462.4
October	421.6
November	68.0
December	231.2
Total (m^3)	**2706.4**

10 Abnormal Discharge Events

10.1 Overflow, Bypass and Spill Events

One (1) overflow event occurred during the 2024 reporting period at the Farr Drive sewage pumping station. The event took place on April 12th during periods of extreme rainfall. The untreated wastewater was chlorinated and tested for BOD_5, TSS, TP, TKN and *E. coli.* as required under condition 3.0(3.4)(3.4.1b) of the ECA.

The event was reported to the Ministry of the Environment's Spills Action Center (SAC) as per the system's approval, to Environment Canada as required under the Federal Fisheries Act and to the local Health Unit.

Table 15 summarizes the event and Appendix F provides a detailed record including sample results.

Table 15: Summary of Abnormal Discharge Events in 2024

Date	Location	Duration	Type	Cause	Adverse Impacts	Estimated Volume (m^3)
April 12	Farr Dr. SPS	10.7 hours	Overflow	Extreme rainfall	None	14,846

10.2 Situations Outside Normal Operating Conditions

Condition 9(2) of ECA 7579-BTFKMN indicates that in addition to the scheduled monitoring program, the Owner shall collect daily sample(s) of the Final Effluent on any day when there is any situation outside Normal Operating Conditions. The sample(s) are to be analyzed for all

effluent parameters outlined in Compliance Limits condition that require composite samples (cBOD5, TSS and TP). Normal operating conditions means the condition when all the unit process(es), excluding preliminary treatment in a treatment train is operating within design capacity.

The Haileybury sewage treatment plant exceeded its peak design capacity for Train No. 1 and/or Train No. 2 on seven occasions in 2024 during periods of heavy rainfall or snow melt. Additional daily sampling as per the system's ECA was initiated eight times and results are included in the effluent monitoring.

Table 16: Peak Design Capacity Exceedances

Date	Train No. 1 Flow (peak = 3032 m^3/d)	Train No. 2 Flow **(peak = 4360** m^3/d**)**	Combined Flow (peak = 7392 m^3/d)
March 5	1801	5576	7377
March 9	1455	5808	7263
April 12	2995	8249	11,244
April 13	2053	8565	10,618
April 14	1480	5072	6551
November 6	3431	7186	10,617
December 30	2229	4479	6708

10.3 Efforts Made to Reduce System Overflows and Bypasses

The Haileybury Sewage Treatment Plant operated well below its annual average rated capacity of 2728 m^3/day for the past several years. The system is also designed to treat a peak flow rate of 7392 m^3/day. The plant exceeded its peak design capacity seven times in 2024 during periods of heavy rainfall or snow melt.

A review of historical data (2014 to 2024) indicates that bypass and overflow events do not occur at the sewage treatment plant, but in the collection system at the Farr Drive Sewage Pumping Station. Six overflow events occurred from 2014 to 2024 during heavy rains and/or snow melt.

In an effort to reduce and/or eliminate overflow, bypass and spill events and to confirm with Procedure F-5-1, the following are in place.

- Emergency backup generators are installed at the plant which also supplies power to the Farr Drive pumping station.
- A SCADA system is used to accurately monitor the sewage network and an alarm system is in place at key points in the process and at the sewage pumping station to alert

operators of any issues; power failures, high levels, equipment failures, loss of communication and intrusion.

- Regular routine maintenance is performed to help reduce overflows/bypasses/spills events. For example: monthly generator tests to ensure the generator will start during a power failure and equipment will continue to operate normally, monthly alarm testing and equipment maintenance as outlined in the Maintenance Summary found in Appendix D.
- Repairs to the collection system are done promptly as issues occur.
- A program is in place to prevent roof leaders and sump pumps from being connected with sanitary new builds.
- To more accurately measure and monitor overflow volumes, a procedure has been developed to calculate overflow volumes from the Farr Drive station.

10.4 Summary of Alterations to the System to Reduce Overflows

There have been no projects done in 2024 to reduce overflows/bypasses/spills.

10.5 Public Notification

The system has a Public Notification Procedure to notify the public and downstream users that may be adversely affected in the event of an overflow or bypass at the plant. Signage will be posted at publicly accessible points located near all collection system overflow outfall locations before May 21, 2025 as required under ECA .

11 Complaints

No complaints were received during the reporting period.

12 Notice of Modifications on Sewage Works

No Sewage Modification forms were completed in 2024.

13 Proposed Alterations to the Works

- Sodium hypochlorite storage building with containment
- Addition of a second blower for the aeration system

APPENDIX A

2024 and 2025 Influent and Effluent Sampling Schedule

Temiskaming Shores Cluster Sewage Treatment Systems – Haileybury Sewage Treatment System

2024 & 2025 Sampling Schedules

For the Haileybury Sewage Treatment System, influent and effluent samples are required to be collected and tested weekly as per Schedule D of the system's ECA No. 7579-BTFKMN

2024 Schedule	2024 Sample Dates	2025 Sample Schedule
January 2, 2024	January 2, 2024	January 8, 2025
January 9, 2024	January 9, 2024	January 15, 2025
January 16, 2024	January 16, 2024	January 22, 2025
January 23, 2024	January 23, 2024	January 29, 2025
January 30, 2024	January 30, 2024	February 5, 2025
February 6, 2024	February 6, 2024	February 12, 2025
February 13, 2024	February 13, 2024	February 19, 2025
February 20, 2024	February 20, 2024	February 26, 2025
February 27, 2024	February 27, 2024	March 5, 2025
March 5, 2024	March 5, 2024	March 12, 2025
March 12, 2024	March 12, 2024	March 19, 2025
March 19, 2024	March 19, 2024	March 26, 2025
March 26, 2024	March 26, 2024	April 2, 2025
April 2, 2024	April 2, 2024	April 9, 2025
April 9, 2024	April 9, 2024	April 16, 2025
April 16, 2024	April 16, 2024	April 23, 2025
April 23, 2024	April 23, 2024	April 30, 2025
April 30, 2024	April 30, 2024	May 7, 2025
May 7, 2024	May 7, 2024	May 14, 2025
May 14, 2024	May 14, 2024	May 21, 2025
May 21, 2024	May 21, 2024	May 28, 2025
May 28, 2024	May 28, 2024	June 4, 2025
June 4, 2024	June 4, 2024	June 11, 2025
June 11, 2024	June 11, 2024	June 18, 2025
June 18, 2024	June 18, 2024	June 25, 2025
June 25, 2024	June 25, 2024	July 2, 2025
July 2, 2024	July 2, 2024	July 9, 2025
July 9, 2024	July 9, 2024	July 16, 2025
July 16, 2024	July 16, 2024	July 23, 2025
July 23, 2024	July 23, 2024	July 30, 2025
July 30, 2024	July 30, 2024	August 6, 2025
August 6, 2024	August 6, 2024	August 13, 2025
August 13, 2024	August 13, 2024	August 20, 2025

Temiskaming Shores Cluster Sewage Treatment Systems – Haileybury Sewage Treatment System

2024 & 2025 Sampling Schedules

2024 Schedule	2024 Sample Dates	2025 Sample Schedule
August 20, 2024	August 20, 2024	August 27, 2025
August 27, 2024	August 27, 2024	September 3, 2025
September 3, 2024	September 3, 2024	September 10, 2025
September 10, 2024	September 10, 2024	September 17, 2025
September 17, 2024	September 17, 2024	September 24, 2025
September 24, 2024	September 24, 2024	October 1, 2025
October 1, 2024	October 1, 2024	October 8, 2025
October 8, 2024	October 8, 2024	October 15, 2025
October 15, 2024	October 15, 2024	October 22, 2025
October 22, 2024	October 22, 2024	October 29, 2025
October 29, 2024	October 29, 2024	November 5, 2025
November 5, 2024	November 5, 2024	November 12, 2025
November 12, 2024	November 12, 2024	November 19, 2025
November 19, 2024	November 19, 2024	November 26, 2025
November 26, 2024	November 26, 2024	December 3, 2025
December 3, 2024	December 3, 2024	December 10, 2025
December 10, 2024	December 10, 2024	December 17, 2025
December 17, 2024	December 17, 2024	December 24, 2025
December 23, 2024	December 23, 2024*	December 31, 2025
December 30, 2024	December 30, 2024*	

* Note:

Two (2) sampling deviations occurred ion 2024 during the Christmas and New Years holidays.

APPENDIX B
Monthly Process Data Report

Facility Name: HAILEYBURY WASTEWATER TREATMENT FACLITY
Facility Org Number: 5726
Facility Owner: Municipality: Temsikaming Shores
Service Population: 4200
Works: 110000310
Facility Classification: Class 2 Wastewater Treatment
Total Design Capacity: 2728 m3/day

Ontario Clean Water Agency
Agence Ontarienne Des Eaux

													2024			
Influent - Raw Sewage	**Jan 2024**	**Feb 2024**	**Mar 2024**	**Apr 2024**	**May 2024**	**Jun 2024**	**Jul 2024**	**Aug 2024**	**Sep 2024**	**Oct 2024**	**Nov 2024**	**Dec 2024**	**Total**	**Avg**	**Max**	**Min**
Biochemical Oxygen Demand: BOD5 - mg/L																
Lab Count	5.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	5.00	53.00			
Lab Month.Max	160.00	230.00	120.00	150.00	60.20	250.00	180.00	339.00	150.00	110.00	28.00	290.00			339.00	
Lab Month.Mean	69.04	177.50	67.00	61.00	43.30	107.75	112.00	222.25	71.50	55.08	22.25	96.40		90.83		
Lab Month.Min	5.10	140.00	25.00	18.00	34.00	36.00	22.00	150.00	35.00	11.50	15.00	27.00				5.10
Total Kjeldahl Nitrogen: TKN - mg/L																
Lab Count	5.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	5.00	53.00			
Lab Month.Max	28.40	27.20	18.40	19.10	18.70	59.90	37.80	30.30	21.40	25.00	37.40	19.20			59.90	
Lab Month.Mean	21.24	24.48	12.15	12.06	14.80	35.43	27.30	26.10	17.45	20.68	17.00	15.14		20.22		
Lab Month.Min	13.80	21.50	4.60	9.20	11.90	20.20	20.30	22.90	12.10	17.30	8.80	5.50				4.60
Total Phosphorus: TP - mg/L																
Lab Count	5.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	5.00	53.00			
Lab Month.Max	3.28	2.96	2.43	3.26	1.55	5.63	4.11	3.52	1.32	1.80	0.91	3.18			5.63	
Lab Month.Mean	2.05	2.62	1.42	1.33	1.32	3.20	2.52	2.90	1.04	1.44	0.77	1.53		1.84		
Lab Month.Min	1.37	2.39	0.52	0.52	1.04	1.33	1.01	2.24	0.71	1.06	0.57	0.65				0.52
Total Suspended Solids: TSS - mg/L																
Lab Count	5.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	5.00	53.00			
Lab Month.Max	118.00	183.00	167.00	287.00	155.00	246.00	180.00	136.00	76.00	181.00	40.00	216.00			287.00	
Lab Month.Mean	73.00	134.00	89.75	128.40	79.63	152.75	116.60	96.75	53.25	93.60	32.68	107.30		97.16		
Lab Month.Min	20.00	94.00	48.00	42.00	49.00	52.00	37.00	57.00	27.00	66.00	17.00	30.50				17.00

													2024			
Final Effluent	**Jan 2024**	**Feb 2024**	**Mar 2024**	**Apr 2024**	**May 2024**	**Jun 2024**	**Jul 2024**	**Aug 2024**	**Sep 2024**	**Oct 2024**	**Nov 2024**	**Dec 2024**	**Total**	**Avg**	**Max**	**Min**
CBOD5 (25 mg/L - Quarterly) - mg/L																
Lab Count	5.00	4.00	6.00	9.00	4.00	4.00	5.00	4.00	4.00	5.00	5.00	6.00	61.00			
Lab Month.Max	5.20	3.00	3.30	36.00	1.80	1.00	2.50	1.20	1.30	1.20	2.60	1.80			36.00	
Lab Month.Mean	1.98	2.15	1.50	5.84	1.15	< 0.73	1.12	0.85	1.00	1.02	1.24	< 0.85		< 1.92		
Lab Month.Min	0.70	1.70	1.00	0.80	0.60	< 0.50	0.50	0.50	0.50	0.70	0.50	< 0.50				< 0.50
Cl Residual: Total (0.02 mg/L) - mg/L																
IH Edited Count					22.00	20.00	22.00	21.00	19.00	22.00			126.00			
IH Month.Max	TCR testing occurs when chlorination is carried out between May 1st and October 31st of each year.				0.01	0.01	0.02	0.02	0.02	0.02					0.02	
IH Month.Mean					0.00	0.00	0.01	0.01	0.01	0.01				0.01		
IH Month.Min					0.00	0.00	0.00	0.00	0.00	0.00						0.00

Dissolved Oxygen: DO Field: Lab Upload - mg/L																
IH Edited Count	5.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	5.00	53.00			
IH Month.Max	9.80	9.86	10.04	10.43	9.55	9.28	9.09	9.00	9.61	9.07	9.86	10.35			10.43	
IH Month.Mean	9.56	9.44	9.76	9.93	9.22	8.96	8.51	8.79	9.10	8.87	9.35	9.80		9.28		
IH Month.Min	9.21	8.46	9.00	9.63	8.82	8.57	8.24	8.60	7.95	8.60	8.86	9.23				7.95
E. Coli: (200 monthly geomean) - cfu/100mL																
GMD	26437.02	20320.94	39982.71	4687.02	7.07	5.95	8.28	10.40	21.85	36.31	2496.08	1838.38				
Lab Count	5.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	5.00	53.00			
Lab Month.Max	710000.00	35000.00	190000.00	11900.00	20.00	10.00	65.00	195.00	608.00	885.00	2880.00	3800.00			710000.00	
Lab Month.Mean	177520.00	22700.00	67400.00	5740.00	< 8.75	< 6.25	18.80	57.00	< 158.25	< 271.20	2505.00	2188.00		< 24528.89		
Lab Month.Min	2000.00	10000.00	13600.00	1600.00	< 5.00	< 5.00	0.00	1.00	< 5.00	< 1.00	2340.00	560.00				0.00
Un-ionized Ammonia: NH3 - mg/L																
IH Edited Count	5.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	5.00	53.00			
IH Month.Max	0.0011	0.0006	0.0011	0.0003	0.0005	0.0006	0.0002	0.0001	0.0022	0.0007	0.0006	0.0001			0.0022	
IH Month.Mean	0.0003	0.0003	0.0003	0.0001	0.0002	0.0003	0.0001	0.0001	0.0006	0.0002	0.0002	0.0001		0.0002		
IH Month.Min	0.0000	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001	0.0000	0.0000	0.0001	0.0000				0.0000
Total Ammonia Nitrogen: NH3 + NH4+ as N - mg/L																
Lab Count	5.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	5.00	53.00			
Lab Month.Max	0.24	0.11	0.17	0.03	0.07	0.27	0.04	0.02	0.25	0.24	0.09	0.03			0.27	
Lab Month.Mean	< 0.07	0.06	< 0.06	< 0.02	< 0.03	< 0.12	< 0.03	0.02	< 0.07	< 0.08	< 0.03	< 0.02		< 0.05		
Lab Month.Min	< 0.01	0.03	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.02	< 0.01	< 0.01	< 0.01	< 0.01				< 0.01
pH Field: Lab Upload (6.0 - 9.5) - ---																
Count	5.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	4.00	5.00	5.00	6.00	55.00			
IH Edited Count	5.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	4.00	5.00	5.00	6.00	55.00			
IH Month.Max	7.57	7.28	7.36	7.82	7.50	7.04	7.44	7.02	7.60	7.24	7.51	7.53			7.82	
IH Month.Mean	7.17	7.26	7.12	7.35	7.23	6.97	6.99	6.94	7.15	7.12	7.39	7.24		7.17		
IH Month.Min	6.24	7.23	6.99	6.87	7.09	6.86	6.55	6.80	6.78	6.94	7.27	6.93				6.24
Temperature Field: Lab Upload - °C																
IH Edited Count	5.00	4.00	4.00	5.00	4.00	4.00	5.00	4.00	4.00	5.00	5.00	6.00	55.00			
IH Month.Max	16.10	16.20	15.30	14.20	18.20	20.80	23.30	22.00	13.20	21.30	19.00	18.20			23.30	
IH Month.Mean	14.20	15.10	12.30	11.96	14.85	15.30	18.72	21.13	12.28	13.44	14.48	12.33		14.58		
IH Month.Min	11.60	14.40	8.30	10.10	10.20	11.80	11.70	20.50	10.90	10.10	9.90	8.60				8.30

TP (1 mg/L - Annual) - mg/L																
Lab Count	5.00	4.00	6.00	9.00	4.00	4.00	5.00	4.00	4.00	5.00	5.00	6.00	61.00			
Lab Month.Max	0.296	0.167	0.219	1.880	0.052	0.151	0.117	0.069	0.068	0.270	0.642	0.196			1.880	
Lab Month.Mean	0.111	0.120	0.109	0.375	0.041	0.067	0.072	0.058	0.051	0.103	0.177	0.079		0.134		
Lab Month.Min	0.030	0.096	0.046	0.040	0.028	0.029	0.050	0.048	0.043	0.048	0.050	0.039				0.028
TSS (25 mg/L - Quarterly) - mg/L																
Lab Count	5.00	4.00	6.00	9.00	4.00	4.00	5.00	4.00	4.00	5.00	5.00	6.00	61.00			
Lab Month.Max	4.00	13.50	20.00	116.00	3.00	8.50	2.00	1.00	2.00	7.50	36.00	9.67			116.00	
Lab Month.Mean	3.00	< 5.50	< 5.92	< 23.39	< 1.50	< 2.88	< 1.30	< 1.00	< 1.38	< 3.90	< 7.93	< 3.67		< 6.52		
Lab Month.Min	2.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 0.67	< 0.67				< 0.67

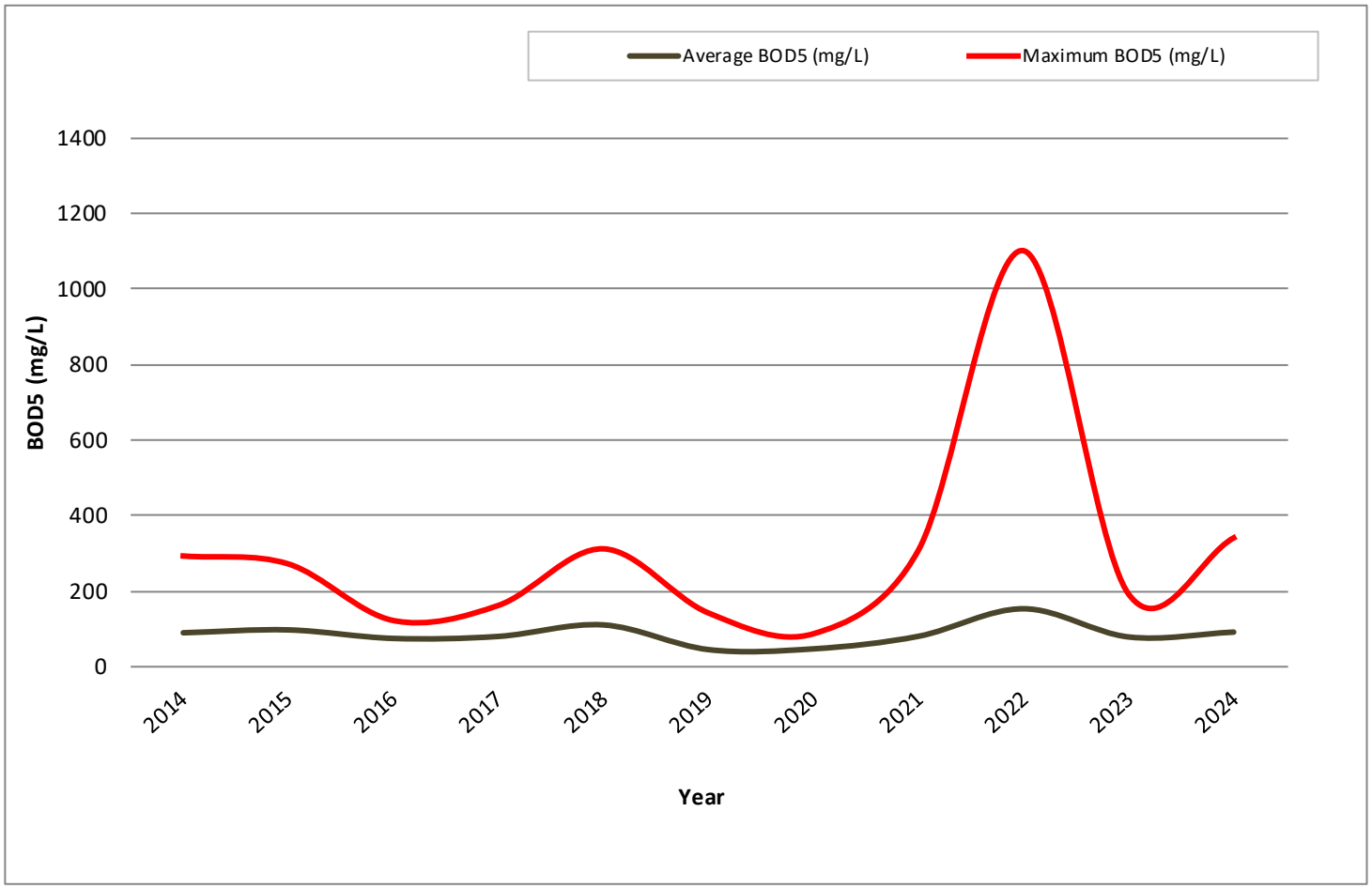
APPENDIX C

Historical Trends of Influent Characteristics

Haileybury Sewage Treatment Plant
Influent Characteristics – Historical Results (2014 to 2024)

BOD5 – Five Day Biochemical Oxygen Demand

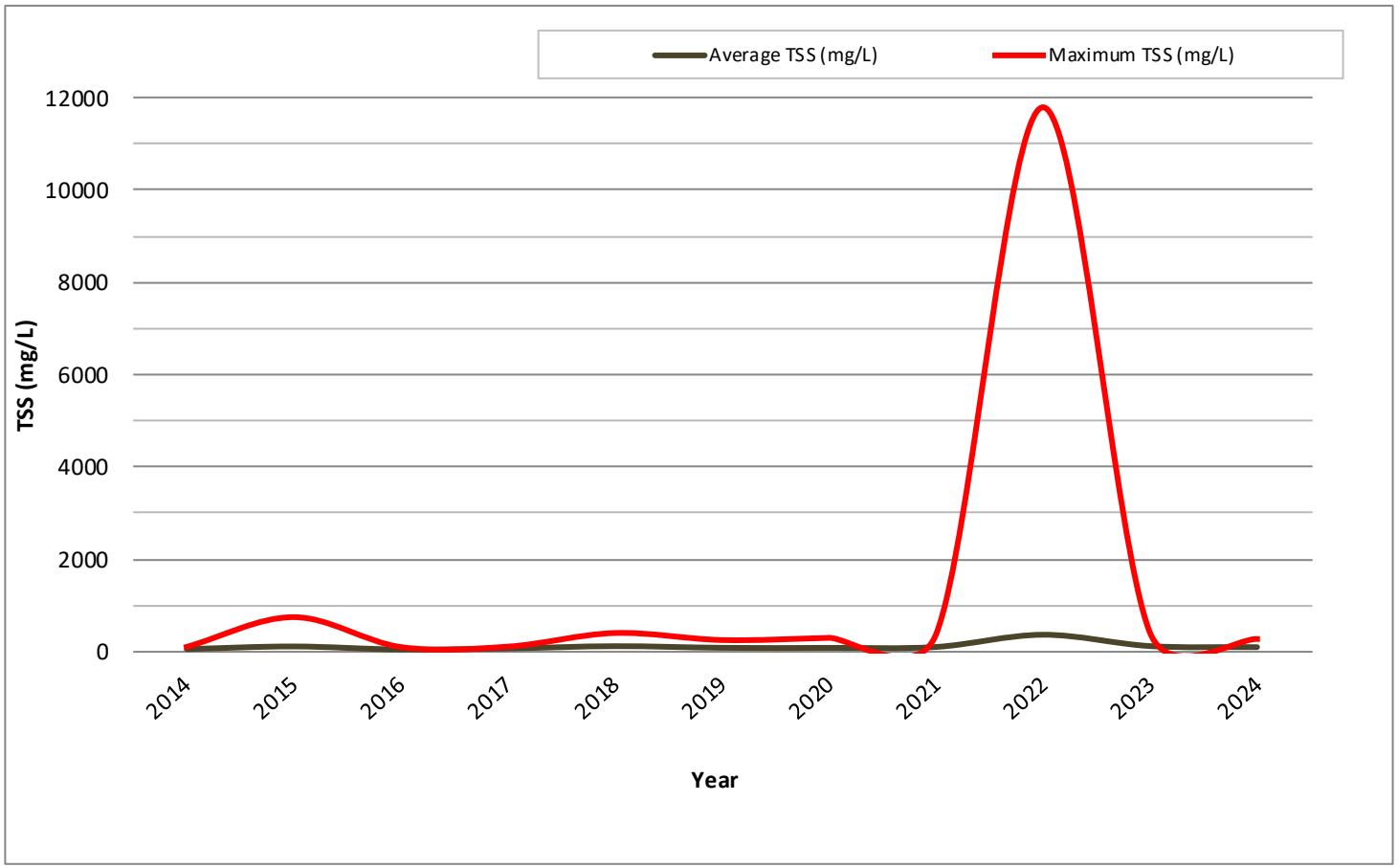
	2014	***2015***	***2016***	***2017***	***2018***	***2019***	***2020***	***2021***	***2022***	***2023***	***2024***
Average BOD5 (mg/L)	89	97	74	79	110	44	46	80	153	78	91
Maximum BOD5 (mg/L)	291	270	120	160	310	140	85	307	1100	190	339



Haileybury Sewage Treatment Plant
Influent Characteristics – Historical Results (2014 to 2024)

TSS – Total Suspended Solids

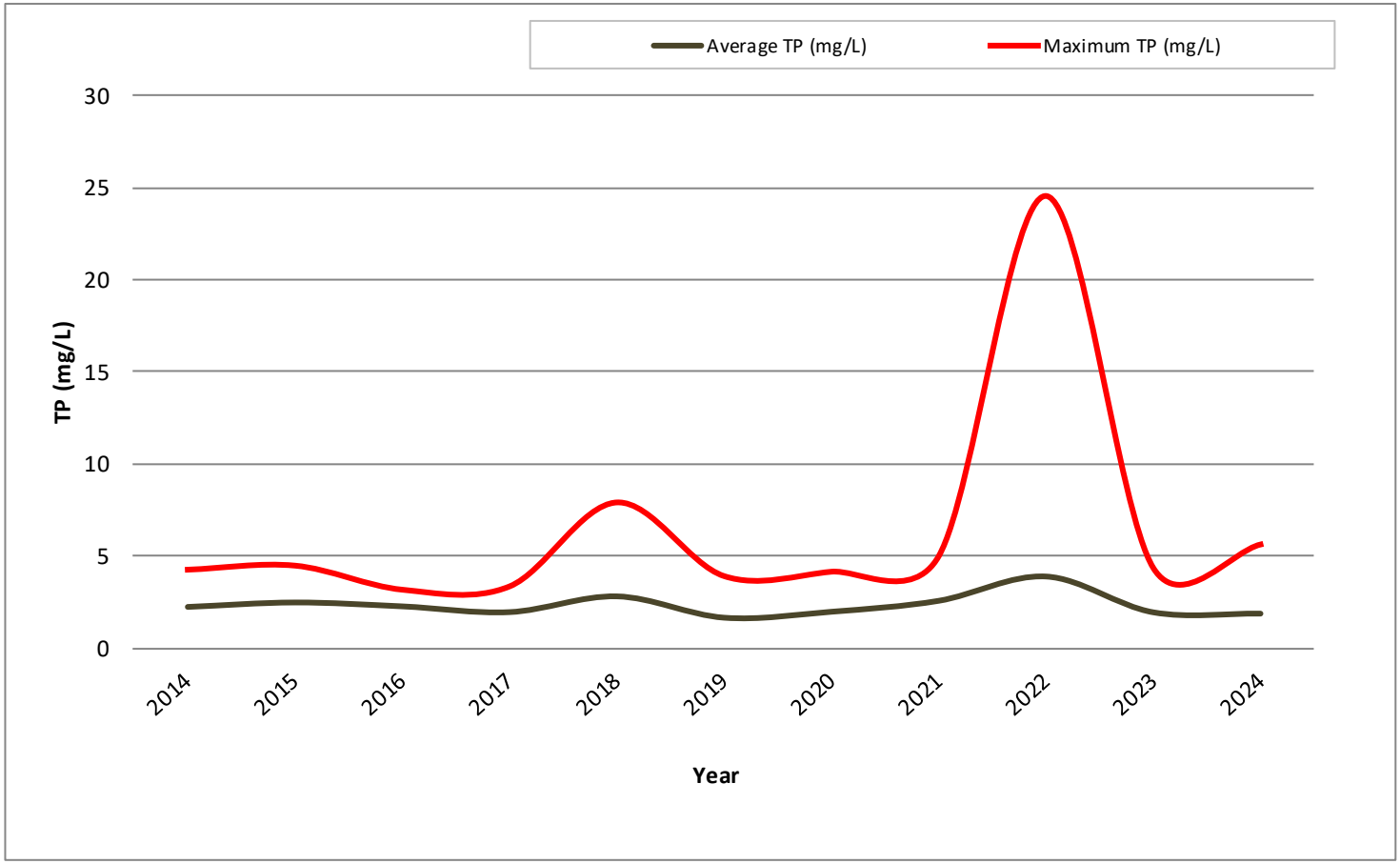
	2014	***2015***	***2016***	***2017***	***2018***	***2019***	***2020***	***2021***	***2022***	***2023***	***2024***
Average TSS (mg/L)	56	112	46	70	118	83	82	101	363	120	97
Maximum TSS (mg/L)	116	760	112	121	416	264	312	383	11800	420	287



Haileybury Sewage Treatment Plant
Influent Characteristics – Historical Results (2014 to 2024)

TP - Total Phosphorus

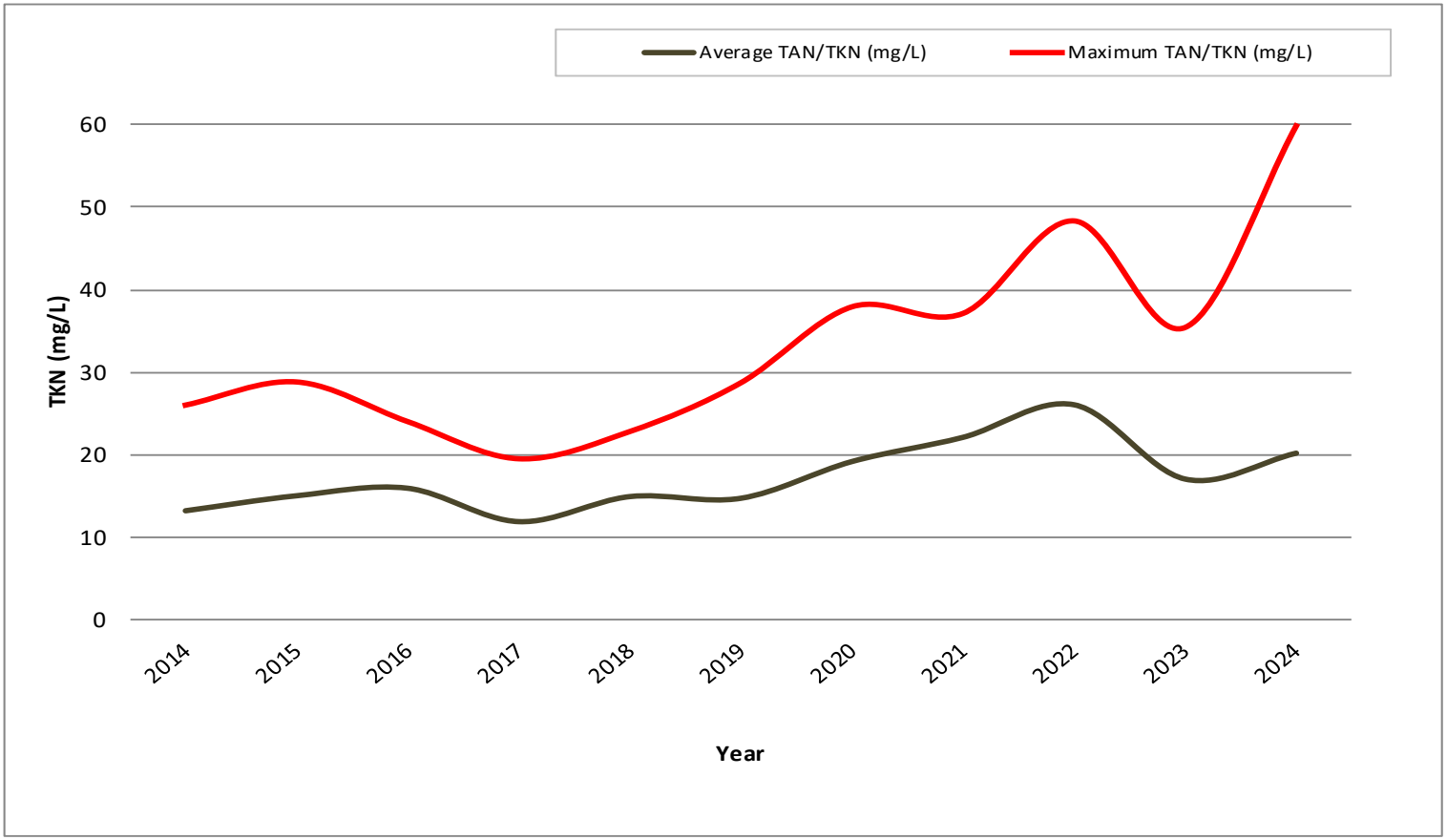
	2014	***2015***	***2016***	***2017***	***2018***	***2019***	***2020***	***2021***	***2022***	***2023***	***2024***
Average TP (mg/L)	2.2	2.4	2.2	1.9	2.8	1.6	1.9	2.5	3.8	1.9	1.8
Maximum TP (mg/L)	4	4.5	3.2	3.4	7.9	3.9	4.2	5.0	25	4.4	5.6



Haileybury Sewage Treatment Plant
Influent Characteristics – Historical Results (2014 to 2024)

TAN – Total Ammonia Nitrogen / TKN – Total Kjeldahl Nitrogen

	2014	***2015***	***2016***	***2017***	***2018***	***2019***	***2020***	***2021***	***2022***	***2023***	***2024***
Average TAN/TKN (mg/L)	13	15	16	12	15	15	19	22	26	17	20
Maximum TAN/TKN (mg/L)	26	29	24	20	23	29	38	37	48	36	60



* Note - TAN samples were required monthly from 2014 to March 2019 and TKN samples were required weekly after that under a new ECA.

APPENDIX D
Maintenance Summary

ONTARIO CLEAN WATER AGENCY
AGENCE ONTARIENNE DES EAUX

Workorder Summary Report

Report Start Date:	Jan 1, 2024 12:00 AM
Report End Date:	Dec 31, 2024 11:59 PM
Location:	5726*
Work Order Type:	CALL,CAP,CORR,EMER,OPER,PM
Work Order Class:	

				WorkOrder		PM Schedule		Workorder Details					
WO #	Asset ID	Asset Description	Location Description	Type	Class	FEQ	Units	Work Order Description	Status	Schedule Start	Actual Start	Actual Finsh	WorkLog Detail
3709543			5726, Haileybury STP	OPER	HEALTH AND SAFETY	1	YEARS	OCWA Annual Workplace Inspection (1y) 5726	CLOSE	1/1/24 12:00 AM	2/20/24 09:08 AM	2/20/24 09:08 AM	H&S Inspection -
3709549			5726, Haileybury STP	PM	HEALTH AND SAFETY	1	YEARS	WHMIS/SDS/NSF Review and Update (1y) 5726	CLOSE	1/1/24 12:00 AM	2/21/24 03:45 PM	2/21/24 03:45 PM	Yearly SDS Review & Update -
3713518	0000060172	TANK CONTACT CHAMBER 02	5726, Haileybury STP, Process, Disinfection	PM	Refurbish/ Replace/Repair	6	MONTHS	Gritt Channels and Contact Chamber Inspection (6m) 5726	CLOSE	1/1/24 12:00 AM	5/1/24 07:24 AM	5/1/24 07:24 AM	
3713537	0000076731	TANK STORAGE 01 WET WELL	5726, Lakeshore Pumping Station	PM	Refurbish/ Replace/Repair	6	MONTHS	Tank Wet Well Farr Drive Inspection (6m) 5726	CLOSE	1/1/24 12:00 AM	5/1/24 07:26 AM	5/1/24 07:26 AM	Cleaned Wet Well -
3734799			5726, Farr Pumping Station	PM	Inspection	1	YEARS	ALARM PLANT FARR SPS ANNUAL TESTING (1Y) 5726	CLOSE	1/1/24 12:00 AM	9/10/24 07:56 AM	9/10/24 07:56 AM	-Please see attached document for alarm testing performed.
3734802			5726, Haileybury STP	PM	Inspection	1	YEARS	ALARM PLANT HAIL STP ANNUAL TESTING (1Y) 5726	CLOSE	1/1/24 12:00 AM	9/10/24 08:03 AM	9/10/24 08:03 AM	-Please see attached document for alarm testing performed
3735264	0000076750	GENERATOR 25KW Portable Generator	5726, Lakeshore Pumping Station	PM	Refurbish/ Replace/Repair	1	MONTHS	Portable Generator Inspect/Service 5726 (1m)	CLOSE	1/1/24 12:00 AM	1/12/24 08:03 AM	1/12/24 08:03 AM	Checked and ran - Checked hours before running, oil, block heater and coolant. Everything ok. Ran generator manually for about half an hour. Recorded information as per the checklist. No leaks or noises detected. ran - training Shannen on genset running
3735713	0000293147	PORTABLE DO METER	5726, Haileybury STP, Facility	PM	Inspection	3	MONTHS	Analyzer Dissolved Oxygen/pH Portable Calibration/Inspection (3m) 5726	CLOSE	1/1/24 12:00 AM	1/3/24 01:59 PM	1/3/24 01:59 PM	- Cleaned and calibrated pH probe for analyzer using 4.01 pH and 7.00 pH buffer solutions as per manufactures instructions. Renewed storage solution.
3736359	0000277374	ENGINE DIESEL	5726, Haileybury STP, Facility, Power Generation	PM	Refurbish/ Replace/Repair	1	YEARS	Diesel Generator Genset Inspection/ Functional Test (1Y) 5726	CLOSE	1/1/24 12:00 AM	5/3/24 08:53 AM	5/3/24 08:53 AM	Completed by Contractors -

ONTARIO CLEAN WATER AGENCY
AGENCE ONTARIENNE DES EAUX

Workorder Summary Report

Report Start Date:	Jan 1, 2024 12:00 AM
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Location:	5726*
Work Order Type:	CALL,CAP,CORR,EMER,OPER,PM
Work Order Class:	

				WorkOrder		PM Schedule		Workorder Details					
WO #	Asset ID	Asset Description	Location Description	Type	Class	FEQ	Units	Work Order Description	Status	Schedule Start	Actual Start	Actual Finsh	WorkLog Detail
3748452	0000277442	ANALYZER DO Haileybury STP	5726, Haileybury STP, Facility	PM	Inspection	1	YEARS	Analyzer DO Pen Calibration 5726	CLOSE	1/1/24 12:00 AM	1/22/24 11:57 AM	1/22/24 11:57 AM	- Performed initial setup of pen by filling pen chamber with DO reference electrolyte solution. Performed a zero calibration and air calibration according to manufacture's instruction.
3749165	0000293700	ANALYZER PH Ultrapen Farr Pumping St.	5726, Farr Pumping Station	PM	Calibration	3	MONTHS	Analyzer pH Ultrapen Calibration (3m) 5726	CLOSE	1/1/24 12:00 AM	1/26/24 03:30 PM	1/26/24 03:30 PM	- Verified calibration of pen at 4.00 and 7.00 pH with Hach user made pH pillow packet buffers. No calibration was necessary at this time.
3758101			5726, Haileybury STP	OPER	Inspection	1	YEARS	Daily O&M Activities Wastewater Treatment (1y) 5726	COMP	1/1/24 12:00 AM	1/13/25 12:57 PM	1/13/25 12:57 PM	- Did some wasting on number 2 plant and trained Marc on the operations. - Performed and air calibration on both plant DO probes. Raised probes and cleaned. Units do not as yet have an OCWA ID tag on them. - Inspect raw sampler erratic operation. Found sampler making a rattling noise due to worn peristaltic pump hose. Replaced hose to restore pump operation. Noticed lots of air in suction line which was causing the sampler to over pump sample volumes. Removed suction hose and strainer. Found strainer metal parts worn and full of holes. Went to round up parts and hose to rebuild sampler suction line and replace. Calibrated sample volume.

ONTARIO CLEAN WATER AGENCY
AGENCE ONTARIENNE DES EAUX

Workorder Summary Report

Report Start Date: Jan 1, 2024 12:00 AM
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Location: 5726*
Work Order Type: CALL,CAP,CORR,EMER,OPER,PM
Work Order Class:

				WorkOrder		PM Schedule		Workorder Details					
WO #	Asset ID	Asset Description	Location Description	Type	Class	FEQ	Units	Work Order Description	Status	Schedule Start	Actual Start	Actual Finsh	WorkLog Detail
3758106	0000277374	ENGINE DIESEL	5726, Haileybury STP, Facility, Power Generation	PM	Refurbish/ Replace/Repair	1	MONTHS	Diesel Generator Genset Inspection/ Functional Test (1m) 5726	CLOSE	1/1/24 12:00 AM	1/12/24 08:20 AM	1/12/24 08:20 AM	ran - training shannen on genset running Checked and ran - Checked fuel level, block heater, coolant and oil. Ran generator for about half an hour. Recorded numbers as per the list. Everything working properly
3758122			5726, Haileybury STP	PM	Inspection	1	MONTHS	TPM Inspection/Maintenance (1m) 5726	CLOSE	1/1/24 12:00 AM	1/30/24 03:15 PM	1/30/24 03:15 PM	Checked Equipment - Checked blowers for abnormal sounds or vibrations. All good. Performed an oil change on the blower earlier in the month and changed the air filter. Cleaned DO meter off earlier in the month as well.
3758142	0000060125	BLOWER CENTRIFUGAL 02	5726, Haileybury STP, Process, Secondary Treatment	PM	Refurbish/ Replace/Repair	1	YEARS	Blower Centrifugal 02 Inspection/ Service (1y) 5726	CLOSE	1/1/24 12:00 AM	2/5/24 02:21 PM	2/5/24 02:21 PM	change oil - change oil and check filter and belt
3762793			5726, Haileybury STP	CAP	Compliance	0		Haileybury STP Chemicals 5726	COMP		1/13/25 01:02 PM	1/13/25 01:02 PM	
3763613			5726, Lakeshore Pumping Station	CALL	Predictive Maintenance	0		Call In - Pump fault at Lakeshore/ Brewster SPS	CLOSE		1/16/24 05:15 PM	1/16/24 06:00 PM	Call In - Pump fault at Lakeshore/ Brewster SPS - Received a call from Bryce because the alarm light at Brewster SPS was going off due to both pumps out of service. Pump #1 was put out of service earlier in the day. I tried resetting pump #2 and was not able to. Called Bryce and he arrived on site and was to reset the pump.

ONTARIO CLEAN WATER AGENCY
AGENCE ONTARIENNE DES EAUX

Workorder Summary Report

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Work Order Type:	CALL,CAP,CORR,EMER,OPER,PM
Work Order Class:	

				WorkOrder		PM Schedule		Workorder Details					
WO #	Asset ID	Asset Description	Location Description	Type	Class	FEQ	Units	Work Order Description	Status	Schedule Start	Actual Start	Actual Finsh	WorkLog Detail
3762982			5726, Lakeshore Pumping Station	CALL	Refurbish/ Replace/Repair	0		Call from Steve Burnett Fault Light on at Brewster SPS 5726	CLOSE		1/16/24 04:45 PM	1/16/24 06:15 PM	Call from Steve Burnett -Call from Steve that the fault light was on at Brewster SPS. Sent On Call to investigate, Found the one operational pump breaker tripped. They couldn't get breaker to reset, I went to site to investigate and got the breaker reset and pump started. The breakers are finicky and sometimes difficult to reset. Also pump one is out of service due to worn out impeller and Volute, Email has already been sent out to request pricing for a replacement pump.
3763980			5726, Haileybury STP, Process, Headworks	CORR	Refurbish/ Replace/Repair	0		Sampler Raw no Function Hail STP 5726	CLOSE		2/2/24 11:22 AM	2/2/24 11:22 AM	- Troubleshoot sampler not taking a sample. Found the intake line frozen, then found the liquid sensing pressure transmitter broken. The sampler will not take a sample if it does not see liquid during the sequence. Bryce is getting a price.
3785226	0000076750	GENERATOR 25KW Portable Generator	5726, Lakeshore Pumping Station	PM	Refurbish/ Replace/Repair	1	MONTHS	Portable Generator Inspect/Service 5726 (1m)	CLOSE	2/1/24 12:00 AM	2/27/24 03:28 PM	2/27/24 03:28 PM	Checked and ran - Checked fuel level, oil, coolant and block heater. everything ok. Ran generator and checked for any leaks or abnormal noises. none detected. Recorded hours.
3801803	0000277374	ENGINE DIESEL	5726, Haileybury STP, Facility, Power Generation	PM	Refurbish/ Replace/Repair	1	MONTHS	Diesel Generator Genset Inspection/ Functional Test (1m) 5726	CLOSE	2/1/24 12:00 AM	2/21/24 12:58 PM	2/21/24 12:58 PM	Checked and ran - Checked block heater, oil, coolant and fuel level. Everything good. Ran generator on test for approximately 30 minutes. Recorded all numbers as per the sheet. Everything working as it should. No abnormal noises or vibrations detected.

ONTARIO CLEAN WATER AGENCY
AGENCE ONTARIENNE DES EAUX

Workorder Summary Report

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Location:	5726*
Work Order Type:	CALL,CAP,CORR,EMER,OPER,PM
Work Order Class:	

				WorkOrder		PM Schedule		Workorder Details					
WO #	Asset ID	Asset Description	Location Description	Type	Class	FEQ	Units	Work Order Description	Status	Schedule Start	Actual Start	Actual Finsh	WorkLog Detail
3801819			5726, Haileybury STP	PM	Inspection	1	MONTHS	TPM Inspection/Maintenance (1m) 5726	CLOSE	2/1/24 12:00 AM	2/27/24 03:30 PM	2/27/24 03:30 PM	Checked -Inspected blowers for abnormal noises or vibrations. None detected
3803533			5726, Haileybury STP	CAP	Refurbish/ Replace/Repair	0		Replacement of Failed Pressure Sensor on Raw Sampler 5726	CLOSE		3/26/24 02:58 PM	3/26/24 02:58 PM	
3828777	0000076750	GENERATOR 25KW Portable Generator	5726, Lakeshore Pumping Station	PM	Refurbish/ Replace/Repair	1	MONTHS	Portable Generator Inspect/Service 5726 (1m)	CLOSE	3/1/24 12:00 AM	3/22/24 03:18 PM	3/22/24 03:18 PM	Ran -Generator was run by val's equipment services on March 21
3846035	0000277374	ENGINE DIESEL	5726, Haileybury STP, Facility, Power Generation	PM	Refurbish/ Replace/Repair	1	MONTHS	Diesel Generator Genset Inspection/ Functional Test (1m) 5726	CLOSE	3/1/24 12:00 AM	3/7/24 03:28 PM	3/7/24 03:28 PM	Checked and ran - Checked oil, fuel level, coolant and block heater. Everything ok. Recorded run hours before. Ran generator on test for approximately 30 minutes. No abnormal noises, vibrations or leaks detected. Recorded hours after run. Time never changed. Possibly something to look into.
3846051			5726, Haileybury STP	PM	Inspection	1	MONTHS	TPM Inspection/Maintenance (1m) 5726	CLOSE	3/1/24 12:00 AM	3/26/24 03:12 PM	3/26/24 03:12 PM	Checked - Checked blowers for any abnormal noises, vibrations or leaks. None detected. Oil and air filters are still good.
3850427			5726, Haileybury STP, Facility	CAP	Refurbish/ Replace/Repair	0		Replace Failing Hypo pumps and Add Chem Tank LIT 5726	CLOSE		10/21/24 09:51 AM	10/21/24 09:51 AM	pump install - install 2 new Hypo pump
3850449			5726, Farr Pumping Station	CAP	Refurbish/ Replace/Repair	0		Farr Drive SPS intrusion System 5726	CLOSE		5/24/24 07:32 AM	5/24/24 07:32 AM	-Removed old intrusion system, installed new system and commissioned. Building is now protected!
3850460			5726, Haileybury STP	CAP	Refurbish/ Replace/Repair	0		Replace Failing Hypo pumps and Add Chem Tank LIT 5726	CLOSE		3/21/24 12:33 PM	3/21/24 12:33 PM	
3856754	0000060067	SAMPLER EFFLUENT FINAL 01 MONTHLY COMPOSITE	5726, Haileybury STP, Facility	PM	Refurbish/ Replace/Repair	1	YEARS	Sampler Effluent Final Inspection (1y) 5726	CLOSE	4/1/24 12:00 AM	7/23/24 03:11 PM	7/23/24 03:11 PM	

ONTARIO CLEAN WATER AGENCY
AGENCE ONTARIENNE DES EAUX

Workorder Summary Report

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Location: 5726*
Work Order Type: CALL,CAP,CORR,EMER,OPER,PM
Work Order Class:

				WorkOrder		PM Schedule		Workorder Details					
WO #	Asset ID	Asset Description	Location Description	Type	Class	FEQ	Units	Work Order Description	Status	Schedule Start	Actual Start	Actual Finsh	WorkLog Detail
3856763	0000060194	SAMPLER RAW MONTHLY COMPOSITE	5726, Haileybury STP, Process, Process Controls	PM	Refurbish/ Replace/Repair	1	YEARS	Sampler Raw Inspection (1y) 5726	CLOSE	4/1/24 12:00 AM	7/23/24 03:16 PM	7/23/24 03:16 PM	- Inspect sampler operation. Check peristaltic pump hose and replace. Check calibration of sampler and adjust slightly. Remove suction line strainer and clean. Reposition suction line to provide a constant angle downwards from sampler. Verify sampler program.
3856772	0000076735	TANK STORAGE 02 WET WELL	5726, Farr Pumping Station	PM	Refurbish/ Replace/Repair	6	MONTHS	Tank Wet Well 02 Inspection (6m) 5726	CLOSE	4/1/24 12:00 AM	5/3/24 09:08 AM	5/3/24 09:08 AM	Cleaned Wet well and Inspected -
3856775	0000277382	METER FLOW 01 EFFLUENT	5726, Haileybury STP, Process, Process Controls	PM	Calibration	1	YEARS	Meter Flow Stp #1 Effluent Calibration (1y) 5726	CLOSE	4/1/24 12:00 AM	4/11/24 07:34 PM	4/11/24 07:34 PM	- Verified calibration by taking a physical measurements from transducer face to water level and comparing to a distance shot on the level transmitter. Compared the head / flow measurement from FIT to an online calculator www.irrigation.wsu.edu @ 11.8 l/s.
3856781	0000277383	METER FLOW 02 EFFLUENT	5726, Haileybury STP, Process, Process Controls	PM	Calibration	1	YEARS	Meter Flow Stp #2 Effluent Calibration (1y) 5726	CLOSE	4/1/24 12:00 AM	4/11/24 07:11 PM	4/11/24 07:11 PM	- Verified calibration by taking a physical measurements from benchmark to water level and comparing to a distance shot on the level transmitter. Compared the head / flow measurement from FIT to an online calculator www.irrigation.wsu.edu @ 35.74 l/s.
3874126	0000277386	DATALOGGER STP	5726, Haileybury STP, Process, Process Controls	PM	Calibration	1	YEARS	DATALOGGER CALIBRATION VERIFICATION (1Y) 5726	CLOSE	4/1/24 12:00 AM	4/8/24 01:57 PM	4/8/24 01:57 PM	-Verified calibration of all channels by comparing Datalogger display value to the mA input value generated by loop calibrator at 0, 25%, 50%, 75% and 100%.

ONTARIO CLEAN WATER AGENCY
AGENCE ONTARIENNE DES EAUX

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Report Start Date: Jan 1, 2024 12:00 AM
Report End Date: Dec 31, 2024 11:59 PM
Location: 5726*
Work Order Type: CALL,CAP,CORR,EMER,OPER,PM
Work Order Class:

				WorkOrder		PM Schedule		Workorder Details					
WO #	Asset ID	Asset Description	Location Description	Type	Class	FEQ	Units	Work Order Description	Status	Schedule Start	Actual Start	Actual Finsh	WorkLog Detail
3874284	0000293304	RECORDER DATALOGGER SPS	5726, Farr Pumping Station	PM	Calibration	1	YEARS	DATALOGGER FARR SPS CALIBRATION / VERIF (1Y) 5726	CLOSE	4/1/24 12:00 AM	4/8/24 01:34 PM	4/8/24 01:34 PM	-Verified calibration of channel by comparing Datalogger display value to the mA input value generated by loop calibrator at 0, 25%, 50%, 75% and 100%.
3876411	0000076750	GENERATOR 25KW Portable Generator	5726, Lakeshore Pumping Station	PM	Refurbish/ Replace/Repair	1	MONTHS	Portable Generator Inspect/Service 5726 (1m)	CLOSE	4/1/24 12:00 AM	5/2/24 03:09 PM	5/2/24 03:09 PM	Portable Generator Inspect/Service 5726 (1m) - Completed genset test: checked fuel, coolant, block heater and oil level no faults displayed recorded running values on sheet.
3876807	0000293147	PORTABLE DO METER	5726, Haileybury STP, Facility	PM	Inspection	3	MONTHS	Analyzer Dissolved Oxygen/pH Portable Calibration/Inspection (3m) 5726	CLOSE	4/1/24 12:00 AM	4/3/24 02:08 PM	4/3/24 02:08 PM	-Cleaned and calibrated pH probe for analyzer using 4.01 pH and 7.00 pH buffer solutions as per manufactures instructions. Calibration passed.
3876826	0000293627	TRANSMITTER PRESSURE AIR HEADER	5726, Haileybury STP, Process, Piping and Valves	PM	Refurbish/ Replace/Repair	1	YEARS	Transmitter Pressure Air Header Calibration (1Y) 5726	CLOSE	4/1/24 12:00 AM	4/5/24 03:08 PM	4/5/24 03:08 PM	- Put plant blower in manual at 8.0 psi and verified calibration of transmitter by applying pressure to input and measuring mA output as per manufactures instructions. No calibration was necessary, verified calibration on HMI.
3878156	0000277379	TRANSMITTER LEVEL WETWELL	5726, Lakeshore Pumping Station	PM	Calibration	1	YEARS	METER LEVEL LAKESHORE SPS OPERATION / VERIF. (1Y) 5726	CLOSE	4/1/24 12:00 AM	7/23/24 02:51 PM	7/23/24 02:51 PM	- Unit calibration was verified in April on WO 3898655. Old PM was made inactive and will now work off PM 31360.
3889657	0000293700	ANALYZER PH Ultrapen Farr Pumping St.	5726, Farr Pumping Station	PM	Calibration	3	MONTHS	Analyzer pH Ultrapen Calibration (3m) 5726	CLOSE	4/1/24 12:00 AM	4/15/24 12:45 PM	4/15/24 12:45 PM	- Verified calibration of pen at 4.00 and 7.00 pH with Hach user made pH pillow packet buffers. No calibration was necessary at this time.

ONTARIO CLEAN WATER AGENCY
AGENCE ONTARIENNE DES EAUX

Workorder Summary Report

Report Start Date: Jan 1, 2024 12:00 AM
Report End Date: Dec 31, 2024 11:59 PM
Location: 5726*
Work Order Type: CALL,CAP,CORR,EMER,OPER,PM
Work Order Class:

				WorkOrder		PM Schedule		Workorder Details					
WO #	Asset ID	Asset Description	Location Description	Type	Class	FEQ	Units	Work Order Description	Status	Schedule Start	Actual Start	Actual Finsh	WorkLog Detail
3898639	0000277374	ENGINE DIESEL	5726, Haileybury STP, Facility, Power Generation	PM	Refurbish/ Replace/Repair	1	MONTHS	Diesel Generator Genset Inspection/ Functional Test (1m) 5726	CLOSE	4/1/24 12:00 AM	4/12/24 03:08 PM	4/12/24 03:08 PM	Diesel Generator Genset Inspection/ Functional Test (1m) 5726 - Completed genset test: checked fuel, coolant, block heater and oil level. ok recorded running values on sheet no faults displayed
3898655	0000293306	METER LEVEL WET WELL	5726, Farr Pumping Station	PM	Calibration	1	YEARS	METER LEVEL FARR SPS OPERATION / VERIF. (1Y) 5726	CLOSE	4/1/24 12:00 AM	4/8/24 02:00 PM	4/8/24 02:00 PM	-Measured distance from tie wrap to probe element. This equals 4810 mm. Verified calibration by measuring from tie wrap to liquid surface and subtracting values to get a liquid level of 1750 mm.
3898660			5726, Haileybury STP	PM	Inspection	1	MONTHS	TPM Inspection/Maintenance (1m) 5726	CLOSE	4/1/24 12:00 AM	5/6/24 07:40 AM	5/6/24 07:40 AM	TPM Inspection/Maintenance (1m) 5726 - Completed monthly TPM: Visually checked rake. ok Skimmer on plant 2 "out of order" Visually check blower and RAS blower. ok Checked exhaust fan. ok
3904583			5726, Haileybury STP	CAP	Refurbish/ Replace/Repair	0		Hail STP Sea Can Ventilation 5726	CLOSE		10/21/24 09:28 AM	10/21/24 09:28 AM	install - start install inlet duct
3908850	0000076739	PUMP PERISTALTIC HYPO #1	5726, Haileybury STP, Process, Disinfection	PM	Refurbish/ Replace/Repair	1	YEARS	Pump Peristaltic Hypo 01 Inspection/Service (1y) 5726	CLOSE	5/1/24 12:00 AM	5/8/24 10:37 AM	5/8/24 10:37 AM	check - pump replace for new one
3908856	0000076740	PUMP PERISTALTIC HYPO #2	5726, Haileybury STP, Process, Disinfection	PM	Refurbish/ Replace/Repair	1	YEARS	Pump Peristaltic Hypo 02 Inspection/Service (1y) 5726	CLOSE	5/1/24 12:00 AM	5/8/24 10:41 AM	5/8/24 10:41 AM	check - pump replace with new one
3927660	0000076750	GENERATOR 25KW Portable Generator	5726, Lakeshore Pumping Station	PM	Refurbish/ Replace/Repair	1	MONTHS	Portable Generator Inspect/Service 5726 (1m)	CLOSE	5/1/24 12:00 AM	5/27/24 07:53 AM	5/27/24 07:53 AM	genset test -turned on generator and recorded numbers
3946432	0000277374	ENGINE DIESEL	5726, Haileybury STP, Facility, Power Generation	PM	Refurbish/ Replace/Repair	1	MONTHS	Diesel Generator Genset Inspection/ Functional Test (1m) 5726	CLOSE	5/1/24 12:00 AM	5/13/24 03:32 PM	5/13/24 03:32 PM	genset test -tested generator at haileybury waste water treatment. recorded numbers. everything went good

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3946448			5726, Haileybury STP	PM	Inspection	1	MONTHS	TPM Inspection/Maintenance (1m) 5726	CLOSE	5/1/24 12:00 AM	5/31/24 03:14 PM	5/31/24 03:14 PM	tpm - no unusual sounds. lights and fans all work
3946468	0000060189	TANK PROCESS 01 CLARIFIER	5726, Haileybury STP, Process, Secondary Treatment	PM	Refurbish/ Replace/Repair	1	YEARS	Tank Clarifier #1 Inspection/Service (1y) 5726	CLOSE	5/1/24 12:00 AM	10/30/24 07:39 AM	10/30/24 07:39 AM	Tank Clarifier #1 Inspection/Service - weir are clean and in good shape, arms are moving good, drives are turning. no unusual sounds
3946482	0000060167	TANK PROCESS 02 CLARIFIER	5726, Haileybury STP, Process, Secondary Treatment	PM	Refurbish/ Replace/Repair	1	YEARS	Tank Clarifier #2 Inspection/Service (1y) 5726	CLOSE	5/1/24 12:00 AM	10/30/24 07:42 AM	10/30/24 07:42 AM	Tank Clarifier #2 Inspection/Service - weir's are clean and in good shape, arms are moving good, drives are turning. no unusual sounds
3946496	0000060174	GRINDER COMMINUTOR 02	5726, Haileybury STP, Process, Headworks	PM	Refurbish/ Replace/Repair	1	YEARS	Grinder Clean/Inspection (1y) 5726	CLOSE	5/1/24 12:00 AM	5/8/24 02:58 PM	5/8/24 02:58 PM	check - check both grinder and clarifier drive and grease
3947981			5726, Lakeshore Pumping Station	CAP	Refurbish/ Replace/Repair	0		Install New Brewster #1 Pump 5726	CLOSE		5/28/24 02:40 PM	5/28/24 02:40 PM	pump install - help bryce with pump install Replace Old Warn Pump #1 -
3951553			5726, Haileybury STP	CAP	Refurbish/ Replace/Repair	0		DO Sensor Cap Replacement 5726	CLOSE		7/29/24 09:20 PM	7/29/24 09:20 PM	- Cleaned probes and replaced DO caps on both plants and calibrated. Cleaned out air cleaning ports and lines and tested system.
3952223			5726, Haileybury STP	CAP	Refurbish/ Replace/Repair	0		STP DO Sensor CAP 5726	CLOSE		5/27/24 12:34 PM	5/27/24 12:34 PM	
3954338			5726, Haileybury STP	PM	Compliance	1	YEARS	Facility Emergency Plan Review (1y) 5726	CLOSE	6/1/24 12:00 AM	7/29/24 03:05 PM	7/29/24 03:05 PM	Facility Emergency Plan Review (1y) 5726 - The FEP binder was reviewed and updated on March 28, 2024.
3954339			5726, Haileybury STP	PM	Compliance	1	YEARS	FEP Site Contingency Plan Review (1y) 5726	CLOSE	6/1/24 12:00 AM	9/27/24 08:58 AM	9/27/24 08:58 AM	FEP Site Contingency Plan Review (1y) 5726 -Contingency plan review and test conducted for Critical Injury and Critical Shortage of Staff.

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3977253	0000076750	GENERATOR 25KW Portable Generator	5726, Lakeshore Pumping Station	PM	Refurbish/ Replace/Repair	1	MONTHS	Portable Generator Inspect/Service 5726 (1m)	CLOSE	6/1/24 12:00 AM	6/18/24 02:13 PM	6/18/24 02:13 PM	genset test - ran generator, wrote down numbers. ran good, no issues starting
3996097	0000277374	ENGINE DIESEL	5726, Haileybury STP, Facility, Power Generation	PM	Refurbish/ Replace/Repair	1	MONTHS	Diesel Generator Genset Inspection/ Functional Test (1m) 5726	CLOSE	6/1/24 12:00 AM	6/5/24 03:35 PM	6/5/24 03:35 PM	genset test -tested generator. put back in auto
3996113			5726, Haileybury STP	PM	Inspection	1	MONTHS	TPM Inspection/Maintenance (1m) 5726	CLOSE	6/1/24 12:00 AM	6/28/24 12:45 PM	6/28/24 12:45 PM	tpm - no unusual sounds no burnt out lights. pumps sound in good working conditions heater/ ac working good
3996919			5726, Haileybury STP	CAP	Refurbish/ Replace/Repair	0		Hail STP Hypo Tank Tarps (UV) protection 5726	CLOSE		9/4/24 03:20 PM	9/4/24 03:20 PM	
4001857			5726, Haileybury STP	CAP	HEALTH AND SAFETY	0		Hail STP Safe Chains For Openings in Railing 5726	CLOSE		9/4/24 12:25 PM	9/4/24 12:25 PM	
4007102	0000060172	TANK CONTACT CHAMBER 02	5726, Haileybury STP, Process, Disinfection	PM	Refurbish/ Replace/Repair	6	MONTHS	Gritt Channels and Contact Chamber Inspection (6m) 5726	COMP	7/1/24 12:00 AM	12/6/24 07:17 AM	12/6/24 07:17 AM	Vac Truck Broke, Gritt Channels inspected OK -
4007121	0000076731	TANK STORAGE 01 WET WELL	5726, Lakeshore Pumping Station	PM	Refurbish/ Replace/Repair	6	MONTHS	Tank Wet Well Farr Drive Inspection (6m) 5726	COMP	7/1/24 12:00 AM	11/26/24 02:45 PM	11/26/24 02:45 PM	Tank Wet Well Farr Drive Inspection (6m) 5726 - Inspected Farr Dr Wet Well Tank. Visual inspect - tank looks clean, no grit removal required, Grease on valves
4024430	0000076750	GENERATOR 25KW Portable Generator	5726, Lakeshore Pumping Station	PM	Refurbish/ Replace/Repair	1	MONTHS	Portable Generator Inspect/Service 5726 (1m)	CLOSE	7/1/24 12:00 AM	7/29/24 06:28 AM	7/29/24 06:28 AM	Portable Generator Inspect/Service 5726 (1m) - Completed genset test: checked oil, coolant. block heater and fuel no faults displayed recorded running values
4024844	0000293147	PORTABLE DO METER	5726, Haileybury STP, Facility	PM	Inspection	3	MONTHS	Analyzer Dissolved Oxygen/pH Portable Calibration/Inspection (3m) 5726	CLOSE	7/1/24 12:00 AM	7/23/24 03:00 PM	7/23/24 03:00 PM	- Verified calibration of probe with fresh Hach pH buffers. No calibration was necessary at this time. Renewed probe storage solution.

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4036323	0000293700	ANALYZER PH Ultrapen Farr Pumping St.	5726, Farr Pumping Station	PM	Calibration	3	MONTHS	Analyzer pH Ultrapen Calibration (3m) 5726	CLOSE	7/1/24 12:00 AM	7/23/24 03:07 PM	7/23/24 03:07 PM	- Calibrated pen at 4.00 and 7.00 pH with Hach user made pH pillow packet buffers.
4045098	0000277374	ENGINE DIESEL	5726, Haileybury STP, Facility, Power Generation	PM	Refurbish/ Replace/Repair	1	MONTHS	Diesel Generator Genset Inspection/ Functional Test (1m) 5726	CLOSE	7/1/24 12:00 AM	7/9/24 07:11 AM	7/9/24 07:11 AM	Diesel Generator Genset Inspection/ Functional Test (1m) 5726 - Visual inspection of generator prior to running in test mode. Filled out monthly generator sheets. Found No issues. Fuel level at approximately 1/2.
4045114			5726, Haileybury STP	PM	Refurbish/ Replace/Repair	1	YEARS	Diesel Generator Genset Inspection/ Functional Test (1y) 5726	CLOSE	7/1/24 12:00 AM	9/26/24 09:16 AM	9/26/24 09:16 AM	completed by Contractor -
4045126			5726, Haileybury STP	PM	Inspection	1	MONTHS	TPM Inspection/Maintenance (1m) 5726	CLOSE	7/1/24 12:00 AM	7/29/24 03:33 PM	7/29/24 03:33 PM	TPM Inspection/Maintenance (1m) 5726 -inspected facility and found no issues.
4056151	0000293160	ANALYZER CHLORINE PORTABLE Farr Dr. PS	5726, Farr Pumping Station	PM	Inspection	1	MONTHS	Analyzer Chlorine Portable Cassie Inspection/Service (1m) 5752	CLOSE	8/1/24 12:00 AM	8/30/24 08:30 AM	8/30/24 08:30 AM	Analyzer Chlorine Portable Cassie Inspection/Service (1m) 5752 - Analyzer not in service.
4072379	0000076750	GENERATOR 25KW Portable Generator	5726, Lakeshore Pumping Station	PM	Refurbish/ Replace/Repair	1	MONTHS	Portable Generator Inspect/Service 5726 (1m)	CLOSE	8/1/24 12:00 AM	8/13/24 12:42 PM	8/13/24 12:42 PM	ran - ran and record value on sheet
4090139	0000277374	ENGINE DIESEL	5726, Haileybury STP, Facility, Power Generation	PM	Refurbish/ Replace/Repair	1	MONTHS	Diesel Generator Genset Inspection/ Functional Test (1m) 5726	CLOSE	8/1/24 12:00 AM	8/8/24 02:58 PM	8/8/24 02:58 PM	ran - ran and record value on sheet
4090155			5726, Haileybury STP	PM	Inspection	1	MONTHS	TPM Inspection/Maintenance (1m) 5726	CLOSE	8/1/24 12:00 AM	8/29/24 03:33 PM	8/29/24 03:33 PM	check - check blower and fan all good

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4093758			5726, Haileybury STP, Process, Headworks	CAP	Refurbish/ Replace/Repair	0		Sampler Raw Repair Function Hail STP 5726	COMP		12/19/24 10:15 AM	12/19/24 10:15 AM	- Inspect raw sampler erratic operation. Found sampler making a rattling noise due to worn peristaltic pump hose. Replaced hose to restore pump operation. Noticed lots of air in suction line which was causing the sampler to over pump sample volumes. Removed suction hose and strainer. Found strainer metal parts worn and full of holes. Went to round up parts and hose to rebuild sampler suction line and replace. Calibrated sample volume.
4100931	0000293160	ANALYZER CHLORINE PORTABLE Farr Dr. PS	5726, Farr Pumping Station	PM	Inspection	1	MONTHS	Analyzer Chlorine Portable Cassie Inspection/Service (1m) 5752	CLOSE	9/1/24 12:00 AM	9/19/24 03:57 PM	9/19/24 03:57 PM	Analyzer Chlorine Portable Cassie Inspection/Service (1m) 5752 -Analyzer not in service.
4119791	0000076750	GENERATOR 25KW Portable Generator	5726, Lakeshore Pumping Station	PM	Refurbish/ Replace/Repair	1	MONTHS	Portable Generator Inspect/Service 5726 (1m)	CLOSE	9/1/24 12:00 AM	9/18/24 08:10 AM	9/18/24 08:10 AM	Tested - Checked oil, block heater, coolant and fuel level. Recorded hours before running. Ran on manual for about an hour. Low battery alarm came on. No other abnormal noises, vibrations or leaks detected. Recorded hours after running.
4140282	0000277374	ENGINE DIESEL	5726, Haileybury STP, Facility, Power Generation	PM	Refurbish/ Replace/Repair	1	MONTHS	Diesel Generator Genset Inspection/ Functional Test (1m) 5726	CLOSE	9/1/24 12:00 AM	9/13/24 01:00 PM	9/13/24 01:00 PM	genset test - completed monthly genset test. checked oil, recorded run hours tested switch over. ran generator for 30 minutes minimum. everything ran good. back in auto
4140298			5726, Haileybury STP	PM	Inspection	1	MONTHS	TPM Inspection/Maintenance (1m) 5726	CLOSE	9/1/24 12:00 AM	9/25/24 03:39 PM	9/25/24 03:39 PM	Checked - Checked blowers and vents. No abnormal leaks, noises or vibrations detected on any equipment.

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4151612	0000076735	TANK STORAGE 02 WET WELL	5726, Farr Pumping Station	PM	Refurbish/ Replace/Repair	6	MONTHS	Tank Wet Well 02 Inspection (6m) 5726	COMP	10/1/24 12:00 AM	11/26/24 02:58 PM	11/26/24 02:58 PM	Tank Wet Well 02 Inspection (6m) 5726 - Visual Inspect Lakeshore SPS - Tank looks clean, no grit removal required, grease on valves. Tested both High lfit pumps. Both working, hourly timer gauge not working on #1. Set back in Auto.
4151660	0000293160	ANALYZER CHLORINE PORTABLE Farr Dr. PS	5726, Farr Pumping Station	PM	Inspection	1	MONTHS	Analyzer Chlorine Portable Cassie Inspection/Service (1m) 5752	CLOSE	10/1/24 12:00 AM	11/15/24 07:44 AM	11/15/24 07:44 AM	Analyzer Chlorine Portable Cassie Inspection/Service (1m) 5752 - Operational Constrains Verification completed
4169832	0000076750	GENERATOR 25KW Portable Generator	5726, Lakeshore Pumping Station	PM	Refurbish/ Replace/Repair	1	MONTHS	Portable Generator Inspect/Service 5726 (1m)	CLOSE	10/1/24 12:00 AM	10/18/24 02:58 PM	10/18/24 02:58 PM	genset test - recorded fuel level and generator hours, checked oil, coolant level. ran for 30 ish minutes, recorded numbers. put back in auto.
4170185	0000293147	PORTABLE DO METER	5726, Haileybury STP, Facility	PM	Inspection	3	MONTHS	Analyzer Dissolved Oxygen/pH Portable Calibration/Inspection (3m) 5726	CLOSE	10/1/24 12:00 AM	10/11/24 08:33 AM	10/11/24 08:33 AM	-Cleaned probe and Verified calibration with fresh Hach pH buffers. A minor calibration adjustment was made.
4181385	0000293700	ANALYZER PH Ultrapen Farr Pumping St.	5726, Farr Pumping Station	PM	Calibration	3	MONTHS	Analyzer pH Ultrapen Calibration (3m) 5726	CLOSE	10/1/24 12:00 AM	10/25/24 01:03 PM	10/25/24 01:03 PM	-Calibrated pen at 4.00 and 7.00 pH with Hach user made pH pillow packet buffers. Refer to shared drive for calibration slip.
4191146	0000277374	ENGINE DIESEL	5726, Haileybury STP, Facility, Power Generation	PM	Refurbish/ Replace/Repair	1	MONTHS	Diesel Generator Genset Inspection/ Functional Test (1m) 5726	CLOSE	10/1/24 12:00 AM	10/17/24 03:32 PM	10/17/24 03:32 PM	genset test - checked oil, fuel level and coolant level. ran generator for 30 minutes, recorded numbers put generator back to auto. no leaks, generator in good working condition.

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4191162			5726, Haileybury STP	PM	Inspection	1	MONTHS	TPM Inspection/Maintenance (1m) 5726	CLOSE	10/1/24 12:00 AM	10/11/24 02:39 PM	10/11/24 02:39 PM	tpm maintenace - fans are in good working condition, no unusual sounds, exterior fencing in good shape. no burnt light bulbs
4193685			5726, Haileybury STP	CAP	Refurbish/ Replace/Repair	0		Electra Flow Verification	CLOSE		10/9/24 05:33 PM	10/9/24 05:33 PM	- Setup flowmeter at the office to make sure the software and meter were functioning properly. New 6v batteries were required for the meter. Took flow measurement on site and manually calculated the flow rate to make sure that the flow was accurate. Created a report outlining all of the data.
4201289	0000293160	ANALYZER CHLORINE PORTABLE Farr Dr. PS	5726, Farr Pumping Station	PM	Inspection	1	MONTHS	Analyzer Chlorine Portable Farr Dr. Inspection/Service (1m) 5752	CLOSE	11/1/24 12:00 AM	11/15/24 03:57 PM	11/15/24 03:57 PM	Analyzer Chlorine Portable HAILEYBURY WWTP Inspection/ Service (1m) 5752 - Completed Portable Chlorine Kit Verification (0.22) (0.86) (1.44)
4216603	0000076750	GENERATOR 25KW Portable Generator	5726, Lakeshore Pumping Station	PM	Refurbish/ Replace/Repair	1	MONTHS	Portable Generator Inspect/Service 5726 (1m)	COMP	11/1/24 12:00 AM	11/21/24 03:43 PM	11/21/24 03:43 PM	Portable Generator Inspect/Service - recorded hours and fuel level. checked oil and coolant level. put generator to test, came back 30-45 minutes later. recorded volts, amps, hertz, oil pressures , coolant temp etc. put back in auto
4233808	0000277374	ENGINE DIESEL	5726, Haileybury STP, Facility, Power Generation	PM	Refurbish/ Replace/Repair	1	MONTHS	Diesel Generator Genset Inspection/ Functional Test (1m) 5726	COMP	11/1/24 12:00 AM	11/20/24 03:55 PM	11/20/24 03:55 PM	Checked - Checked fuel level, coolant, oil and block heater. Recorded hours before running. Ran on test mode for about a half an hour. No abnormal noises, leaks or vibrations detected. Put back to auto and power switched back to source 1.

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4233824			5726, Haileybury STP	PM	Inspection	1	MONTHS	TPM Inspection/Maintenance (1m) 5726	COMP	11/1/24 12:00 AM	11/27/24 09:02 AM	11/27/24 09:02 AM	TPM Inspection/Maintenance (1m) 5726 - TPM inspection; Inspected clarifiers, Blowers, level sensors all walkway and Exit lights working. No unusual noises. Ventilation working
4243239	0000293160	ANALYZER CHLORINE PORTABLE Farr Dr. PS	5726, Farr Pumping Station	PM	Inspection	1	MONTHS	Analyzer Chlorine Portable Cassie Inspection/Service (1m) 5752	COMP	12/1/24 12:00 AM	12/19/24 03:49 PM	12/19/24 03:49 PM	Analyzer Chlorine Portable Cassie Inspection/Service (1m) 5752 - Not in service
4258448	0000076750	GENERATOR 25KW Portable Generator	5726, Lakeshore Pumping Station	PM	Refurbish/ Replace/Repair	1	MONTHS	Portable Generator Inspect/Service 5726 (1m)	COMP	12/1/24 12:00 AM	12/19/24 03:14 PM	12/19/24 03:14 PM	Portable Generator Inspect/Service - recorded operating hours. checked oil, coolant level and blocker heater ran in manual for 30 minutes recorded numbers turned off generator everything in good working condition
4275582	0000277374	ENGINE DIESEL	5726, Haileybury STP, Facility, Power Generation	PM	Refurbish/ Replace/Repair	1	MONTHS	Diesel Generator Genset Inspection/ Functional Test (1m) 5726	COMP	12/1/24 12:00 AM	12/5/24 03:34 PM	12/5/24 03:34 PM	Diesel Generator Genset Inspection/ Functional Test (1m) 5726 - Performed monthly generator pm Filled out generator maintenance sheet. Found no issues.
4275598			5726, Haileybury STP	PM	Inspection	1	MONTHS	TPM Inspection/Maintenance (1m) 5726	COMP	12/1/24 12:00 AM	12/20/24 02:07 PM	12/20/24 02:07 PM	TPM Inspection/Maintenance (1m) 5726 - Periodically performed checks throughout the month of December and found no issues.
4281494			5726, Haileybury STP	CALL	Refurbish/ Replace/Repair	0		Called in for Abnormal sampling Haileybury STP effluent flow exceedance	COMP		12/30/24 10:03 PM	12/30/24 11:42 PM	-Called in for abnormal sampling @ 2203. Collected effluent abnormal samples. Also verified the screens for any buildup or overflows.

APPENDIX E
Sludge Quality

Biosolids Sludge Quality	Jan 2024	Feb 2024	Mar 2024	Apr 2024	May 2024	Jun 2024	Jul 2024	Aug 2024	Sep 2024	Oct 2024	Nov 2024	Dec 2024	Total	Avg	Max	Min
Hauled Vol. - m³																
IH Month.Total		326.40	108.80	503.20	272.00		95.20	217.60	462.40	421.60	68.00	231.20	2706.40			
													2024			
STP #1	**Jan 2024**									**Oct 2024**			**Total**	**Avg**	**Max**	**Min**
Arsenic: As - mg/L																
Lab Count	0.00									1.00			1.00			
Lab Month.Mean										0.0100				0.0100		
Cadmium: Cd - mg/L																
Lab Count	0.00									1.00			1.00			
Lab Month.Mean										0.0039				0.0039		
Cobalt: Co - mg/L																
Lab Count	0.00									1.00			1.00			
Lab Month.Mean										0.0199				0.0199		
Chromium: Cr - mg/L																
Lab Count	0.00									1.00			1.00			
Lab Month.Mean										0.0050				0.0050		
Copper: Cu - mg/L																
Lab Count	0.00									1.00			1.00			
Lab Month.Mean										0.5900				0.5900		
Mercury: Hg - mg/L																
Lab Count	0.00									1.00			1.00			
Lab Month.Mean										< 0.0001				< 0.0001		
Potassium: K - mg/L																
Lab Count	0.00									1.00			1.00			
Lab Month.Mean										50.00				50.00		

Molybdenum: Mo - mg/L																
Lab Count	0.00									1.00			1.00			
Lab Month.Mean										< 0.0010				< 0.0010		
Total Ammonia Nitrogen: NH3 + NH4+ as N - mg/L																
Lab Count	0.00									1.00			1.00			
Lab Month.Mean										0.6800				0.6800		
Nickel: Ni - mg/L																
Lab Count	0.00									1.00			1.00			
Lab Month.Mean										0.0950				0.0950		
Nitrate as N: NO3-N - mg/L																
Lab Count	0.00									1.00			1.00			
Lab Month.Mean										137.00				137.00		
Lead: Pb - mg/L																
Lab Count	0.00									1.00			1.00			
Lab Month.Mean										0.0023				0.0023		
Selenium: Se - mg/L																
Lab Count	0.00									1.00			1.00			
Lab Month.Mean										0.0004				0.0004		
Total Phosphorus: TP - mg/L																
Lab Count	0.00									1.00			1.00			
Lab Month.Mean										191.00				191.00		
Total Solids: TS - mg/L																
Lab Count	0.00									1.00			1.00			
Lab Month.Mean										17900.00				17900.00		
Zinc: Zn - mg/L																
Lab Count	0.00									1.00			1.00			
Lab Month.Mean										2.22				2.22		
														2024		

STP #2	Jan 2024	Oct 2024	Total	Avg	Max	Min
Arsenic: As - mg/L						
Lab Count	0.00	1.00	1.00			
Lab Month.Mean		0.0110		0.0110		
Cadmium: Cd - mg/L						
Lab Count	0.00	1.00	1.00			
Lab Month.Mean		0.0048		0.0048		
Cobalt: Co - mg/L						
Lab Count	0.00	1.00	1.00			
Lab Month.Mean		0.0255		0.0255		
Chromium: Cr - mg/L						
Lab Count	0.00	1.00	1.00			
Lab Month.Mean		0.0050		0.0050		
Copper: Cu - mg/L						
Lab Count	0.00	1.00	1.00			
Lab Month.Mean		0.6900		0.6900		
Mercury: Hg - mg/L						
Lab Count	0.00	1.00	1.00			
Lab Month.Mean		< 0.0001		< 0.0001		
Potassium: K - mg/L						
Lab Count	0.00	1.00	1.00			
Lab Month.Mean		69.00		69.00		
Molybdenum: Mo - mg/L						
Lab Count	0.00	1.00	1.00			
Lab Month.Mean		< 0.0010		< 0.0010		
Total Ammonia Nitrogen: NH3 + NH4+ as N - mg/L						
Lab Count	0.00	1.00	1.00			
Lab Month.Mean		1.08		1.08		

Nickel: Ni - mg/L																
Lab Count	0.00									1.00			1.00			
Lab Month.Mean										0.1380				0.1380		
Nitrate as N: NO3-N - mg/L																
Lab Count	0.00									1.00			1.00			
Lab Month.Mean										250.00				250.00		
Lead: Pb - mg/L																
Lab Count	0.00									1.00			1.00			
Lab Month.Mean										0.0028				0.0028		
Selenium: Se - mg/L																
Lab Count	0.00									1.00			1.00			
Lab Month.Mean										< 0.0002				< 0.0002		
Total Phosphorus: TP - mg/L																
Lab Count	0.00									1.00			1.00			
Lab Month.Mean										346.00				346.00		
Total Solids: TS - mg/L																
Lab Count	0.00									1.00			1.00			
Lab Month.Mean										24700.00				24700.00		
Zinc: Zn - mg/L																
Lab Count	0.00									1.00			1.00			
Lab Month.Mean										2.76				2.76		

APPENDIX F

Summary of Abnormal Discharge Events

Haileybury Sewage Collection System

Summary of Abnormal Discharge Events

Facility Works Number: **110000310**
Facility Owner: **City of Temiskaming Shores**
Service Population: **4200**
Period Being Reported: **01/2024** **12/2024**

Station Name: **Farr Drive Pump Station**

								Concentrations					Loadings			
Date	Start Time (hh:mm)	Stop Time (hh:mm)	Duration	Type	Volume (m3)	Disinfection Provided	Reason	BOD5 (mg/L)	TSS (mg/L)	TP (mg/L)	TKN (mg/L)	E.coli (cfu/100mL)	BOD5 (kg)	TSS (kg)	TP (kg)	TKN (kg)
12-Apr-24	11:05	21:46	10.7 hours	Overflow	14,846	Yes	Extreme rainfall	14	28	0.357	4.2	470,000	203.0	416.0	5.300	62.4