ONTARIO CLEAN WATER AGENCY
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2023 Annual Performance Report for the New Liskeard Sewage Treatment Lagoon & Sewage Collection System

January 1, 2023 to December 31, 2023

PREPARED BY

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

Date: March 20, 2024
Rev: 0

Revision History

Rev. No.	Date	Prepared by:	Approved by:	Description
0	March 20, 2024	I. Bruneau, PCT	C. Mongrain, ORO	Revision 0 issued

Table of Contents

List of Tables

List of Figures

Executive Summary

The New Liskeard Sewage Treatment Lagoon is located at 177304 Bedard Road in the community of New Liskeard within the City of Temiskaming Shores. The sewage treatment lagoon is designed to treat a daily average flow of 5500 m^3/day and a peak flow of 8250 m^3/day. It is classified as a Class 1 wastewater treatment system under Ontario Regulation 129/04 and operates under Environmental Compliance Approval (ECA) No. 5103-CDFJWC for Municipal and Private Sewage Works issued on April 13, 2022.

The New Liskeard Sewage Collection System is a Class 3 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 New Liskeard Lagoon operated well in 2023 producing a high quality effluent that met all of the effluent compliance limits specified in the system's ECA, however the system failed to meet the effluent objective for pH one day in 2023 during periods of high flows.

The system met the rated capacity limit having an annual average daily flow to the lagoon of 4362 m3, which is 79.6% of the rated capacity. The total volume of influent flow measured in 2023 was 1,599,797 compared to the effluent flow of 1,799,085 m^3.

There was one (1) spill and four (4) overflow events that occurred during the reporting period which are 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. 5103-CDFJWC for the New Liskeard Sewage Treatment Lagoon 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 31 for the preceding calendar year. The 2023 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 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 design objectives and compliance limits in the Approval, including an overview of the success and adequacy of the Works;
- 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 and final effluent 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 this Approval, including an assessment of the issues and recommendations for pro-active 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 measured volume of sludge accumulated in the lagoon cells in five year intervals and the estimated volume in the interim years (including stabilized sludge from the Haileybury Sewage Treatment Plant) and when sludge was disposed of during the reporting period, a summary of disposal locations and volumes of sludge at each location;
- A summary of any complaints received and any steps taken to address the complaints;
- A summary of all bypasses, overflows, and 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 constructions and commissioning operations of major process(es)/equipment groups in the Proposed 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.

Condition 4.0(4.6) of the ECA No. 218-W601 for the New Liskeard 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 2023 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:	**New Liskeard Sewage Treatment Lagoon**
Sewage System Works Number:	110000515
Sewage System Address:	177304 Bedard Road, New Liskeard Ontario
Sewage System Owner:	Corporation of the City of Temiskaming Shores
Sewage Treatment ECA:	5103-CDFJWC, issued April 13, 2022
Sewage Collection ECA:	218-W601, issued October 27, 2023
Reporting Period:	January 1, 2023 to December 31, 2023

Capacity of Works:	5500 m^3/day annual average, 8250 m^3/day peak
Service Area:	Community of New Liskeard and Dymond
Service Population:	5400
Effluent Receiver:	Wabi River to Lake Temiskaming
Major Process:	Four Celled Aerated Lagoon with Two Polishing Ponds

The New Liskeard Wastewater Lagoon is a Class 1 facility that provides sewage treatment for the communities of New Liskeard and Township of Dymond. Environmental Compliance Approval No: 9205-ANYPRW allows an average rated capacity of 5500 m^3/day. The system is equipped with flow meters installed at three different sewage pumping stations (the Goodman Street SPS, the Niven Street SPS and the Gray Road SPS) to measure the raw sewage into the lagoon.

The system consists of four aerated cells (Cells D1, D2, A1 and A2) and two polishing ponds (Cells B and C) which operate in series. There is also a storage cell, Cell F, which was designed as an additional temporary storage pond when maintenance is required on Cells A1 and A2. Cell E is used as a sludge drying bed.

Aeration of the four cells is provided by a fine bubble system complete with two 30 hp, 17.7 m^3/min air blowers and one 60 hp, 35.4 m^3/min air blower with variable frequency drive located in a building on-site. The polishing ponds are equipped with chemical feed systems for phosphorus removal using ferric sulphate. Ferric can also be fed by an injection point located at an intercell chamber between Cells D2 and A1.

The sludge storage lagoon is for the management of sludge from the polishing lagoons and for stabilized sludge from the aerobic digesters at the Haileybury Sewage Treatment Plant. There is a decant pipe for supernatant to be returned to cell D1.

The phosphorus removal system is comprised of a 27 m^3 chemical solution tank (ferric sulphate) and two diaphragm metering pumps. There are two dosing points established; one between cells D2 and A1 and at between cell A2 and either B or C depending on the gate position.

The outlet structure is described as being 3.0 m x 3.0 m with stop logs located at the north end of the lagoon between Cell B and Cell C, separately connected to Cell B by a 600 mm diameter pipe and to Cell C by a 600 mm diameter pipe as well as two 300 mm diameter emergency overflow pipes, and a 300 mm diameter outfall sewer. A weir and milltronics level indicator installed on the outfall measures effluent flows from the lagoon to the Wabi River which eventually discharges to Lake Temiskaming.

The New Liskeard sewage collection system consists of trunk sewers, separate sewers, nominally separate sewers, forcemains and seven (7) sewage pumping stations that direct sanitary sewage to the lagoon New Liskeard Sewage Lagoon.

Niven Street SPS is located at 185 Niven Street North at the end of Niven Street North adjacent to the Wabi River. It is designed for a peak flow and firm design capacity of 315 L/s. A magnetic flow meter measures the influent flow directed to the lagoon.

The station is comprised of a pump room with a valved interconnected dual-celled wet well equipped with three (3) variable speed submersible sewage pumps each with a rated capacity of 130 L/s at 74.0m total dynamic head (TDH). Three pumps are capable of operating at high pumping volumes during peak wet weather times. One pump is located in one wet well and the other two pumps are located in the second wet well.

Other equipment found in the station include; manual bar screens, ultrasonic liquid level and alarm level (including overflow) system, surge tank, bar racks, associated piping, electrical and control works.

The station is also equipped with a chlorine variable speed metering pump and solution tank for overflow events and a Parshall flume for flow measurement.

A generator room accommodates a 450 kW diesel generator set, motor control centre (MCC) and instrumentation.

The 2,452 meter forcemain directly discharges sewage into the inlet chamber then to Cell D1 of the New Liskeard Lagoon.

Goodman Street SPS is located on the east side of the Ontario Northland Railway line and approximately 660 m north of Jaffray Street with a design capacity of 195 L/s.

The station consists of two in-ground wet wells (5m long x 3m wide x 10m deep) with a 600 mm wide inlet channel equipped with three sewage pumps each rated at 191 L/s against a total dynamic head (TDH) of 19.1 meters. One pump is located in one wet well and the other two pumps are located in the second wet well.

The control building houses MCC panels, PLC panel with instrumentation control and alarm system, lighting, heating and ventilation system. Other equipment found in the station include; two ultrasonic level detectors with back-up float switch connected to an alarm system, interconnected piping and valves pumps, and appurtenances to allow for the proper operation of the station.

A sub-grade valve chamber is equipped with a swing check valve and overflow piping connected to a 450 mm diameter, 190 meter long sanitary forcemain which directs flow to a distribution chamber and then from there can go to Cell D1 or Cell D2 at the New Liskeard Lagoon. It is equipped with a magnetic flow meter that measures the influent flow directed to the lagoon.

Emergency power is supplied by a 100 kW standby diesel generator located outside the lift station.

Gray Road SPS is located on the south side of Gray Road, approximately 140 meters west of the intersection of Gray Road and Highway 65 East and Armstrong Street.

The station is comprised of a two celled wet well each approximately 3.34 m long and 5.8 m wide and 3.5 m deep. One wet well is equipped with three submersible sewage pumps equipped with variable frequency drive (VFD) motors. Each pump has a rated capacity of 120 L/s at a total dynamic head (TDH) of 11 meters. The second wet well has the capacity to house three additional sewage pumps if required in the future.

The wet wells are equipped with a dedicated ventilation and odour control system. Before entering the wet wells, a grinder pump grinds the solid material found in the raw sewage to prevent clogging and pump damage.

Other equipment found in the station include; piping, mechanical, electrical, instrumentation and control works (MCC and PLC panels) necessary to have a complete and operable pumping station

The station is connected to a 683 meter long, 450 mm diameter trunk sewer located along Armstrong Street and receives sanitary sewage from the Robert/Elm sewage pumping station. It is also connected to seven sanitary sewers that direct sewage to the station.

The sanitary forcemain consists of twin 450 mm diameter high density polyethylene (HDPE) that is approximately 1279 meters long and discharges sewage into the inlet chamber then to Cell D1 of the New Liskeard Lagoon. A magnetic flow meter measures the influent flow directed to the lagoon.

The station has a septage receiving system equipped with a flow meter, level transmitter and back-up level probe control.

A 150 KW diesel standby generator is equipped with enhanced sound attenuation, thermal insulation and housed in a weather and tamper proof enclosure is installed outside the pumping station building and can maintain all aspects of the operation during a power outage.

Montgomery Avenue SPS is located on Montgomery Avenue and Fleming Drive. The station is comprised of a 2.86 cubic meter poured concrete wet well equipped with two 10 HP Flygt sewage pumps each rated at 16.5 L/s at a total dynamic head (TDH) of 15.8 meters with a firm capacity of 21 L/s at a TDH of 17.1m discharge rate.

The control building houses pump controls, PLC control panel, level indicators, transfer switch and alarm system. Other equipment found in the station include mechanical and electrical work, associated piping and appurtenances to allow for the proper operation of the station.

A 150 mm diameter, 599 meter long forcemain discharges to the Dymond/Wedgewood gravity system and is then directed to Niven Street Pumping Station.

The station is equppied with a 42 KW standby diesel generator is equipped and can maintain all aspects of the operation during a power outage.

Whitewood Avenue SPS is located at 57 Riverside Drive adjacent to the municipal marina. It is designed for a peak flow and firm design capacity of 127 L/s

The station has an internal diameter of 8.4 m and is 8 m deep. It is equipped with an emergency overflow sewer from the wet well to the Wabi River and four submersible pumps (three rated at 67 L/s at TDH of 48 m and one bypass pump rated at 200 L/s at TDH of 6.5 m)

Other equipment found at the station include; two 200 mm diameter syphons connected to the well, a 525 mm sanitary sewer connected to the wet well, grating, exhaust pipes, ladders, a board walk, piping and associated appurtenances. Mechanical, electrical, instrumentation and control systems are on-site to ensure proper operation of the pumping station.

The 12 m long, 300 mm diameter overflow sewer discharges wastewater from the station to a manhole and eventually to the Wabi River. It is equipped with a 250 mm bore flow meter (inside an on-line meter chamber), a chemical feed line that injects sodium hypochlorite to the sewage overflow from the chemical room.

A 250 mm forcemain, approximately 15 m long directs wastewater from the pumping station to an existing forcemain located on Whitewood Avenue which then flows to the Niven Street sewage pumping station. It is equipped with a 200mm bore flow meter (inside an on-line meter chamber), yard piping and associated appurtenances.

A generator building accommodates a 165 kW diesel generator set, a fuel tank having a capacity of 1000 L, a fuel piping, control panel and instrumentation.

Robert/Elm SPS is located on municipal land, at the South corner of Elm Avenue and Robert Street having a design flow capacity of 39.6 L/s.

The station is comprised of a precast fiber glass wet well housing two submersible sewage pumps (one duty and one stand-by), each pump capable of handling 39.6 L/s at a total dynamic head (TDH) of 20.87 m, complete with a 300 mm diameter inlet sanitary sewer, vent piping, an access hatch, a 250 mm diameter discharge forcemain and an emergency overflow which is directed to the Whitewood sewage pumping station.

Pump controls consist of a power and control panel including manual transfer switch, horizontal level regulator hanger, upper and intermediate guide bars, back up low and high water level floats.

The forcemain is approximately 1,191 m long and heads to a 400 mm diameter sanitary sewer on the west side of Armstrong Street.

A manual operated emergency overflow pump with a capacity of 120 L/s at a 8 m TDH discharges to a common 7.5 m forcemain to Lake Temiskaming.

An 85 kW portable diesel generator is available to provide power to the station during power failures.

Cedar Street SPS is located at the corner of Cedar Avenue and Armstrong Street near the municipal recreational complex and arena. It consists of a single cylindrical poured concrete wet well approximately 3 m in diameter and 6 m deep with two submersible Flygt pumps each rated at 7.4 L/s at 5.4 m TDH along with associated piping and controls. The station is powered by an motor control center (MCC) and fully controlled by a PLC/SACADA system. The connected forcemain pumps to the Whitewood sewage pumping station.

This pumping station serves a very small sewage catchment area. There is no standby power supply or overflow piping with chlorination.

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.
TP	Total Phosphorus – a measure of all phosphorus found in a sample, whether it is dissolved or particulate. TP is commonly used to determine the health of water bodies. Excess TP stimulates algae and weed growth that may cause fluctuations in dissolved oxygen in the receiving waters.

Table 1: Analytical Parameters

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.
Unionized 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.
NO_2-N	Nitrogen as Nitrite – can cause excessive algae and plant growth which can deplete oxygen of waterbodies resulting in the death of fish and other aquatic organisms.
NO_3-N	Nitrogen as Nitrate – nitrates are essential plant nutrients, but in excess amounts they can cause significant algae and plant growth and contribute to water quality problems.
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	pH – 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.

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

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

Parameter	Type of Sample	Minimum Frequency
TKN	24 hour composite	monthly

Table 3: Sampling Requirements for the Lagoon Contents

Parameter	Type of Sample	Minimum Frequency
DO	grab/probe	monthly
Temperature	grab/probe	monthly

Note: Field measurements from cells D1, D2, A1 and A2.

Table 4: Sampling Requirements for the Final Effluent

Parameter	Type of Sample	Minimum Frequency
$cBOD_5$	24 hour composite	bi-weekly
TSS	24 hour composite	bi-weekly
TP	24 hour composite	bi-weekly
TKN	24 hour composite	bi-weekly
TAN (NH_3^- + NH_4 as N)	24 hour composite	bi-weekly
NO_3-N	24 hour composite	bi-weekly
NO_2-N	24 hour composite	bi-weekly
pH	grab/field	bi-weekly
Temperature	grab/field	bi-weekly
Unionized Ammonia	calculation	bi-weekly
E.coli	grab	monthly

Table 5: Influent and Effluent Monitoring Schedule

2023 Schedule	2023 Sample Dates	2024 Sample Dates
Weekly on Wednesdays (Refer to Appendix A)	Refer to Appendix A	Weekly on Tuesdays (Refer to Appendix A)

2.2 Deviations from the Monitoring Program

In 2023, influent and effluent samples were collected on a rotational basis between 0800 hours to 1600 hours every Wednesday 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.

One sampling deviation occurred in at the beginning of 2023 when the first sample of the year was collected on a Tuesday (January 3rd) as per the 2022 sample schedule instead of Wednesday, January 4th. The 2023 sampling schedule started the following week on Wednesday, January 11th.

Sampling will occur on every second Tuesday in 2024 because 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 sample schedule for the New Liskeard 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. There are a total of three (3) influent flowmeters used to calculate influent to the New Liskeard Lagoon. The Niven Street Lift Station, Goodman Street Pump Station, and Gray Road Lift Station each have their own flow meter.

The rated capacity of the New Liskeard Wastewater Treatment Lagoon is 5500 m^3/day (average daily flow). The average daily flow is defined as the total sewage flow of influent to 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 5500 m^3/day or a design peak flow of 8250 m^3/day. The annual average daily flow for 2023 was 4382 m^3/day, which represents 79.6% of the rated capacity. A peak flow of 26,371 occurred on September 7th during periods of heavy rainfall. This was the highest peak flow in the past 10 years.

The total amount of sewage received by the plant in 2023 was 1,599,797 m^3.

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. Also, the frequency and duration of bypass and overflow events will continue to be monitored which will help determine steps to reduce the infiltration into the system. In the last 10 years the system exceeded 80% of the rated capacity three times; in 2014 (83.6%), in 2018 (82.1%) and in 2019 (84.5%).

Figure 1 compares the monthly influent flow rates recorded in 2023 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 for the past 10 years plotted against the rated capacity and peak flow capacity of the wastewater system.

3.1.1 Monthly Influent Flows

Table 6: 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 (5500 m^3/d)	Maximum Influent Flow (m^3/d)	% of the Max. Capacity (8250 m^3/d)
January	87,556	2824	51%	4458	54%
February	73,800	2636	48%	4032	49%
March	85,557	2760	50%	3367	41%
April	284,587	9486	172%	21667*	263%
May	171,663	5538	101%	22863*	277%
June	94,943	3165	58%	6627	80%
July	99,898	3223	59%	8588*	104%
August	103,708	3345	61%	5656	69%
September	157,565	5252	95%	26371*	320%
October	198,435	6401	116%	17141*	208%
November	135,055	4502	82%	8484*	1035
December	107,030	3453	63%	4566	555

* High flows occurred in April and May due to rapid snow melt and heavy rains. High flows in July, September, October and November due to very heavy rainfall.

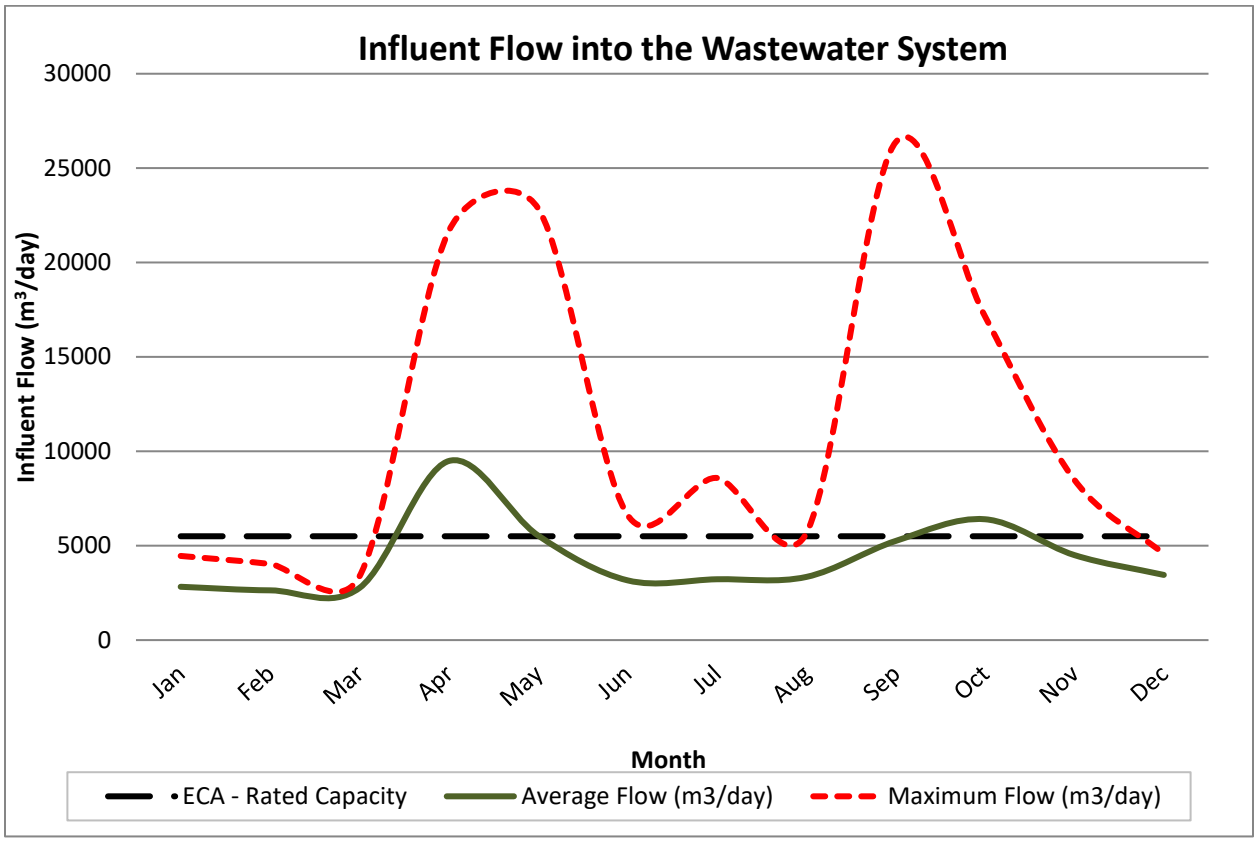


Figure 1 – 2023 Influent Flow

3.1.2 Annual Influent Flows

Table 7: Comparison of the Annual Influent Flow to the Rated Capacity

Design Capacity (m^3/day)	5500	Maximum Flow Capacity (m^3/day)	8250
2023 Average Flow (m^3/day)	4384	2023 Maximum Flow (m^3/day)	26,371
Percent of Capacity (%)	79.6%	Percent of Capacity (%)	320%
Total volume of wastewater treated in 2023	1,599,797m^3		

3.1.3 Historical Influent Flows

Table 8: Comparison of Historical Influent Flows (2013 to 2023)

Year	Total Influent Flow (m^3/d)	Average Day Flow (m^3/d)	% of the Avg. Capacity (5500 m^3/d)	Maximum Influent Flow (m^3/d)	% of the Max. Capacity (8250 m^3/d)
2023	1,595,301	4371	80%	26,371	320%
2022	1,499,641	4109	75%	22,137	268%
2021	1,313,010	3597	65%	17,489	212%
2020	1,591,998	4350	79%	20,832	253%
2019	1,696,991	4649	85%	24,833	301%
2018	1,647,960	4515	82%	16,226	197%
2017	1,465,337	4015	73%	15,059	183%
2016	1,498,392	4094	74%	15,821	192%
2015	1,495,222	4097	75%	21,416	260%
2014	1,683,376	4612	84%	21,516	261%
2013	1,503,688	4120	75%	20,563	249%

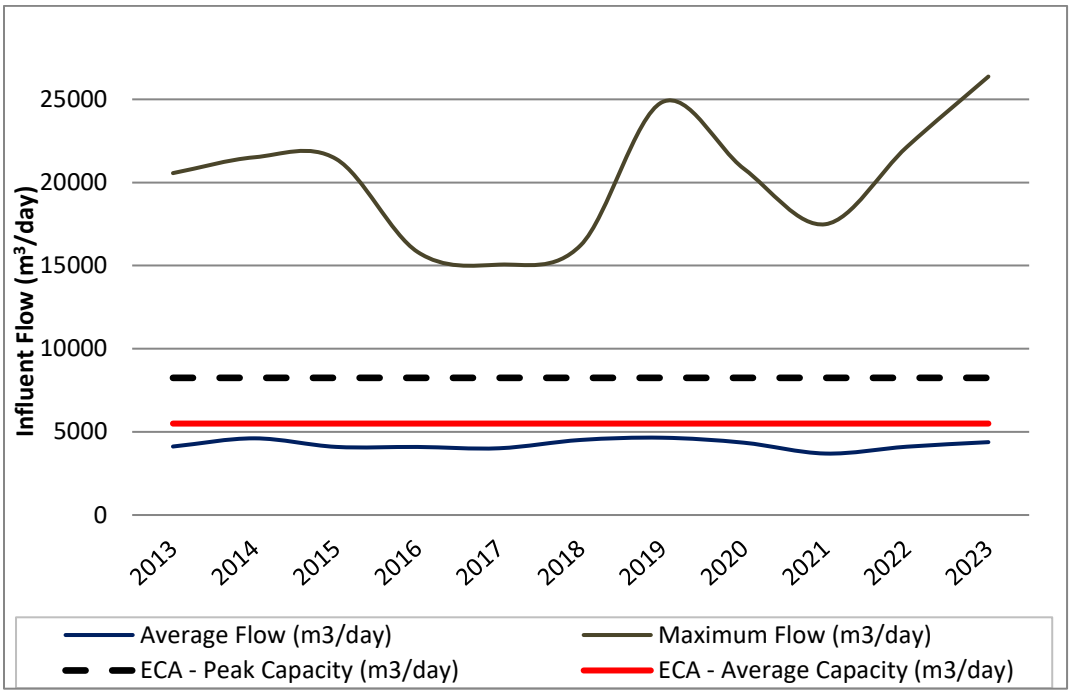


Figure 2: Historical Influent Flow Trends (2013 to 2023)

3.2 Effluent Flows

The effluent flow passes through a weir equipped with a milltronics measuring device which can measure flow from polishing pond cell B or C depending on the configuration before discharging to the Wabi River. The weir was installed in December of 2018.

3.3 Influent Verses Effluent Flows

The total volume of influent flow measured in 2023 was 1,599,797 m^3 compared to the effluent flow of 1,799,085 m^3 which is 12% higher than the influent flow.

Table 9 and Figure 2 compare the 2023 influent flows to the effluent flows.

Table 9: Influent and Effluent Flow Comparison for 2023

2023	Influent Flow (m^3/month)	Effluent Flow (m^3/month)	Flow Difference (Effluent – Influent)	% Percent Difference
January	87,556	94,787	7231	8%
February	73,800	79,070	5270	7%
March	85,557	86,429	872	1%
April	284,587	332,593	48,005	2%
May	171,663	195,156	23,493	1%
June	94,943	84,332	-10,611	-11%
July	99,898	107,165	7,267	7%
August	103,708	98,168	-5541	-5%
September	157,565	241,777	84,212	53%
October	198,435	208,646	10,210	5%
November	135,055	163,455	28,401	21%
December	107,030	107,508	478	0.4%
TOTAL	**1,599,797**	**1,799085**	**199,288**	**12%**

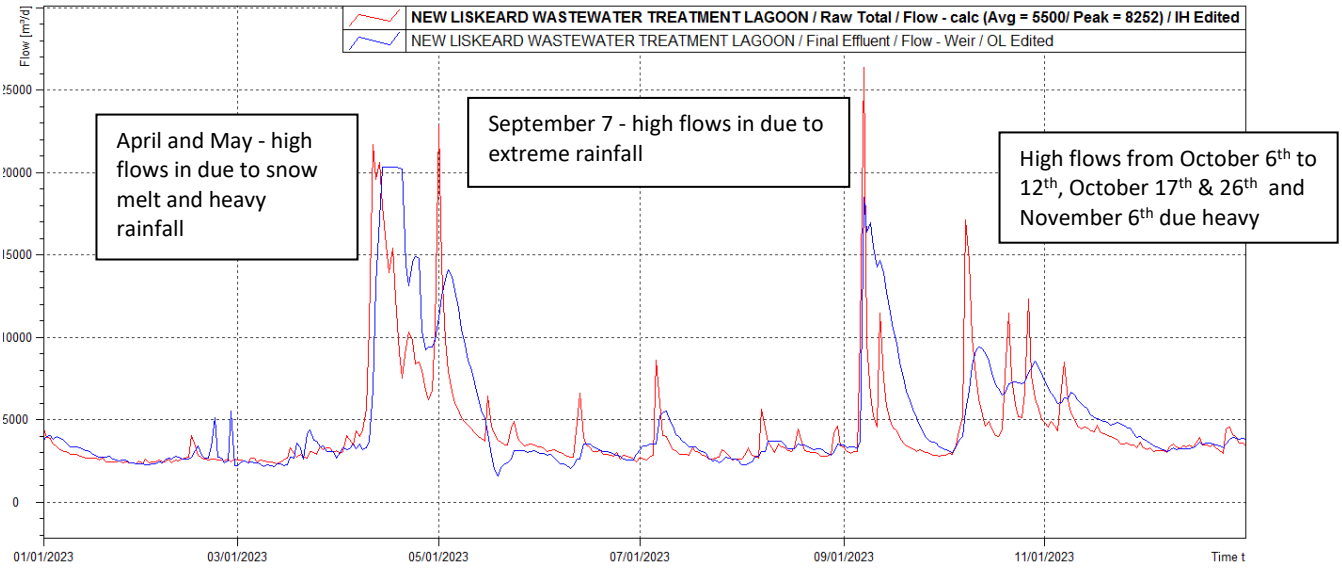


Figure 3: Comparison of Influent and Effluent Flows (2023)

3.4 Influent (Raw Sewage) Quality

The system's ECA indicates that 24 hour composite influent samples are to be collected monthly at the Gray Road, Goodman Street and Niven Street pumping stations.

This section summaries the annual average and annual maximum concentrations of analytical parameters for 2023. A monthly summary of the influent data is available in Appendix B.

Table 10: Influent Concentrations – Gray Road SPS

Parameter	Annual Average	Annual Maximum
BOD_5 (mg/L)	61	130
TSS (mg/L)	47	131
TP (mg/L)	2.45	5.15
TKN (mg/L)	25	56

Table 11: Influent Concentrations – Goodman Street SPS

Parameter	Annual Average	Annual Maximum
BOD_5 (mg/L)	109	410
TSS (mg/L)	282	2620

Parameter	Annual Average	Annual Maximum
TP (mg/L)	3.76	14.4
TKN (mg/L)	24	40

Table 12: Influent Concentrations – Niven Street SPS

Parameter	Annual Average	Annual Maximum
BOD_5 (mg/L)	53	130
TSS (mg/L)	67	290
TP (mg/L)	2.06	3.34
TKN (mg/L)	< 16	31

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

3.4.1 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 BOD5, TSS, TP and TKN from 2013 to 2023 are provided in Appendix C.

The trends show that the Niven Sewage Pumping Station consistently directs higher quality influent to the lagoon.

3.5 Lagoon Cell Contents

The New Liskeard Lagoon is required by the ECA to sample and test for dissolved oxygen and temperature each month in each of the four cells (A1, A2, D1 and D2). An annual summary of the results is found in Table 13 and a monthly summary is found in Appendix B.

Table 13: Lagoon Cell Contents

Cell	Dissolved Oxygen (mg/L)		Temperature (°C)	
	Annual Average	Annual Maximum	Annual Average	Annual Maximum
A1	6.4	14	11	19
A2	7.0	18	10	19
D1	3.0	6.0	12	21
D2	5.8	10	11	20

3.6 Effluent Quality

The New Liskeard 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 2023, the system produced a very good 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 14 and an annual summary of the effluent loadings are presented in Table 15.

Table 14: Effluent Concentrations

Parameter	Annual Minimum	Annual Maximum	Annual Average	Compliance Limit	Exceedance
$cBOD_5$ (mg/L)	< 0.6	18	< 4.0	15 (annual average)	No
TSS (mg/L)	< 1	57	< 8	30 (annual average)	No
TP (mg/L)	0.048	1.19	0.236	1.0 (annual average)	No
TKN (mg/L)	0.6	34	8.7	N/A	No
TAN (mg/L)	0.07	24	6.6	N/A	No
NO_3-N (mg/L)	0.60	6.3	2.7	N/A	No
NO_2-N (mg/L)	0.03	0.77	0.30	N/A	No
E.coli (cfu/100mL)	< 5	40,000	< 6740	N/A	No
pH	6.40	8.88	7.45	6.0 to 9.5 (inclusive)	No
Temperature (°C)	0.3	24	11	N/A	No
Un-ionized Ammonia (mg/L)	0.001	0.222	0.031	N/A	No

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

cfu ≡ colony forming units.

Table 15: Effluent Loadings

Parameter	Annual Minimum	Annual Maximum	Annual Average	Compliance Limit	Exceedance
$cBOD_5$ (kg/d)	< 3.3	60	< 20	82.5	No
TSS (kg/d)	< 3.7	133	< 54	165	No
TP (kg/d)	0.251	3.06	1.16	5.5	No

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

3.7 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 16 demonstrates that the lagoon treatment process was very successful in decreasing the levels of BOD_5/$cBOD_5$, TSS and TP and fairly effective in reducing total ammonia (TKN/TAN) from the influent, producing a very good quality effluent.

Table 16: Performance Summary

Parameter	Influent *(annual average)*	Effluent *(annual average)*	% Removal
BOD_5/$cBOD_5$ (mg/L)	74	< 4.0	95%
TSS (mg/L)	132	< 8.2	94%
TP (mg/L)	2.76	0.236	91%
TKN/TAN (mg/L)	< 22	8.7	60%

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

NOTE: The annual average influent data is calculated from the Gray Road, Goodman Street and Niven Street sewage pumping station influent results.

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 lagoon 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 and DO 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 located in Kirkland Lake, Ontario. 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.
- Ferric Sulphate is added to the lagoon prior to the polishing ponds to increase the settling of solids and help maintain pH levels.
- 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 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.

The New Liskeard Lagoon has produced high quality effluent with no effluent only one objective exceedance for pH.

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.
- 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 New Liskeard North Sewage Treatment Lagoon met the design objectives for all effluent parameters with the exception of pH. The pH was within the objective range all but one day on April 12th in 2023 (6.40) which represents 4% of the year. The low pH occurred during periods of high flow when the lagoon exceeded its peak design capacity and additional effluent sampling was initiated. Operators monitored the pH levels and ferric sulphate dosage closely to ensure pH fell within the objective range.

Table 17: Effluent Concentration Objectives

Parameter	Annual Average	Objective	Averaging Period	Exceedance
$cBOD_5$ (mg/L)	< 4.03	15	Annual average	No
TSS (mg/L)	< 8.2	15	Annual average	No
TP (mg/L)	0.236	0.8	Annual average	No

Parameter	Annual Results (min to max)	Objective	Averaging Period	Exceedance
pH	6.40 to 8.88	6.5 to 9.5	Inclusive	**YES**

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

6 Operating Problems & Corrective Actions

Operating problems encountered during 2023 are summarized below.

1. The New Liskeard sewage lagoon exceeded its peak design capacity on 30 occasions in 2023. Heavy snowmelt and /or rainfall caused the plant to exceed its allowable peak flow capacity of 8250 m^3/day from April 10th to 25th , April 30th to the May 3rd, July 6th, September 6th to the 8th, September 12th and October 8th to the 10th October 21st, October 27th and November 7th .

2. Whitewood Avenue SPS – A spill occurred during a flow meter calibration. The overflow pump was turned on in error to test the flow. The pump was immediately turned off.

3. Overflow events occurred in the collection system at the Niven Street, Whitewood Avenue, Montgomery Avenue and Robert/Elm sewage pumping stations on September 7th due to an extreme rainfall event.

Refer to Section 10 for further details of these events.

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 2023.Whitewood Ave

Significant maintenance that took place during 2023:

<u>New Liskeard Lagoon</u>

- Repair air lines

<u>Gray Road Sewage Pumping Station</u>

- Grinder failed. City decided to remove due to cost of repair

Goodman Street Sewage Pumping Station

- Pump No. 3 motor failed and was pulled for repair. To be re-installed in 2024.

Montgomery Avenue Sewage Pumping Station

- Replaced a 10 hp pump with a like for like unit. Pump was worn out.

Robert/Elm Sewage Pumping Station

- Installed a manually operated emergency overflow pump that discharges to a spillway to Lake Temiskaming.

Refer to Appendix D for a maintenance summary which includes preventative work, capital projects and emergency repairs.

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 and DO meters 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 17 for a summary of calibrations conducted in 2023

Table 18: Calibration Summary

Instrument	Calibration Dates	% Accuracy
Overflow Flow Meter – Niven SPS	June 6, 2023	98.9%
Raw Flow Meter – Niven SPS	June 6, 2023	98.9%
Raw Flow Meter – Goodman SPS	June 15, 2023	97.3%
Raw Flow Meter – Gray SPS	June 16, 2023	96.7%
Raw Flow Meter – Whitewood SPS	June 16, 2023	98.9%
Effluent Flow Meter	June 5, 2023	99.4%
Portable DO Meter	June 12, 2023	100%
Portable pH Meter	Mar. 7, Jun. 5, Sep. 13 and Dec. 6	96.3 to 99.8%

9 Sludge Management

9.1 Sludge Generation and Disposal

The systems ECA requires sludge volumes to be measured every five years, but may be estimated in the interim years. Sludge and water depths were measured in 2020, 2021 and during this reporting period on July 7th and August 11th. Sludge depths are trended and were estimated for year 2021 and 2022.

There is a decrease in the sludge volume in Cell D1, D2, and A1 compared to the previous years and very little change in Cell A2 as shown in the following tables. The average sludge volume in 2023 was determined by using eighteen sampling points in Cell D1 and Cell D2 and 15 sampling points in Cell A1 and A2. Based on the data, is anticipated that the sludge volumes will remain approximately the same during future years

No sludge was disposed of during this reporting period and it's anticipated that no sludge will be disposed of in 2024.

Table 19: Sludge Volume Cell D1

Date	Sample Points	Average Depths (m)		Sludge Volume (m^3)	% Capacity
		Water	Sludge		
Aug. 7, 2019	16	2.3	0.37	6101	13%
Sep. 30, 2020	16	2.2	0.53	8740	18%
2021 (estimate)	-	-	0.48	7915	16%
2022 (estimate)	-	-	0.43	7091	15%
Jul. 7, 2023	18	1.7	0.33	5442	11%

As per an Optimization Report (OCWA -2005): Cell Bottom Area = 16,490 m2.
As per the ECA: Operating depth = 2.15 m, Operating Capacity = 48,580 m3

Table 20: Sludge Volume Cell D2

Date	Sample Points	Average Depths (m)		Sludge Volume (m^3)	% Capacity
		Water	Sludge		
Aug. 7, 2019	16	2.1	0.36	5476	12%
Sep. 30, 2020	16	2.1	0.22	3346	7%
2021 (estimate)	-	-	0.21	3194	7%
2022 (estimate)	-	-	0.18	2738	6%
Aug. 11, 2023	18	1.2	0.17	2586	6%

As per an Optimization Report (OCWA -2005): Cell Bottom Area = 15,210 m2.
As per the ECA: Operating depth = 2.15 m, Operating Capacity = 44,680 m3

Table 21: Sludge Volume Cell A1

Date	Sample Points	Average Depths (m)		Sludge Volume (m^3)	% Capacity
		Water	Sludge		
Aug. 7, 2019	16	2.2	0.36	4323	15%
Oct. 2, 2020	12	2.1	0.37	4443	15%
2021 (estimate)	-	-	0.34	4083	14%
2022 (estimate)	-	-	0.27	3242	11%
Aug. 11, 2023	15	1.2	0.21	2522	9%

As per an Optimization Report (OCWA -2005): Cell Bottom Area = 12,009 m2.
As per the ECA: Operating depth = 2.15 m, Operating Capacity = 29,400 m3

Table 22: Sludge Volume Cell A2

Date	Sample Points	Average Depths (m)		Sludge Volume (m^3)	% Capacity
		Water	Sludge		
Aug. 7, 2019	16	2.1	0.17	2042	7%
Oct. 2, 2020	11	2.1	0.20	2401	8%
2021 (estimate)	-	-	0.20	2401	8%
2022 (estimate)	-	-	0.21	2522	8%
Aug. 11, 2023	15	1.4	0.21	2522	8%

As per an Optimization Report (OCWA -2005): Cell Bottom Area = 12,009 m2.
As per the ECA: Operating depth = 2.15 m, Operating Capacity = 30,220 m3

9.2 Imported Sludge

The system's ECA allows a maximum sludge volume of 8800 m^3/year that can be imported from the Haileybury Sewage Treatment Plant to the lagoon for disposal. The amount of sludge hauled from the Haileybury system to the New Liskeard Lagoon in 2023 was 3033 m^3. It is anticipated that the volume imported in 2023 will be similar to the amount hauled in 2023 as no changes to population or process are expected.

Table 23: Summary of Hauled Sludge Volumes

Month	Volume of Sludge Hauled (m^3)
January	299
March	462
April	394
May	204
June	82
July	218
August	204
September	218
October	122
November	272
December	558
Total (m^3)	**3033**

10 Abnormal Discharge Events

10.1 Overflow, Bypass and Spill Events

Four (4) overflow events occurred during the 2023 reporting period at four separate sewage pumping stations. The events took place on September 7th during periods of very heavy rain. 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.

One (1) spill also occurred during the 2023 reporting period at the Whitewood Avenue sewage pumping station (SPS) on June 16th. The overflow pump was accidently turned on during flow meter calibrations. The operator immediately turned the pump off, but approximately 0.31 m^3 of spilled sewage entered the Wabi River.

No sample of the spilled material was collected due to the short duration of the event. (SAC Ref No. 1-35TVW8).

The events were 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 24 summarizes the events and Appendix F provides a detailed record of the abnormal discharges including sample results.

Table 24: Summary of Abnormal Discharge Events in 2023

Date	Location	Duration	Type	Cause	Adverse Impacts	Estimate Volume (m^3)
Jun 16	Whitewood SPS	20 sec.	Spill	Operator Error	None	0.31
September 7	Niven SPS	6.2 hours	Overflow	Extreme rainfall	None	2272
September 7	Montgomery	6.4 hours	Overflow	Extreme rainfall	None	421
September 7	Robert/Elm	10.2 hours	Overflow	Extreme rainfall	None	2138
September 7	Whitewood	4.1 hours	Overflow	Extreme rainfall	None	1008

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 New Liskeard sewage treatment lagoon exceeded its peak design capacity 30 times in 2023 during periods of rainfall and heavy snow melt. Additional daily sampling as per the system's ECA was initiated 29 times and results are included in the effluent monitoring.

An additional effluent sample was not collected when the system exceeded its peak design capacity of 8250 m3/day on July 6, 2023. The totalized flow for July 6th was recorded by operations staff as 3542 m^3, but the actual flow for the day was 8588 m^3. The total flow is the sum of the flows from Niven Street SPS, the Gray Road SPS and Goodman Avenue SPS. The operator did not notice that the total flow for the Niven St. SPS was incorrect due to a communication issue with the station and the SCADA. Operators are to ensure that there is a value for each pump station on the Daily SCADA Report. If the value is not typical (low), the operator must review the Field Data Manager (FDM) for the actual flow for the day. Refer to Appendix E for an Incident Report which provides further details

Table 25: Peak Design Capacity Exceedances

Date	Effluent Flow (peak = 8250 m^3/d)
April 10	10,672
April 11	21,667
April 12	19,598
April 13	20,616
April 14	17,961
April 15	15,606
April 16	13,907
April 17	15,401
April 18	12,388
April 19	9056
April 21	9339
April 22	10,298
April 23	9825
April 24	8381
April 25	8504
April 30	10,453
May 1	22,863
May 2	14,359
May 3	9799
July 6	8588*
September 6	10,211
September 7	26,371
September 8	9652
September 12	11,470
October 8	17,141
October 9	14,638
October 10	9946
October 21	11,471
October 27	12,337
November 7	8484

* July 6th - Additional sampling not preformed.

10.3 Efforts Made to Reduce System Overflows and Bypasses

The New Liskeard Sewage Treatment Lagoon has operated below its annual average rated capacity of 5500 m^3/day for the past several years. The system is also designed to treat a peak flow rate of 8250 m^3/day. The plant exceeded its peak design capacity 30 times in 2023 during periods of heavy rainfall or snow melt.

A review of historical data (2013 to 2023) indicates that all bypass and overflow events do not typically occur at the lagoon, but in the collections system during snow melt and heavy rain events.

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 available at the lagoon and all sewage pump stations except for the Cedar SPS which serves a very small sewage catchment area.
- 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 stations 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, the Niven and Whitewood sewage pumping stations are equipped with flow meters to measure flow during overflow events and a procedure has been developed to measure overflow volumes from the Montgomery and Robert/Elm stations.

10.4 Summary of Alterations to the System to Reduce Overflows

There have been no projects done in 2023 to reduce overflows/bypasses/spills.

- The old Gray Road SPS was decommissioned and a New Gray Road SPS was constructed in 2018 and designed not to overflow.
- Robert/Elm sewage pumping station was also built in 2018 to reduce overflow events at Whitewood Avenue and Niven Street stations.

- The raw flow from the existing distribution chamber was diverted to the new inlet structure. This lowered the head pressure on pumps which allows more volume to be pumped to the lagoon.
- Replaced two pumps at the Montgomery SPS with more efficient units to allow more volume to be directed to the Niven SPS which helps reduce overflow events during high flows.

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, bypass or spill 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 2023.

13 Proposed Alterations to the Works

No major alterations to the system are planned for 2024.

APPENDIX A

2023 and 2024 Influent and Effluent Sampling Schedule

New Liskeard Lagoon

Sampling Dates for 2023 and Sampling Schedule for 2024

2023 Schedule	2023 Sample Dates	2024 Sample Schedule
January 4, 2023	January 3, 2023*	January 2, 2024
January 11, 2023	January 11, 2023	January 9, 2024
January 18, 2023	January 18, 2023	January 16, 2024
January 25, 2023	January 25, 2023	January 23, 2024
February 1, 2023	February 1, 2023	January 30, 2024
February 8, 2023	February 8, 2023	February 6, 2024
February 15, 2023	February 15, 2023	February 13, 2024
February 22, 2023	February 22, 2023	February 20, 2024
March 1, 2023	March 1, 2023	February 27, 2024
March 8, 2023	March 8, 2023	March 5, 2024
March 15, 2023	March 15, 2023	March 12, 2024
March 22, 2023	March 22, 2023	March 19, 2024
March 29, 2023	March 29, 2023	March 26, 2024
April 5, 2023	April 5, 2023	April 2, 2024
April 12, 2023	April 12, 2023	April 9, 2024
April 19, 2023	April 19, 2023	April 16, 2024
April 26, 2023	April 26, 2023	April 23, 2024
May 3, 2023	May 3, 2023	April 30, 2024
May 10, 2023	May 10, 2023	May 7, 2024
May 17, 2023	May 17, 2023	May 14, 2024
May 24, 2023	May 24, 2023	May 21, 2024
May 31, 2023	May 31, 2023	May 28, 2024
June 7, 2023	June 7, 2023	June 4, 2024
June 14, 2023	June 14, 2023	June 11, 2024
June 21, 2023	June 21, 2023	June 18, 2024
June 28, 2023	June 28, 2023	June 25, 2024
July 5, 2023	July 5, 2023	July 2, 2024
July 12, 2023	July 12, 2023	July 9, 2024
July 19, 2023	July 19, 2023	July 16, 2024
July 26, 2023	July 26, 2023	July 23, 2024
August 2, 2023	August 2, 2023	July 30, 2024
August 9, 2023	August 9, 2023	August 6, 2024
August 16, 2023	August 16, 2023	August 13, 2024
August 23, 2023	August 23, 2023	August 20, 2024
August 30, 2023	August 30, 2023	August 27, 2024
September 6, 2023	September 6, 2023	September 3, 2024

New Liskeard Lagoon

Sampling Dates for 2023 and Sampling Schedule for 2024

2023 Schedule	2023 Sample Dates	2024 Sample Schedule
September 13, 2023	September 13, 2023	September 10, 2024
September 20, 2023	September 20, 2023	September 17, 2024
September 27, 2023	September 27, 2023	September 24, 2024
October 4, 2023	October 4, 2023	October 1, 2024
October 11, 2023	October 11, 2023	October 8, 2024
October 18, 2023	October 18, 2023	October 15, 2024
October 25, 2023	October 25, 2023	October 22, 2024
November 1, 2023	November 1, 2023	October 29, 2024
November 8, 2023	November 8, 2023	November 5, 2024
November 15, 2023	November 15, 2023	November 12, 2024
November 22, 2023	November 22, 2023	November 19, 2024
November 29, 2023	November 29, 2023	November 26, 2024
December 6, 2023	December 6, 2023	December 3, 2024
December 13, 2023	December 13, 2023	December 10, 2024
December 20, 2023	December 20, 2023	December 17, 2024
December 27, 2023	December 27, 2023	December 24, 2024
		December 31, 2024

* Note: One sampling deviation occurred in at the beginning of 2023 when the first sample of the year was collected on a Tuesday (January 3rd) as per the 2022 sample schedule instead of Wednesday, January 4th. The 2023 sampling schedule started the following week on Wednesday, January 11th.

APPENDIX B
Monthly Process Data Reports

New Liskeard Sewage Treatment Lagoon
2023 Monthly Process Data Report

INFLUENT - GRAY ROAD SPS	01/2023	02/2023	03/2023	04/2023	05/2023	06/2023	07/2023	08/2023	09/2023	10/2023	11/2023	12/2023	Total	Avg	Max	Min
Raw Sewage - Gray Rd PS / BOD5 - mg/L																
Count Lab	1	1	1	1	1	1	1	1	1	1	1	1	12			
Max Lab	71.3	130	96	43	47	96	40	70	96	10.5	26	5.9			130	
Mean Lab	71.3	130	96	43	47	96	40	70	96	10.5	26	5.9		61.0		
Min Lab	71.3	130	96	43	47	96	40	70	96	10.5	26	5.9				5.9
Raw Sewage - Gray Rd PS / TSS - mg/L																
Count Lab	1	1	1	1	1	1	1	1	1	1	1	1	12			
Max Lab	53	56	38	49	35.5	56	40.7	25	69	2	11	131			131	
Mean Lab	53	56	38	49	35.5	56	40.7	25	69	2	11	131		47.2		
Min Lab	53	56	38	49	35.5	56	40.7	25	69	2	11	131				2
Raw Sewage - Gray Rd PS / TP - mg/L																
Count Lab	1	1	1	1	1	1	1	1	1	1	1	1	12			
Max Lab	2.78	3.22	2.67	0.868	2.12	3.14	2.33	2.04	2.98	1.51	0.624	5.15			5.15	
Mean Lab	2.78	3.22	2.67	0.868	2.12	3.14	2.33	2.04	2.98	1.51	0.624	5.15		2.45		
Min Lab	2.78	3.22	2.67	0.868	2.12	3.14	2.33	2.04	2.98	1.51	0.624	5.15				0.624
Raw Sewage - Gray Rd PS / TKN - mg/L																
Count Lab	1	1	1	1	1	1	1	1	1	1	1	1	12			
Max Lab	21.5	37.8	31.5	7	21.7	56.3	21.9	17.9	17.4	9.1	6.3	45.1			56.3	
Mean Lab	21.5	37.8	31.5	7	21.7	56.3	21.9	17.9	17.4	9.1	6.3	45.1		24.5		
Min Lab	21.5	37.8	31.5	7	21.7	56.3	21.9	17.9	17.4	9.1	6.3	45.1				6.3

INFLUENT - GOODMAN STREET SPS	01/2023	02/2023	03/2023	04/2023	05/2023	06/2023	07/2023	08/2023	09/2023	10/2023	11/2023	12/2023	Total	Avg	Max	Min
Raw Sewage - Goodman PS / BOD5 - mg/L																
Count Lab	1	1	1	1	1	1	1	1	1	1	1	1	12			
Max Lab	44	53	410	59	44	80	59	16	390	10.8	24	120			410	
Mean Lab	44	53	410	59	44	80	59	16	390	10.8	24	120		109		
Min Lab	44	53	410	59	44	80	59	16	390	10.8	24	120				10.8
Raw Sewage - Goodman PS / TSS - mg/L																
Count Lab	1	1	1	1	1	1	1	1	1	1	1	1	12			
Max Lab	103	31	29	196	31	37	66	72	2620	5	4.5	188			2620	
Mean Lab	103	31	29	196	31	37	66	72	2620	5	4.5	188		282		
Min Lab	103	31	29	196	31	37	66	72	2620	5	4.5	188				4.5
Raw Sewage - Goodman PS / TP - mg/L																
Count Lab	1	1	1	1	1	1	1	1	1	1	1	1	12			
Max Lab	4.38	3.61	4.49	2.37	1.99	3.81	3.29	1.78	14.4	0.601	0.678	3.75			14.4	
Mean Lab	4.38	3.61	4.49	2.37	1.99	3.81	3.29	1.78	14.4	0.601	0.678	3.75		3.76		
Min Lab	4.38	3.61	4.49	2.37	1.99	3.81	3.29	1.78	14.4	0.601	0.678	3.75				0.601
Raw Sewage - Goodman PS / TKN - mg/L																
Count Lab	1	1	1	1	1	1	1	1	1	1	1	1	12			
Max Lab	29.8	39.5	31.9	15.8	20.1	34.2	25.2	18	40	4.1	6.5	27.2			40	
Mean Lab	29.8	39.5	31.9	15.8	20.1	34.2	25.2	18	40	4.1	6.5	27.2		24.4		
Min Lab	29.8	39.5	31.9	15.8	20.1	34.2	25.2	18	40	4.1	6.5	27.2				4.1

INFLUENT - NIVEN STREET SPS	01/2023	02/2023	03/2023	04/2023	05/2023	06/2023	07/2023	08/2023	09/2023	10/2023	11/2023	12/2023	Total	Avg	Max	Min
Raw Sewage - Niven PS / BOD5 - mg/L																
Count Lab	1	1	1	1	1	1	1	1	1	1	1	1	12			
Max Lab	76.3	60.3	49	55	26	120	8.8	86	4.9	5.7	130	6			130	
Mean Lab	76.3	60.3	49	55	26	120	8.8	86	4.9	5.7	130	6		52.3		
Min Lab	76.3	60.3	49	55	26	120	8.8	86	4.9	5.7	130	6				4.9
Raw Sewage - Niven PS / TSS - mg/L																
Count Lab	1	1	1	1	1	1	1	1	1	1	1	1	12			
Max Lab	28	44	20	150	32	130	2	90	5	2.5	290	6			290	
Mean Lab	28	44	20	150	32	130	2	90	5	2.5	290	6		66.6		
Min Lab	28	44	20	150	32	130	2	90	5	2.5	290	6				2
Raw Sewage - Niven PS / TP - mg/L																
Count Lab	1	1	1	1	1	1	1	1	1	1	1	1	12			
Max Lab	2.06	2.35	2.43	1.24	1.5	3.22	1.23	3.34	1.36	1.44	3.27	1.29			3.34	
Mean Lab	2.06	2.35	2.43	1.24	1.5	3.22	1.23	3.34	1.36	1.44	3.27	1.29		2.06		
Min Lab	2.06	2.35	2.43	1.24	1.5	3.22	1.23	3.34	1.36	1.44	3.27	1.29				1.23
Raw Sewage - Niven PS / TKN - mg/L																
Count Lab	1	1	1	1	1	1	1	1	1	1	1	1	12			
Max Lab	17.5	27.7	28.2	9.9	12.5	30.9	10.6	27.6	< 0.2	1.9	19.7	1.5			30.9	
Mean Lab	17.5	27.7	28.2	9.9	12.5	30.9	10.6	27.6	< 0.2	1.9	19.7	1.5		< 15.7		
Min Lab	17.5	27.7	28.2	9.9	12.5	30.9	10.6	27.6	< 0.2	1.9	19.7	1.5			<	0.2

LAGOON CELL CONTENTS	01/2023	02/2023	03/2023	04/2023	05/2023	06/2023	07/2023	08/2023	09/2023	10/2023	11/2023	12/2023	Total	Avg	Max	Min
A1 Cell Contents / Dissolved Oxygen: DO - mg/L																
Count IH	1	1	1	1	1	1	1	1	1	1	1	1	12			
Max IH	2.57	2.19	0.93	8.07	14.07	2.26	12.98	4.7	6.3	3.8	10.3	8.67			14.1	
Mean IH	2.57	2.19	0.93	8.07	14.07	2.26	12.98	4.7	6.3	3.8	10.3	8.67		6.4		
Min IH	2.57	2.19	0.93	8.07	14.07	2.26	12.98	4.7	6.3	3.8	10.3	8.67				0.93
A1 Cell Contents / Temperature - °C																
Count IH	1	1	1	1	1	1	1	1	1	1	1	1	12			
Max IH	5.4	6.6	3.7	6.7	17.5	18.3	16.3	19	19.3	11.5	2.7	2.3			19.3	
Mean IH	5.4	6.6	3.7	6.7	17.5	18.3	16.3	19	19.3	11.5	2.7	2.3		10.8		
Min IH	5.4	6.6	3.7	6.7	17.5	18.3	16.3	19	19.3	11.5	2.7	2.3				2.3
A2 Cell Contents / Dissolved Oxygen: DO - mg/L																
Count IH	1	1	1	1	1	1	1	1	1	1	1	1	12			
Max IH	2.39	1.64	0.42	8.59	18.07	3.06	14.33	4.4	4.9	5.2	10.5	10.42			18.1	
Mean IH	2.39	1.64	0.42	8.59	18.07	3.06	14.33	4.4	4.9	5.2	10.5	10.42		7.0		
Min IH	2.39	1.64	0.42	8.59	18.07	3.06	14.33	4.4	4.9	5.2	10.5	10.42				0.42
A2 Cell Contents / Temperature - °C																
Count IH	1	1	1	1	1	1	1	1	1	1	1	1	12			
Max IH	1.9	2.8	4.9	6.1	16.1	18	19.37	19.2	18.3	10.5	2.3	0.8			19.4	
Mean IH	1.9	2.8	4.9	6.1	16.1	18	19.37	19.2	18.3	10.5	2.3	0.8		10.0		
Min IH	1.9	2.8	4.9	6.1	16.1	18	19.37	19.2	18.3	10.5	2.3	0.8				0.80
D1 Cell Contents / Dissolved Oxygen: DO - mg/L																
Count IH	1	1	1	1	1	1	1	1	1	1	1	1	12			
Max IH	2.24	2.61	2.07	3.49	5.89	0.89	1.39	0.78	1.03	4.6	6	5.59			6.0	
Mean IH	2.24	2.61	2.07	3.49	5.89	0.89	1.39	0.78	1.03	4.6	6	5.59		3.0		
Min IH	2.24	2.61	2.07	3.49	5.89	0.89	1.39	0.78	1.03	4.6	6	5.59				0.78
D1 Cell Contents / Temperature - °C																
Count IH	1	1	1	1	1	1	1	1	1	1	1	1	12			
Max IH	3.6	7.6	2.5	8.4	17.5	19.8	20.2	21	20.8	14.9	8.5	3.9			21.0	
Mean IH	3.6	7.6	2.5	8.4	17.5	19.8	20.2	21	20.8	14.9	8.5	3.9		12.4		
Min IH	3.6	7.6	2.5	8.4	17.5	19.8	20.2	21	20.8	14.9	8.5	3.9				2.5
D2 Cell Contents / Dissolved Oxygen: DO - mg/L																
Count IH	1	1	1	1	1	1	1	1	1	1	1	1	12			
Max IH	3.96	2.51	2.32	7.92	5.24	3.73	5.62	5.88	5.69	6.5	9.7	10.12			10.1	
Mean IH	3.96	2.51	2.32	7.92	5.24	3.73	5.62	5.88	5.69	6.5	9.7	10.12		5.8		
Min IH	3.96	2.51	2.32	7.92	5.24	3.73	5.62	5.88	5.69	6.5	9.7	10.12				2.32
D2 Cell Contents / Temperature - °C																
Count IH	1	1	1	1	1	1	1	1	1	1	1	1	12			
Max IH	1.8	6.8	3	6.8	16.5	18.5	19.7	20	19.5	10.6	3.5	0.3			20.0	
Mean IH	1.8	6.8	3	6.8	16.5	18.5	19.7	20	19.5	10.6	3.5	0.3		10.6		
Min IH	1.8	6.8	3	6.8	16.5	18.5	19.7	20	19.5	10.6	3.5	0.3				0.30

New Liskeard Sewage Treatment Lagoon
2023 Monthly Process Data Report

EFFLUENT	01/2023	02/2023	03/2023	04/2023	05/2023	06/2023	07/2023	08/2023	09/2023	10/2023	11/2023	12/2023	Total	Avg	Max	Min
Final Effluent / CBOD5 (15 - Quarterly) - mg/L																
Count Lab	2	2	3	15	6	2	2	3	5	6	2	2	50			
Max Lab	6.60	5.30	18.00	11.00	6.50	1.90	1.40	1.40	< 1.90	2.90	1.50	4.00			18.0	
Mean Lab	5.80	3.75	11.03	5.45	5.53	1.80	1.30	1.03	< 1.32	1.58	1.30	3.15		< 4.03		
Min Lab	5.00	2.20	6.00	2.20	4.30	1.70	1.20	0.80	< 1.00	0.60	1.10	2.30				< 0.60
Loading: cBOD5 - Final Effluent kg/d	**17.7**	**10.6**	**30.8**	**60.4**	**34.8**	**5.06**	**4.47**	**3.27**	**10.6**	**10.7**	**7.08**	**10.9**		**19.9**	**60.4**	**3.27**
Final Effluent / TSS (30 - Quarterly) - mg/L																
Count Lab	2	2	3	15	6	2	2	3	5	6	2	2	50			
Max Lab	22	8	17	< 57	28.5	< 2.5	1.5	< 1.5	< 5	< 2	< 4	< 1.5			57	
Mean Lab	12.5	6.5	12.833	< 12	19.55	< 1.75	1.25	< 1.167	< 2.1	< 1.25	< 2.5	< 1.25		< 8.176		
Min Lab	3	5	4.5	< 1	7.5	< 1	1	< 1	< 1	< 1	< 1	< 1				< 1
Loading: TSS - Final Effluent kg/d	**38.2**	**18.4**	**25.8**	**133**	**123**	**4.92**	**4.3**	**3.69**	**16.9**	**8.41**	**13.6**	**4.34**		**53.7**	**133**	**3.69**
Final Effluent / TP (1.0 - Annual) - mg/L																
Count Lab	2	2	3	15	6	2	2	3	5	6	2	2	50			
Max Lab	0.21	0.25	1.19	0.388	0.245	0.175	0.245	0.312	0.274	0.311	0.06	0.092			1.19	
Mean Lab	0.205	0.211	0.612	0.276	0.203	0.153	0.226	0.261	0.192	0.173	0.054	0.073		0.236		
Min Lab	0.199	0.171	0.244	0.156	0.134	0.131	0.207	0.199	0.132	0.062	0.048	0.053				0.048
Loading: TP - Final Effluent kg/d	**0.625**	**0.594**	**1.71**	**3.06**	**1.28**	**0.43**	**0.781**	**0.825**	**1.55**	**1.17**	**0.294**	**0.251**		**1.16**	**3.06**	**0.251**
Final Effluent / Total Kjeldahl Nitrogen: TKN - mg/L																
Count Lab	2	2	3	2	2	2	2	3	2	2	2	2	26			
Max Lab	13.9	19.0	33.7	20.4	11.7	4.1	5.5	3.3	1.0	1.3	3.1	7.9			33.7	
Mean Lab	13.2	16.7	24.6	14.9	7.2	3.5	5.0	2.4	0.8	1.1	3.0	7.1		8.7		
Min Lab	12.5	14.4	17.9	9.4	2.6	2.8	4.4	1.2	0.6	0.8	2.9	6.2				0.6
Final Effluent / TAN: NH3 + NH4+ as N - mg/L																
Count Lab	2	2	3	2	2	2	3	3	2	2	2	2	27			
Max Lab	14.8	17.5	23.9	20.6	2.16	1.42	0.87	0.99	1.19	2.26	3.76	7.79			23.9	
Mean Lab	13.3	15.7	20.2	14.3	1.1	1.0	0.8	0.6	0.7	1.2	3.2	6.1		6.6		
Min Lab	11.7	13.8	16.7	7.91	0.07	0.56	0.79	0.43	0.21	0.23	2.71	4.39				0.07
Final Effluent / Nitrate as N: NO3-N - mg/L																
Count Lab	2	2	3	2	2	2	2	3	2	2	2	2	26			
Max Lab	2.2	3.7	6.3	4.2	2.1	1	3.4	2.6	3.7	3.8	3.9	2.7			6.3	
Mean Lab	1.65	3.05	4.33	2.40	1.65	0.90	2.75	2.20	3.15	2.90	3.70	2.56		2.65		
Min Lab	1.10	2.40	2.10	0.60	1.20	0.80	2.10	2.00	2.60	2.00	3.50	2.41				0.60
Final Effluent / Nitrite as N: NO2-N - mg/L																
Count Lab	2	2	3	2	2	2	2	3	2	2	2	2	26			
Max Lab	0.09	0.49	0.77	0.55	0.54	0.38	0.41	0.49	0.40	0.30	0.30	0.30			0.77	
Mean Lab	0.06	0.45	0.48	0.34	0.29	0.27	0.26	0.34	0.24	0.18	0.29	0.27		0.30		
Min Lab	0.03	0.41	0.24	0.13	0.04	0.15	0.10	0.13	0.07	0.06	0.27	0.23				0.03
Final Effluent / Un-ionized Ammonia: NH3 - mg/L																
Count IH	2	2	3	2	2	2	2	3	2	2	2	2	26			
Total IH	0.044	0.051	0.095	0.035	0.034	0.11	0.291	0.01	0.009	0.025	0.055	0.036	0.796			
Max IH	0.025	0.046	0.05	0.03	0.033	0.103	0.222	0.005	0.007	0.022	0.038	0.028			0.222	
Mean IH	0.022	0.025	0.032	0.017	0.017	0.055	0.146	0.003	0.005	0.013	0.028	0.018		0.031		
Min IH	0.019	0.005	0.015	0.004	0.001	0.007	0.069	0.002	0.002	0.003	0.017	0.008				0.001
Final Effluent / E. Coli: EC (Monthly) - cfu/100mL																
Count Lab	1	1	1	1	1	1	1	1	1	1	1	1	12			
GMD	5	1400	39000	40000	35	60	105	55	45	150	15	5				
Max Lab	< 5	1400	39000	40000	35	60	105	55	45	150	15	< 5			40000	
Mean Lab	< 5	1400	39000	40000	35	60	105	55	45	150	15	< 5		< 6740		
Min Lab	< 5	1400	39000	40000	35	60	105	55	45	150	15	< 5				< 5
GMD	5	1400	39000	40000	35	60	105	55	45	150	15	5				
Final Effluent / pH Field: Lab Upload (6.0-9.5) - ---																
Max IH	7.19	7.22	7.18	7.50	7.69	8.20	8.88	7.40	7.62	7.85	7.78	7.50			8.88	
Mean IH	7.18	6.86	7.06	6.95	7.67	7.82	8.61	7.18	7.45	7.83	7.74	7.38		7.45		
Min IH	7.16	6.50	6.95	6.40	7.65	7.43	8.33	7.01	7.28	7.80	7.70	7.25				6.40
Final Effluent / Temperature Field: Lab Upload - °C																
Max IH	6.4	11.0	8.4	4.7	17.1	23.0	23.6	20.1	16.9	9.3	13.1	3.9			23.6	
Mean IH	3.5	5.7	5.0	2.6	15.4	22.7	22.0	18.4	15.8	8.6	7.2	3.4		10.9		
Min IH	0.6	0.3	0.4	0.5	13.6	22.3	20.3	16.2	14.6	7.9	1.2	2.8				0.3

NOTES:
1. Enhanced effluent sampling was initiated on 30 occasions when the system exceeded it's peak design capacity of 8250 m3/day (17 days in APril, Enhanced sampling is required by the system's approval during situations outside of normal operating conditions. The samples were tested for cBOD5, TSS and TP.

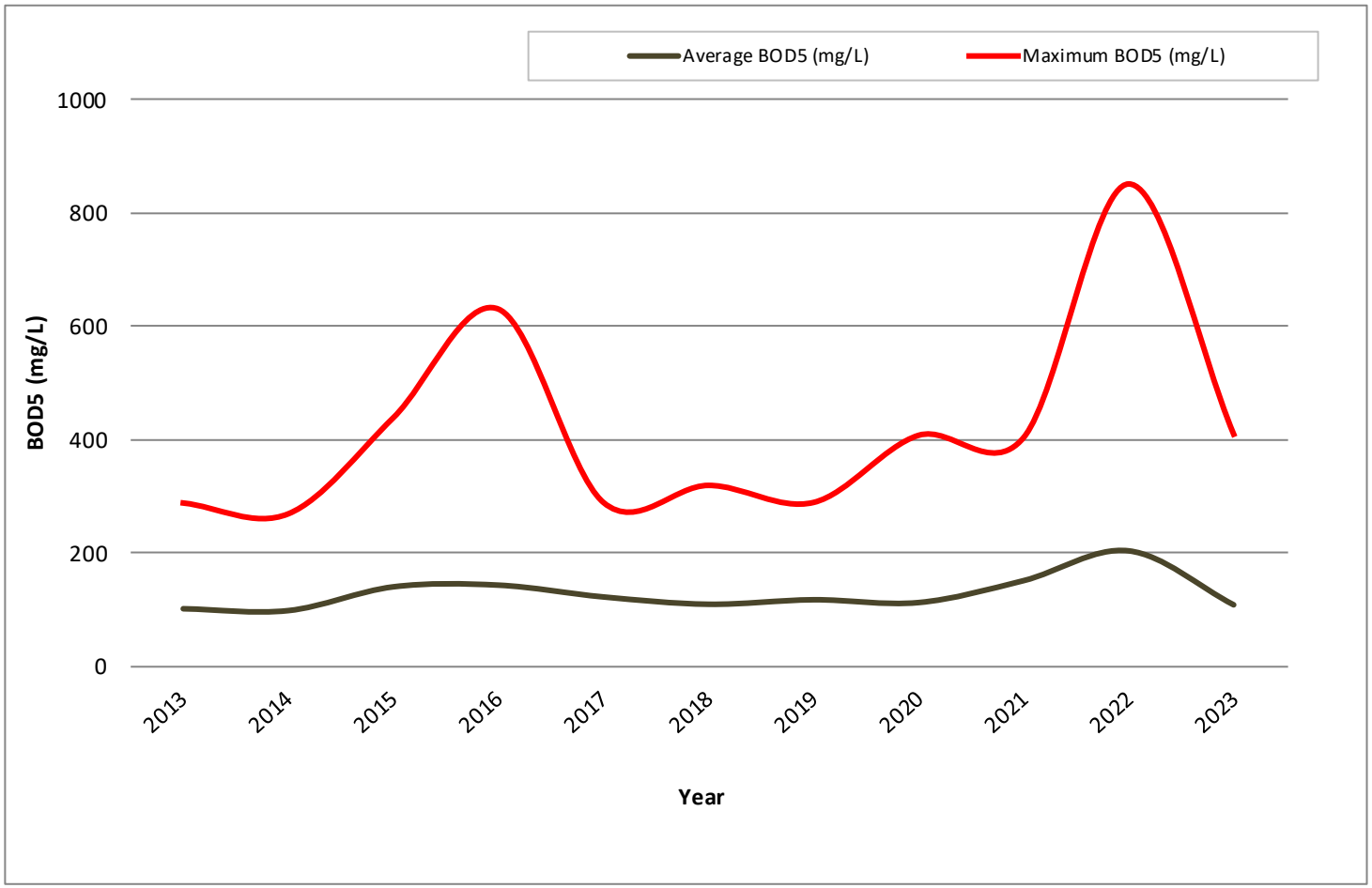
APPENDIX C

Historical Trends of Influent Characteristics

New Liskeard Sewage Treatment Lagoon
Influent Characteristics (Goodman) – Historical Results (2013 to 2023)

BOD5 – Five Day Biochemical Oxygen Demand

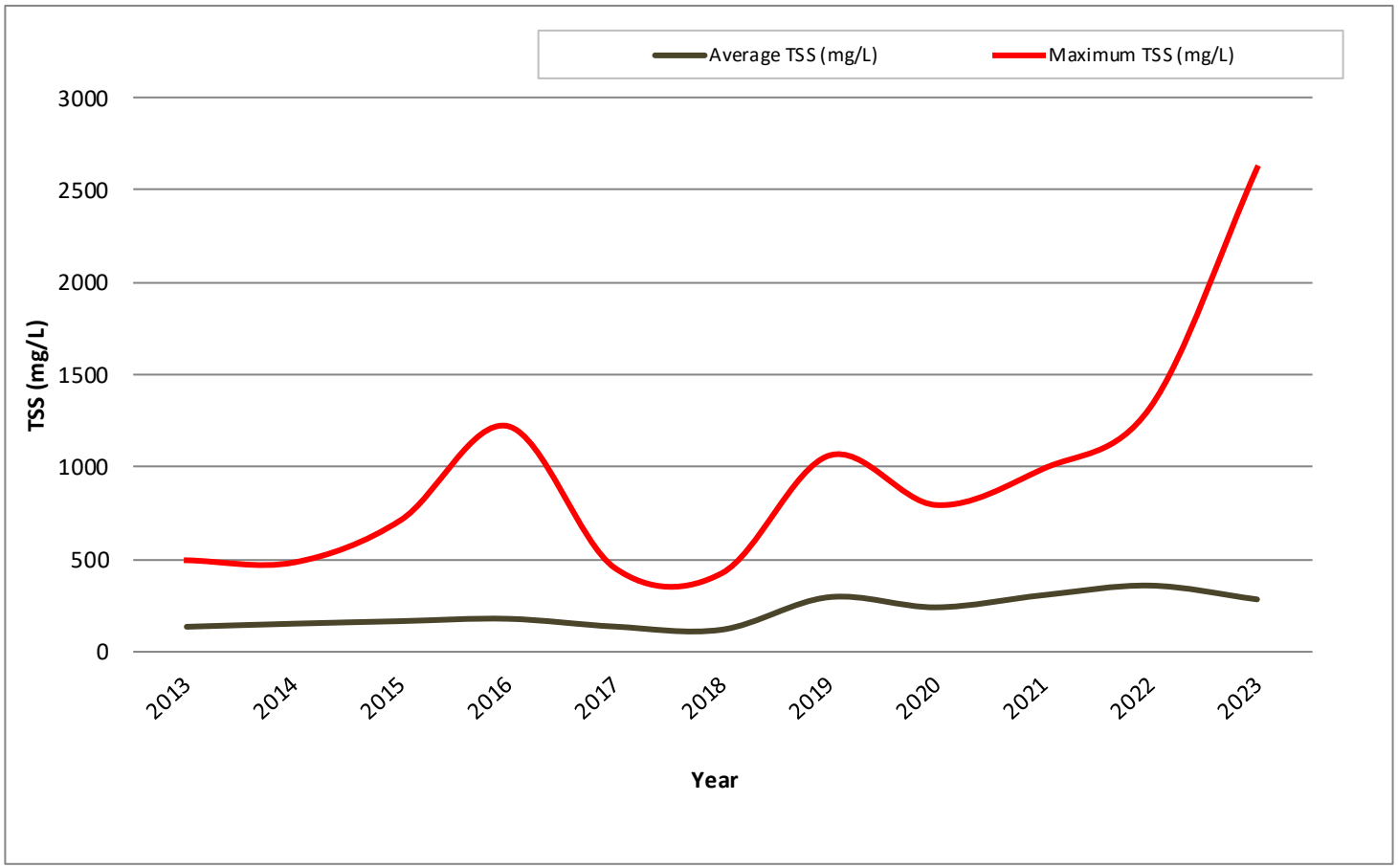
	2013	***2014***	***2015***	***2016***	***2017***	***2018***	***2019***	***2020***	***2021***	***2022***	***2023***
Average BOD5 (mg/L)	102	99	141	144	123	110	118	113	152	205	109
Maximum BOD5 (mg/L)	289	270	439	630	290	320	290	408	404	850	410



New Liskeard Sewage Treatment Lagoon
Influent Characteristics (Goodman) – Historical Results (2013 to 2023)

TSS – Total Suspended Solids

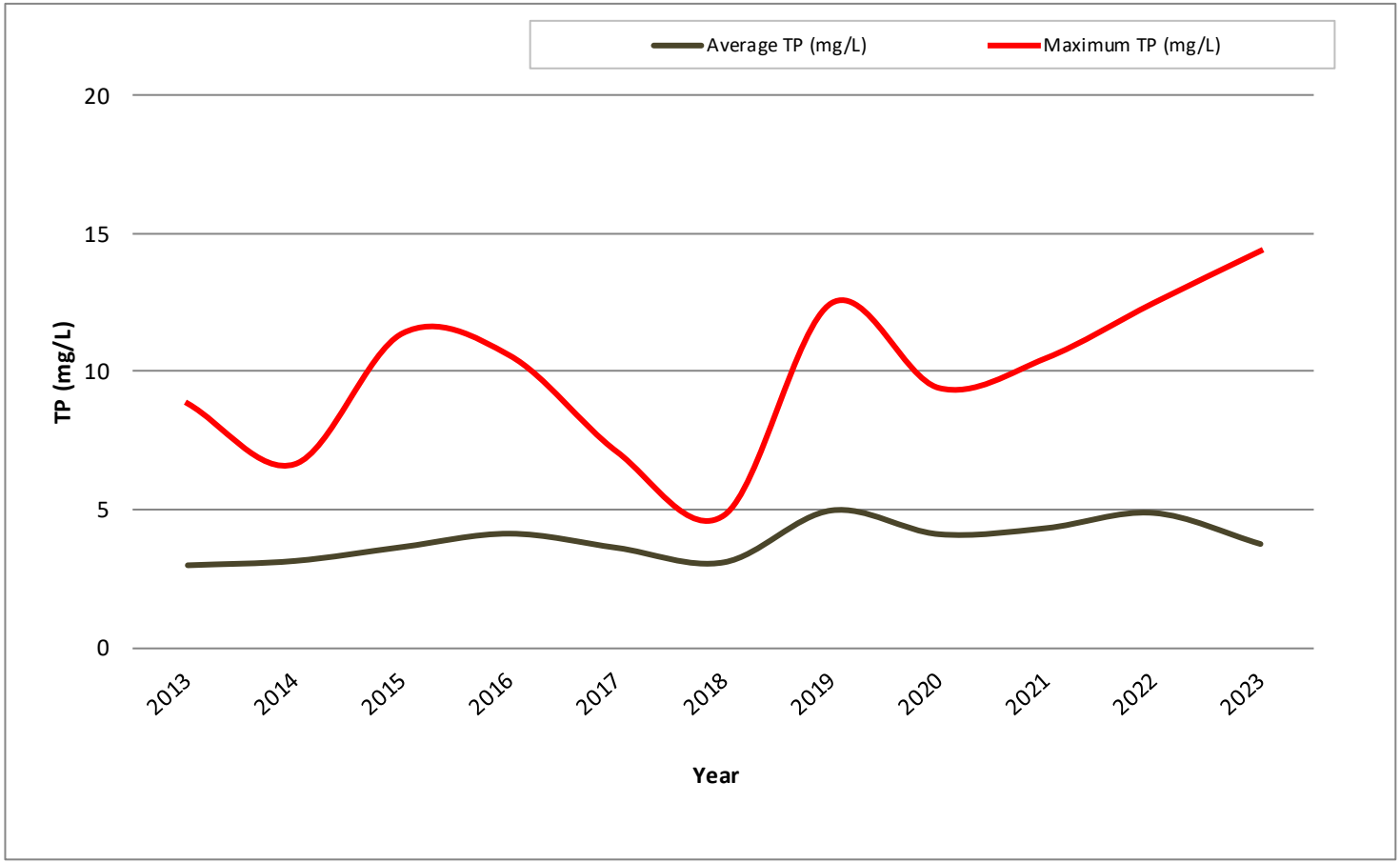
	2013	***2014***	***2015***	***2016***	***2017***	***2018***	***2019***	***2020***	***2021***	***2022***	***2023***
Average TSS (mg/L)	131	148	162	175	132	115	294	238	305	358	282
Maximum TSS (mg/L)	492	480	710	1220	450	422	1060	792	988	1320	2620



New Liskeard Sewage Treatment Lagoon
Influent Characteristics (Goodman) – Historical Results (2013 to 2023)

TP - Total Phosphorus

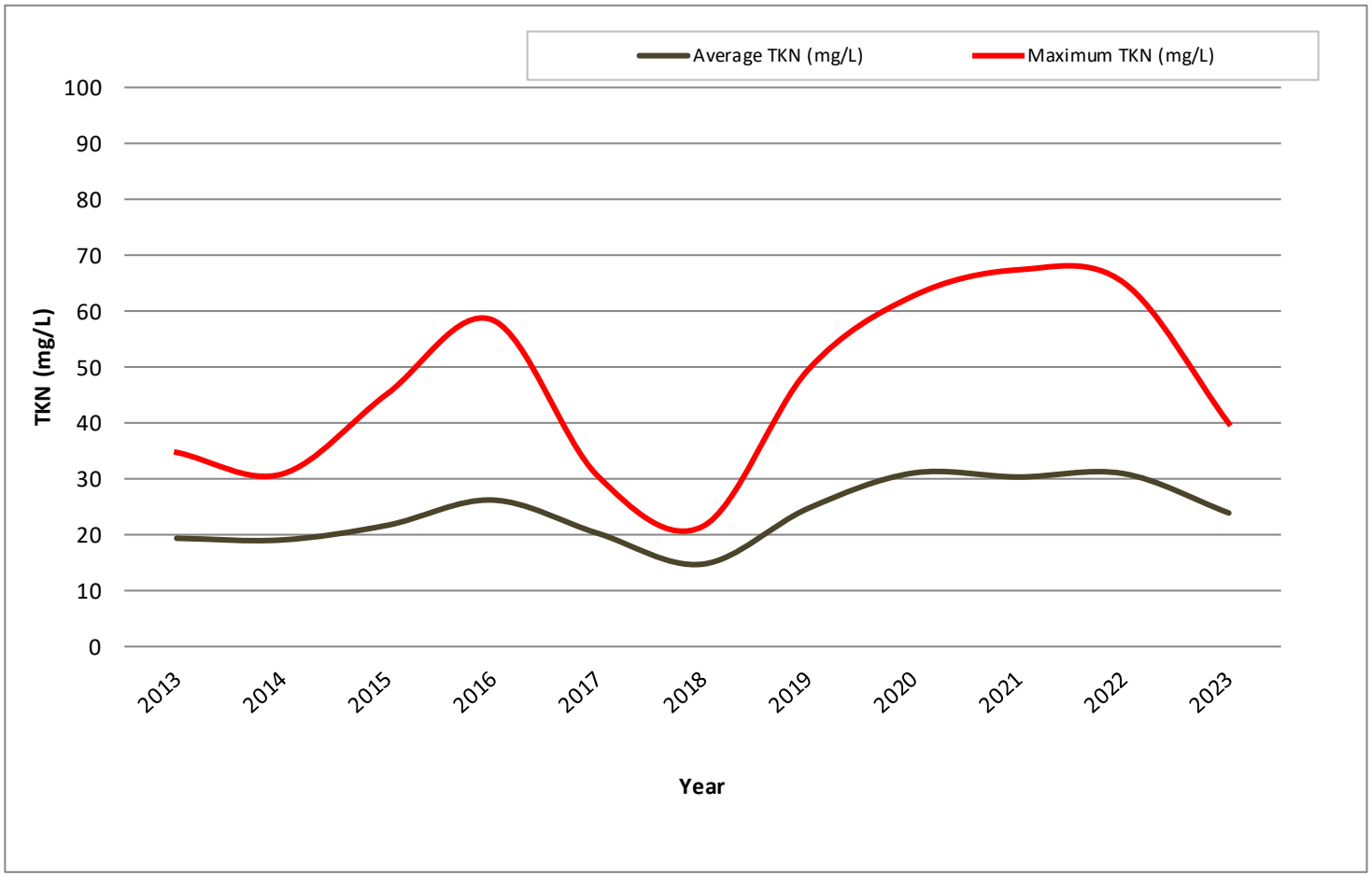
	2013	***2014***	***2015***	***2016***	***2017***	***2018***	***2019***	***2020***	***2021***	***2022***	***2023***
Average TP (mg/L)	3.0	3.1	3.7	4.1	3.6	3.1	5.0	4.1	4.3	4.9	3.8
Maximum TP (mg/L)	8.9	6.7	11.4	10.6	7.1	4.8	12.5	9.4	10.5	12.5	14.4



New Liskeard Sewage Treatment Lagoon
Influent Characteristics (Goodman) – Historical Results (2013 to 2023)

TKN – Total Kjeldahl Nitrogen

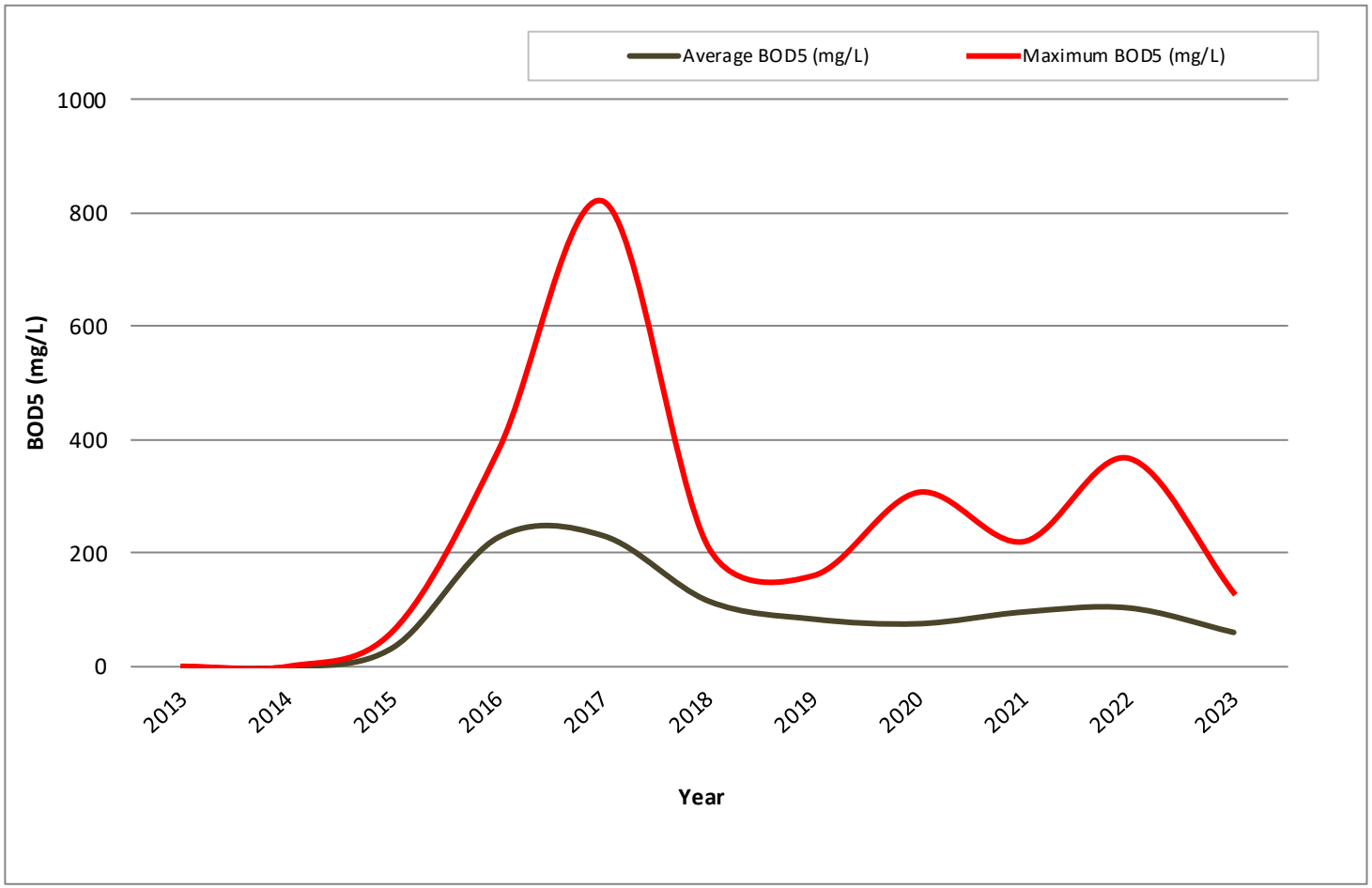
	2013	***2014***	***2015***	***2016***	***2017***	***2018***	***2019***	***2020***	***2021***	***2022***	***2023***
Average TKN (mg/L)	20	19	22	26	20	15	25	31	30	31	24
Maximum TKN (mg/L)	35	31	45	59	31	22	50	63	68	65	40



New Liskeard Sewage Treatment Lagoon
Influent Characteristics (Gray) – Historical Results (2013 to 2023)

BOD5 – Five Day Biochemical Oxygen Demand

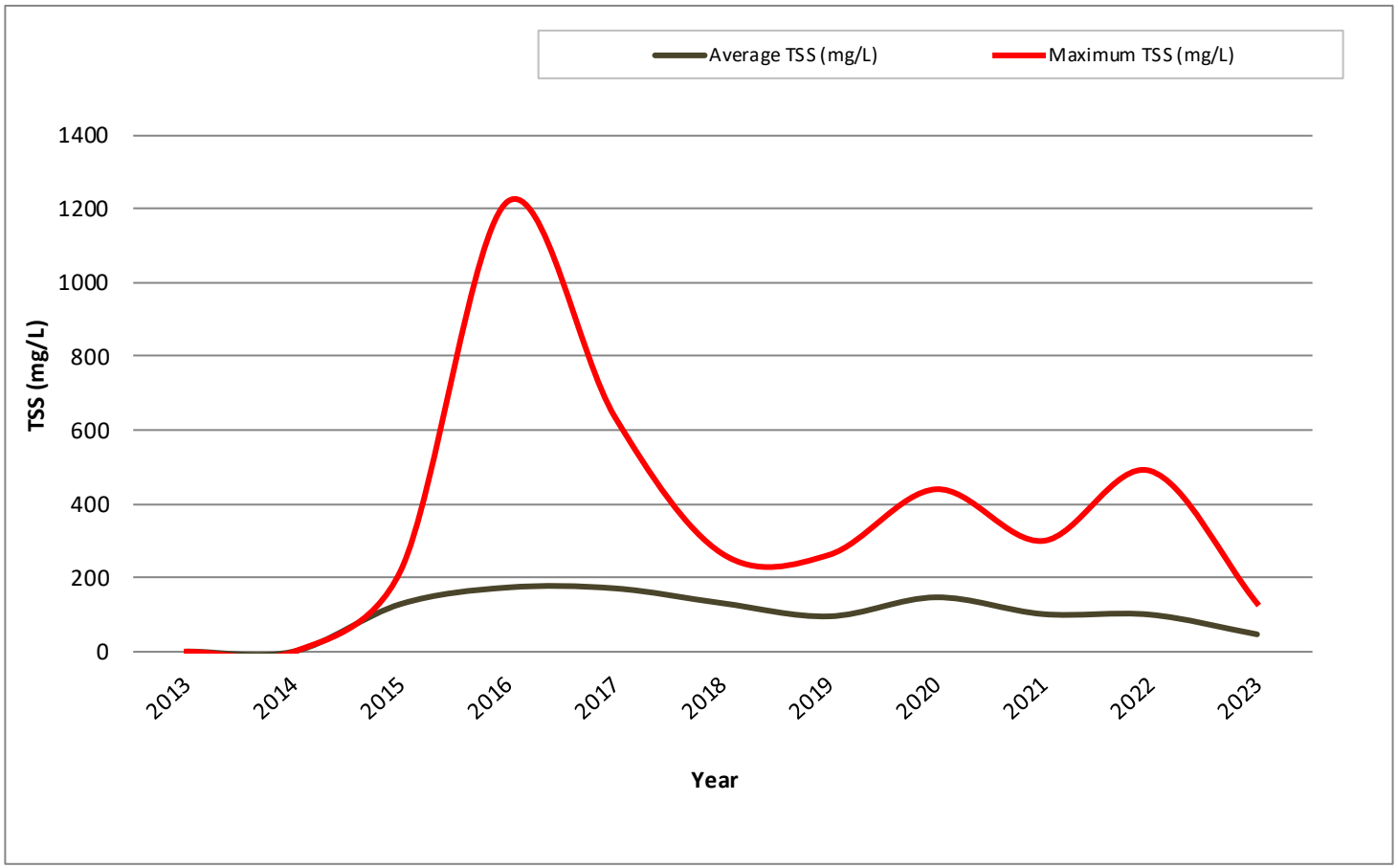
	2013	***2014***	***2015***	***2016***	***2017***	***2018***	***2019***	***2020***	***2021***	***2022***	***2023***
Average BOD5 (mg/L)	N/A	N/A	35	228	231	116	84	76	97	104	61
Maximum BOD5 (mg/L)	N/A	N/A	63	381	820	210	160	307	220	367	130



New Liskeard Sewage Treatment Lagoon
Influent Characteristics (Gray) – Historical Results (2013 to 2023)

TSS – Total Suspended Solids

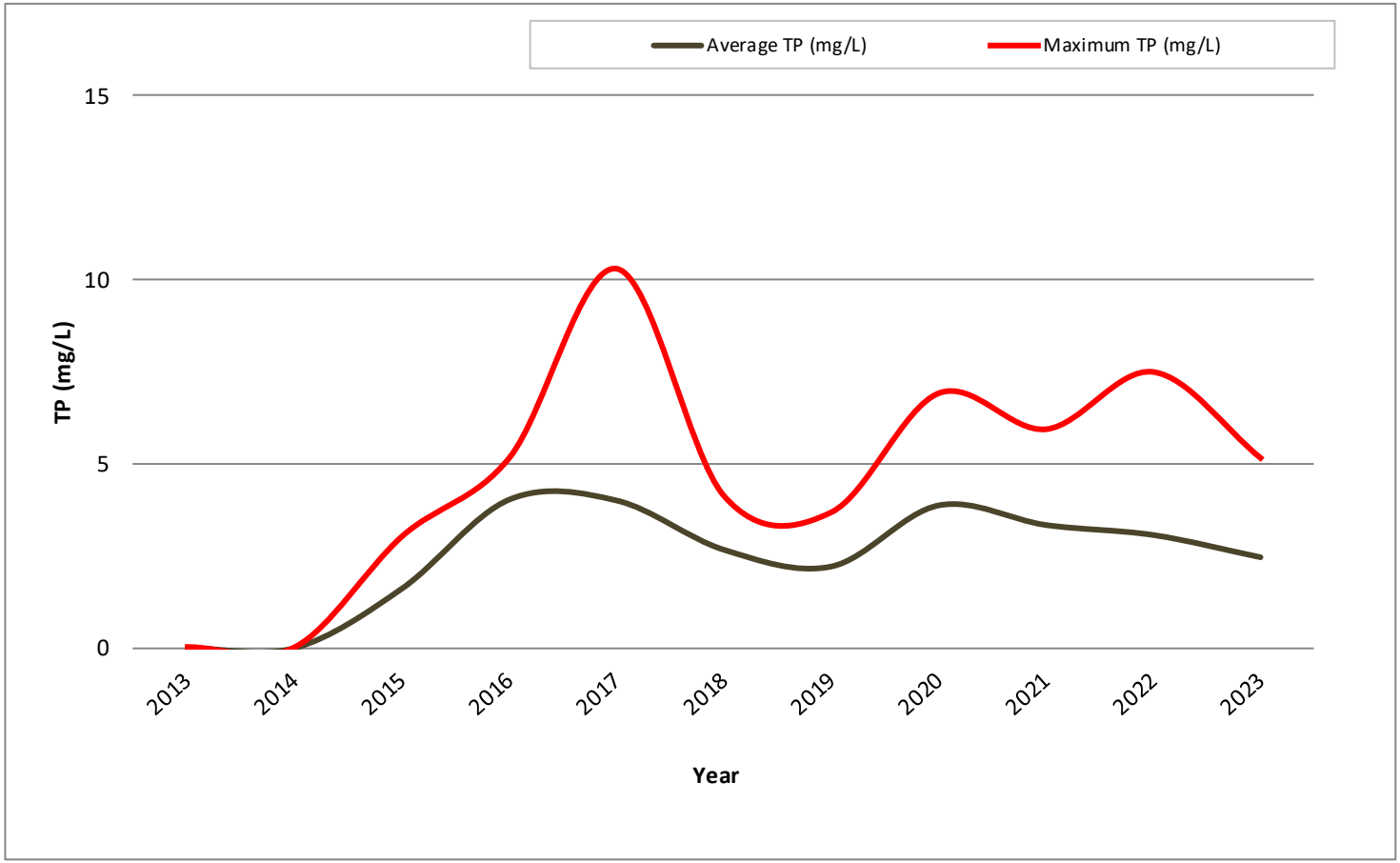
	2013	***2014***	***2015***	***2016***	***2017***	***2018***	***2019***	***2020***	***2021***	***2022***	***2023***
Average TSS (mg/L)	N/A	N/A	130	175	173	132	96	148	102	101	47
Maximum TSS (mg/L)	N/A	N/A	220	1220	636	266	262	440	300	490	131



New Liskeard Sewage Treatment Lagoon
Influent Characteristics (Gray) – Historical Results (2013 to 2023)

TP - Total Phosphorus

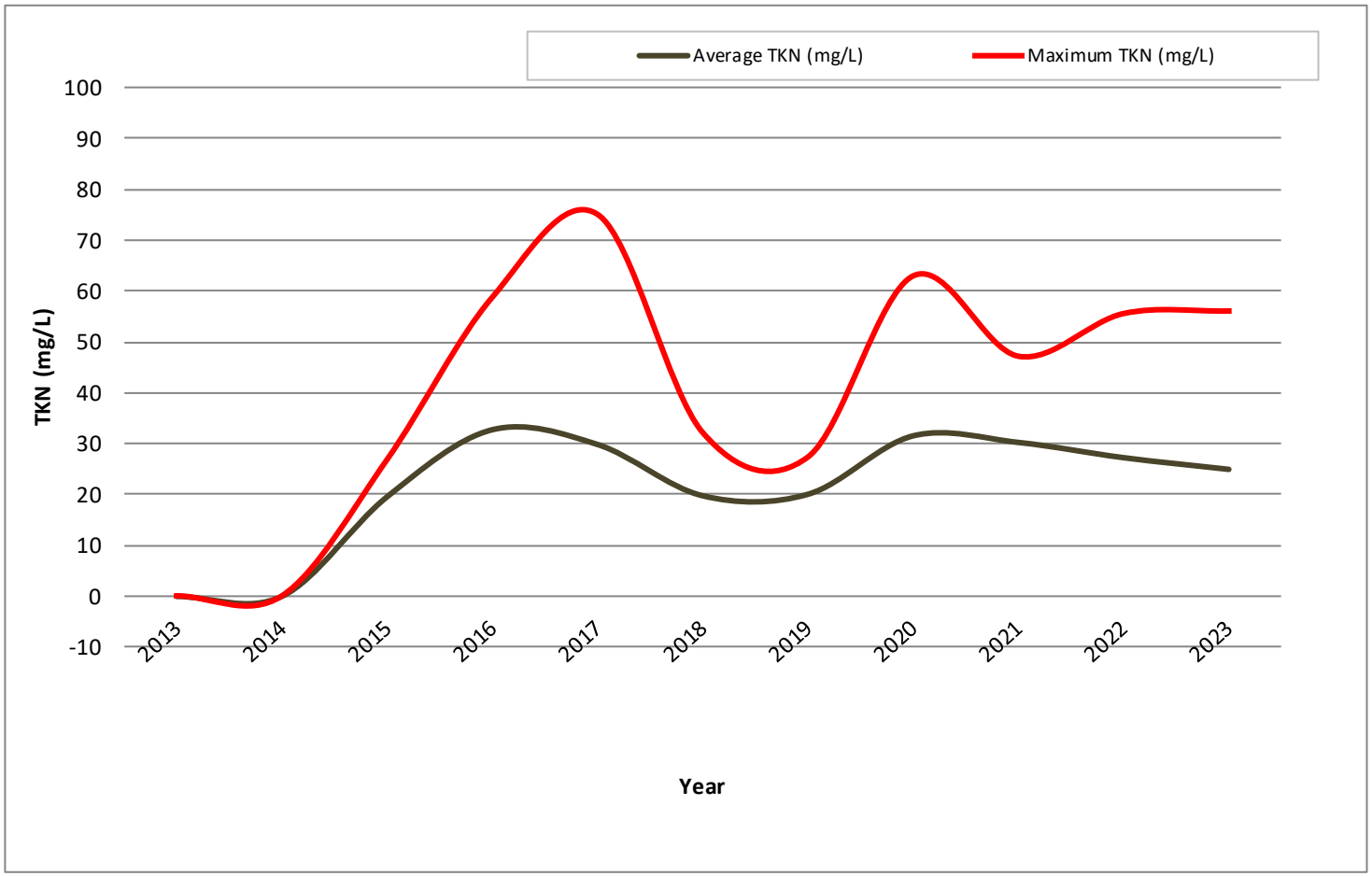
	2013	***2014***	***2015***	***2016***	***2017***	***2018***	***2019***	***2020***	***2021***	***2022***	***2023***
Average TP (mg/L)	N/A	N/A	1.6	4.0	4.0	2.7	2.2	3.9	3.3	3.1	2.5
Maximum TP (mg/L)	N/A	N/A	3.0	5.2	10.3	4.1	3.7	6.9	5.9	7.5	5.2



New Liskeard Sewage Treatment Lagoon
Influent Characteristics (Gray) – Historical Results (2013 to 2023)

TKN – Total Kjeldahl Nitrogen

	2013	***2014***	***2015***	***2016***	***2017***	***2018***	***2019***	***2020***	***2021***	***2022***	***2023***
Average TKN (mg/L)	N/A	N/A	20	33	30	20	20	32	30	27	25
Maximum TKN (mg/L)	N/A	N/A	27	59	75	32	27	63	47	56	56



New Liskeard Sewage Treatment Lagoon
Influent Characteristics (Gray) – Historical Results (2013 to 2023)

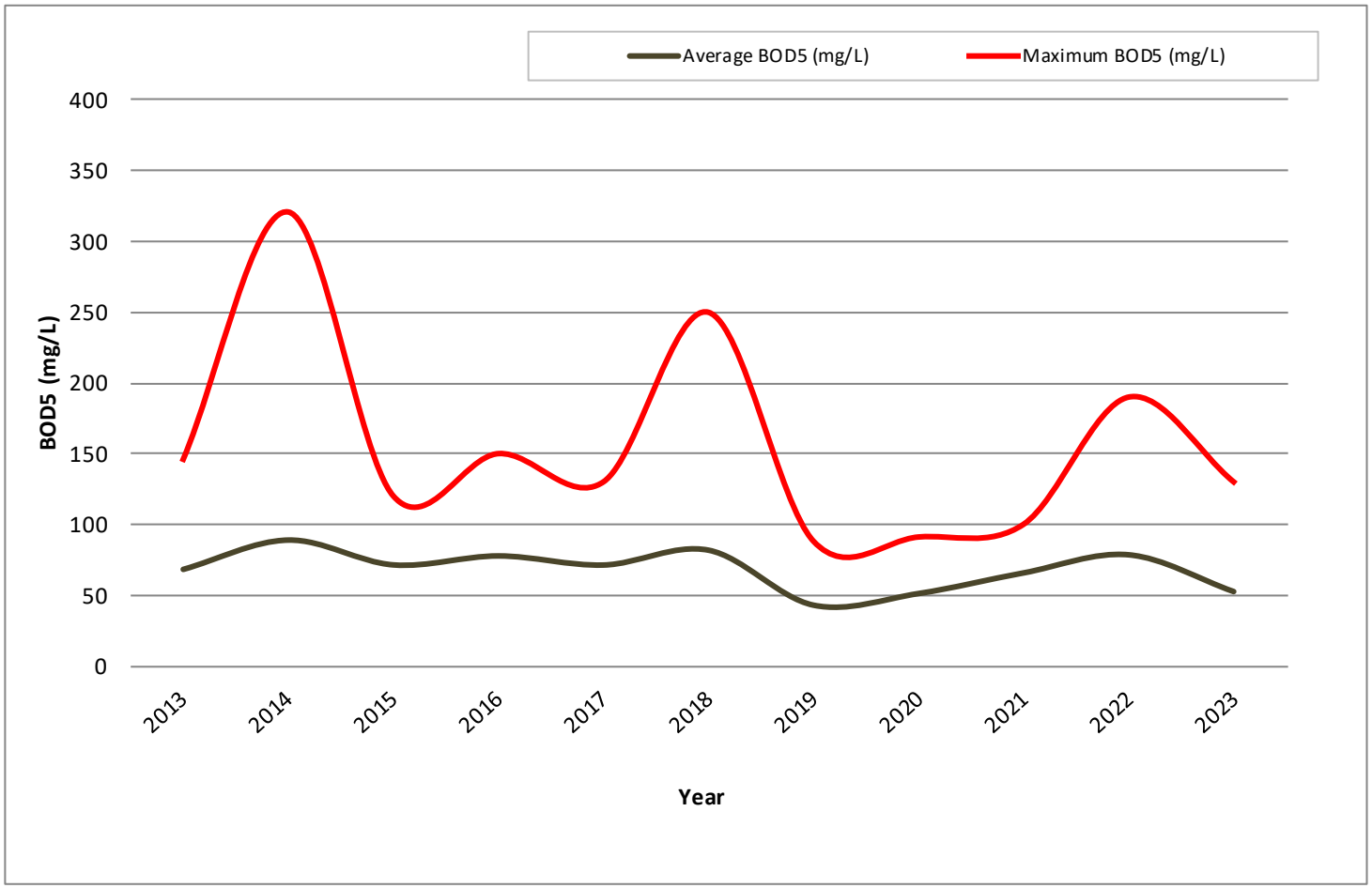
Note:

Data Collection for the Gray sewage pumping Station began in November 2015.

New Liskeard Sewage Treatment Lagoon
Influent Characteristics (Goodman) – Historical Results (2013 to 2023)

BOD5 – Five Day Biochemical Oxygen Demand

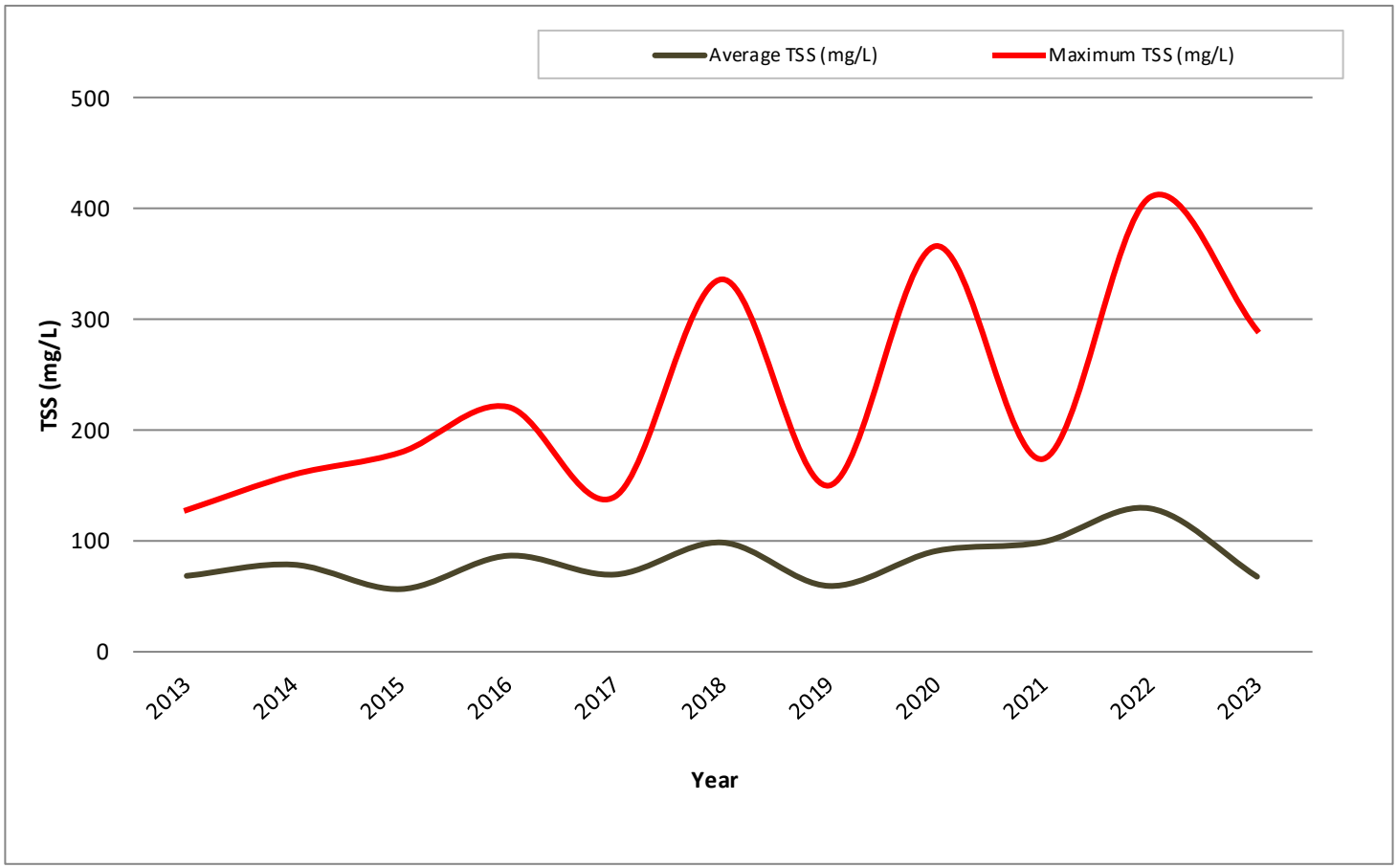
	2013	***2014***	***2015***	***2016***	***2017***	***2018***	***2019***	***2020***	***2021***	***2022***	***2023***
Average BOD5 (mg/L)	69	90	72	78	72	83	43	52	66	79	53
Maximum BOD5 (mg/L)	146	321	120	150	130	250	88	91	100	190	130



New Liskeard Sewage Treatment Lagoon
Influent Characteristics (Goodman) – Historical Results (2013 to 2023)

TSS – Total Suspended Solids

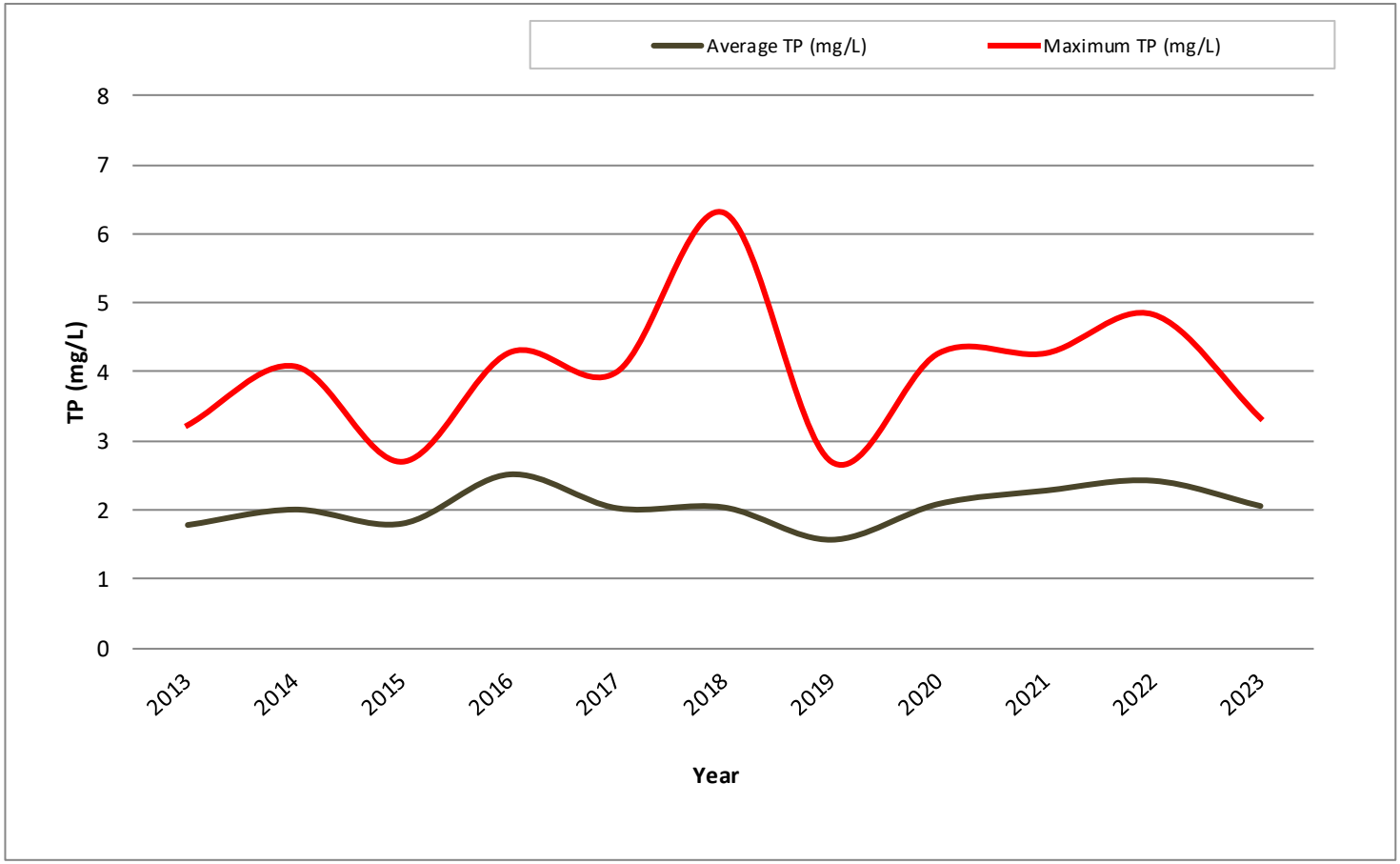
	2013	***2014***	***2015***	***2016***	***2017***	***2018***	***2019***	***2020***	***2021***	***2022***	***2023***
Average TSS (mg/L)	68	78	56	86	69	98	59	90	99	129	67
Maximum TSS (mg/L)	128	160	180	221	140	336	150	366	174	410	290



New Liskeard Sewage Treatment Lagoon
Influent Characteristics (Goodman) – Historical Results (2013 to 2023)

TP - Total Phosphorus

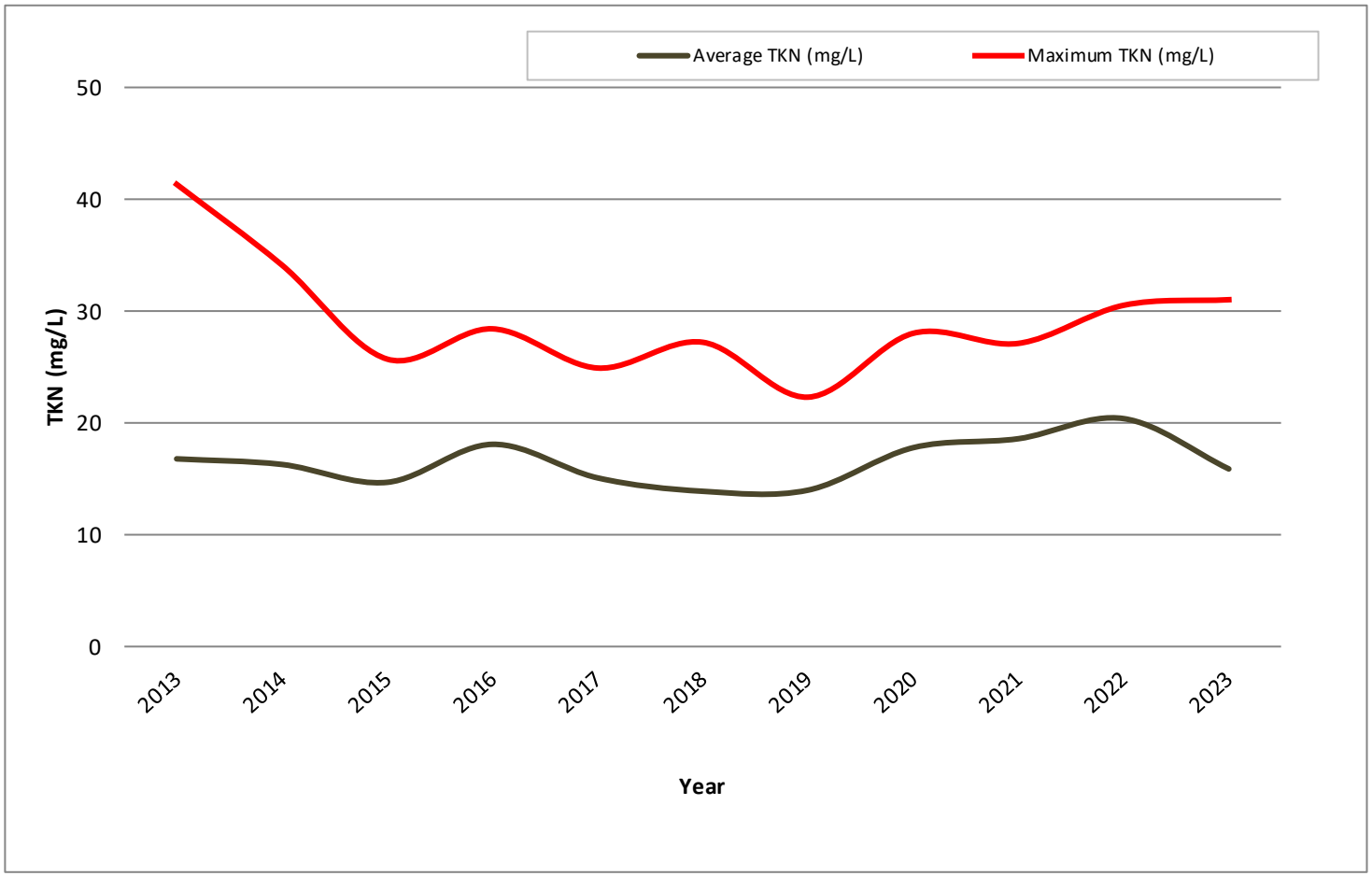
	2013	***2014***	***2015***	***2016***	***2017***	***2018***	***2019***	***2020***	***2021***	***2022***	***2023***
Average TP (mg/L)	1.8	2.0	1.8	2.5	2.0	2.0	1.6	2.1	2.3	2.4	2.1
Maximum TP (mg/L)	3.2	4.1	2.7	4.3	4.0	6.3	2.7	4.3	4.3	4.8	3.3



New Liskeard Sewage Treatment Lagoon
Influent Characteristics (Goodman) – Historical Results (2013 to 2023)

TKN – Total Kjeldahl Nitrogen

	2013	***2014***	***2015***	***2016***	***2017***	***2018***	***2019***	***2020***	***2021***	***2022***	***2023***
Average TKN (mg/L)	17	16	15	18	15	14	14	18	19	21	16
Maximum TKN (mg/L)	41	34	26	28	25	27	22	28	27	31	31



APPENDIX D
Maintenance Summary

ONTARIO CLEAN WATER AGENCY
AGENCE ONTARIENNE DES EAUX

Workorder Summary Report

Report Start Date: Jan 1, 2023 12:00 AM
Report End Date: Dec 31, 2023 11:59 PM
Location: 6212*
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
3151953			6212, New Liskeard Lagoon	PM	Compliance	1	YEARS	Facility Emergency Plan Review (1y) 6212	CLOSE	1/1/23 12:00 AM	4/17/23 06:55 AM	4/17/23 06:55 AM	Facility Emergency Plan Review (1y) 6212 - Review and update FEP binder. Develop procedures and update contact list Facility Emergency Plan Review (1y) 6212 - Completed review and update of the FEP binder. Went to office to print newly developed procedures. Printer started making black streaks on the pages. Stop the print and will go again when the printer is fixed. Reviewed and scanned pages from the Operations Manual and save electronic copy on the public drive. Facility Emergency Plan Review (1y) 6212 - Print updated procedures for FEP binder
3151954		6212, New Liskeard Lagoon		OPER	Health and Safety	1	YEARS	OCWA Annual Workplace Inspection (1y) 6212	CLOSE	1/1/23 12:00 AM	1/4/23 12:10 PM	1/4/23 12:10 PM	Work Place inspection - Completed annual work place inspection all ok
3151960		6212, New Liskeard Lagoon		PM	Health and Safety	1	YEARS	WHMIS/SDS/NSF Review and Update (1y) 6212	CLOSE	1/1/23 12:00 AM	2/13/23 12:40 PM	2/13/23 12:40 PM	
3152368		6212, New Liskeard Lagoon		PM	Inspection	1	MONTHS	Building and Grounds Maintenance (1m) 6212	CLOSE	1/1/23 12:00 AM	1/27/23 03:00 PM	1/27/23 03:00 PM	Building and Ground Maintenance - Removed garbage from site Cleaned bar screen Removed snow from entrances Visually inspection facilities exterior and interior for damages. OK
3155202		6212, New Liskeard Lagoon Niven SPS		PM	Inspection	1	YEARS	ALARM PLANT NIVEN SPS ANNUAL TESTING (1Y) 6212	CLOSE	1/1/23 12:00 AM	6/21/23 04:00 PM	6/21/23 04:00 PM	- See attached sheet
3155205		6212, New Liskeard Lagoon Whitewood SPS		PM	Inspection	1	YEARS	ALARM PLANT WHITEWOOD SPS TESTING (1Y) 6212	CLOSE	1/1/23 12:00 AM	6/15/23 03:17 PM	6/15/23 03:17 PM	

ONTARIO CLEAN WATER AGENCY
AGENCE ONTARIENNE DES EAUX

Workorder Summary Report

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Location:	6212*
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
3155208			6212, New Liskeard Lagoon Montgomery SPS	PM	Inspection	1	YEARS	ALARM PLANT MONTGOMERY SPS ANNUAL TESTING (1Y) 6212	CLOSE	1/1/23 12:00 AM	6/9/23 01:41 PM	6/9/23 01:41 PM	- See attached file
3155211			6212, New Liskeard Lagoon Cedar SPS	PM	Inspection	1	YEARS	ALARM PLANT CEDAR ST SPS ANNUAL TESTING (1Y) 6212	CLOSE	1/1/23 12:00 AM	6/9/23 02:00 PM	6/9/23 02:00 PM	- See attached sheet
3155214			6212, New Liskeard Lagoon Goodman SPS	PM	Inspection	1	YEARS	ALARM PLANT GOODMAN SPS ANNUAL TESTING (1Y) 6212	CLOSE	1/1/23 12:00 AM	6/14/23 03:20 PM	6/14/23 03:20 PM	- See attached file
3156165	0000115471	BLOWER 01	6212, New Liskeard Lagoon, Process	PM	Refurbish/ Replace/Repair	1	YEARS	Blower Air 01 Service (1y) 6212	CLOSE	1/1/23 12:00 AM	4/19/23 02:42 PM	4/19/23 02:42 PM	check - check oil and belt
3156178	0000115480	BLOWER 02	6212, New Liskeard Lagoon, Process	PM	Refurbish/ Replace/Repair	1	YEARS	Blower Air 02 Service (1y) 6212	CLOSE	1/1/23 12:00 AM	4/19/23 02:43 PM	4/19/23 02:43 PM	check - check oil and belt
3156191	0000115481	BLOWER 03	6212, New Liskeard Lagoon, Process	PM	Refurbish/ Replace/Repair	1	YEARS	Blower Air 03 Service (1y) 6212	CLOSE	1/1/23 12:00 AM	4/19/23 02:54 PM	4/19/23 02:54 PM	check - check oil replace drive end oil check belt
3156204	0000115400	PUMP DIAPHRAGM SODIUM HYPOCHLORITE BYPASS WHITEWOOD SPS	6212, New Liskeard Lagoon Whitewood SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Pump Diaphragm Sodium Hypo Bypass Inspection (1m) 6212	CLOSE	1/1/23 12:00 AM	1/20/23 02:06 PM	1/20/23 02:06 PM	Hypo Bypass Pump Inspection - Isolated pump and sight glass and completed drawdown test using water. 2000 mL = 05:22.49
3156207	0000293671	PUMP DIAPHRAGM 01 FERRIC SULFATE	6212, New Liskeard Lagoon	PM	Refurbish/ Replace/Repair	1	MONTHS	Pump Diaphragm 01 Ferric Sulfate Inspection (1m) 6212	CLOSE	1/1/23 12:00 AM	1/20/23 01:59 PM	1/20/23 01:59 PM	Ferric Sulfate Pump Diaphragm at NL Lagoon - Hot flushed both pumps and ran at 100% to clean the lines.
3156210	0000115522	PUMP DIAPHRAGM 01 SODIUM HYPOCHLORITE BYPASS NIVEN SPS	6212, New Liskeard Lagoon Niven SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Pump Diaphragm 01 Sodium Hypo Bypass Inspection (1m) 6212	CLOSE	1/1/23 12:00 AM	1/27/23 09:10 AM	1/27/23 09:10 AM	Hypo Bypass Pump #1 Inspection - Isolated pump and sight glass and completed drawdown test: 100 mL : 00:33.07
3156213	0000115523	PUMP DIAPHRAGM 02 SODIUM HYPOCHLORITE BYPASS NIVEN SPS	6212, New Liskeard Lagoon Niven SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Pump Diaphragm 02 Sodium Hypo Bypass Inspection (1m) 6212	CLOSE	1/1/23 12:00 AM	1/27/23 09:23 AM	1/27/23 09:23 AM	Hypo Bypass Pump #2 Inspection - Isolated pump and sight glass and completed drawdown test: 100 mL: 00:33.07

ONTARIO CLEAN WATER AGENCY
AGENCE ONTARIENNE DES EAUX

Workorder Summary Report

Report Start Date: Jan 1, 2023 12:00 AM
Report End Date: Dec 31, 2023 11:59 PM
Location: 6212*
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
3157676			6212, New Liskeard Lagoon Whitewood SPS	PM	Inspection	1	YEARS	ALARM NEW LISKEARD LAGOON ANUAL TESTING (1Y) 6212	CLOSE	1/1/23 12:00 AM	5/17/23 03:55 PM	5/17/23 03:55 PM	Ran Genset recoded Values -
3180665	0000277393	GENERATOR	6212, New Liskeard Lagoon Gray SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Diesel Generator Inspection/ Functional Test Gray SPS (1m) 6212	CLOSE	1/1/23 12:00 AM	1/26/23 11:23 AM	1/26/23 11:23 AM	Genset Test at Gray SPS - Completed a generator test: checked oil, coolant, block heater and fuel no faults displayed ran generator for approx. an hour and checked belt and leaks. OK recorded running values on sheet.
3181884	0000115895	PUMP SUBMERSIBLE 02 NIVEN SPS	6212, New Liskeard Lagoon Niven SPS	PM	Refurbish/ Replace/Repair	1	YEARS	Pump Submersible 01 Niven SPS Inspection (1y) 6212	CLOSE	1/1/23 12:00 AM	5/19/23 01:05 PM	5/19/23 01:05 PM	Verified pump operation and checked for vibrations -
3181902	0000277394	PUMP SUBMERSIBLE 01 Gray PS 6212	6212, New Liskeard Lagoon Gray SPS	PM	Refurbish/ Replace/Repair	1	YEARS	Pump Submersible Inspection 01 Gray Rd PS (1y)	CLOSE	1/1/23 12:00 AM	6/20/23 02:26 PM	6/20/23 02:26 PM	- Inspect tub wiring, measure line voltage. Measure running current and corresponding flow. T1 T2 T3 351.4 V 351.8 V 351.2 V 36.5 A 36.3 A 36.4 A @ 120.7 l/s
3181911	0000277395	PUMP SUBMERSIBLE 02 Gray PS 6212	6212, New Liskeard Lagoon Gray SPS	PM	Refurbish/ Replace/Repair	1	YEARS	Pump Submersible Inspection 02 GrayRd PS (1y)	CLOSE	1/1/23 12:00 AM	6/20/23 02:30 PM	6/20/23 02:30 PM	- Inspect tub wiring, measure line voltage. Measure running current and corresponding flow. T1 T2 T3 351.6 V 351.7 V 351.5 V 33.8 A 34.0 A 34.0 A @ 97.9 l/s

ONTARIO CLEAN WATER AGENCY
AGENCE ONTARIENNE DES EAUX

Workorder Summary Report

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Location:	6212*
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
3181920	0000277396	PUMP SUBMERSIBLE 03 Gray PS 6212	6212, New Liskeard Lagoon Gray SPS	PM	Refurbish/ Replace/Repair	1	YEARS	Pump Submersible Inspection 03 Gray Rd PS (1y)	CLOSE	1/1/23 12:00 AM	6/20/23 02:34 PM	6/20/23 02:34 PM	- Inspect tub wiring, measure line voltage. Measure running current and corresponding flow. T1 T2 T3 351.6 V 351.4 V 351.3 V 34.4 A 34.7 A 35.2 A @ 100.2 l/s
3200232			6212, New Liskeard Lagoon	OPER	Inspection	1	YEARS	Daily O&M Activities Wastewater Treatment (1y) 6212	COMP	1/1/23 12:00 AM	1/2/24 01:50 PM	1/2/24 01:50 PM	- Gather up a sump pump and extension cords and pump out flowmeter pit out by fence. - Chase down alarms in NL. Loss of comm and motor resets - Check cleanliness of WW level transducer face. Washed face and checked signal strength. Replaced transducer.
3200237	0000076675	ENGINE DIESEL GOODMAN SPS	6212, New Liskeard Lagoon Goodman SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Diesel Generator Inspection/ Functional Test Goodman SPS (1m) 6212	CLOSE	1/1/23 12:00 AM	1/26/23 01:27 PM	1/26/23 01:27 PM	Genset Test at Goodman SPS - Completed generator test at Goodman SPS: checked oil, coolant, block heater and fuel no faults displayed ran generator for approx. an hour and checked belt and leaks. OK recorded running values on sheet.
3200253	0000115903	ENGINE DIESEL LAGOON	6212, New Liskeard Lagoon, Process	PM	Refurbish/ Replace/Repair	1	MONTHS	Diesel Generator Inspection/ Functional Test NL Lagoon (1m) 6212	CLOSE	1/1/23 12:00 AM	1/16/23 12:42 PM	1/16/23 12:42 PM	Genset Test at NL Lagoon - Completed generator test: check oil, fuel, coolant and block heater no faults displayed recorded running values on sheet

ONTARIO CLEAN WATER AGENCY
AGENCE ONTARIENNE DES EAUX

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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
3200269	0000115923	ENGINE DIESEL MONTGOMERY SPS	6212, New Liskeard Lagoon Montgomery SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Diesel Generator Inspection/ Functional Test Montgomery SPS (1m) 6212	CLOSE	1/1/23 12:00 AM	1/26/23 11:33 AM	1/26/23 11:33 AM	Genset Test at Montgomery SPS - Completed a generator test: checked oil, coolant, block heater and fuel no faults displayed ran generator for approx. an hour and checked belt and leaks. OK recorded running values on sheet.
3200285	0000115516	ENGINE DIESEL NIVEN SPS	6212, New Liskeard Lagoon Niven SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Diesel Generator Inspection/ Functional Test Niven SPS (1m) 6212	CLOSE	1/1/23 12:00 AM	1/26/23 11:27 AM	1/26/23 11:27 AM	Genset Test at Niven SPS -Completed a generator test: checked oil, coolant, block heater and fuel no faults displayed ran generator for approx. an hour and checked belt and leaks. OK recorded running values on sheet. *Generator ran good since new batteries installed *
3200301	0000115397	ENGINE DIESEL WHITEWOOD SPS	6212, New Liskeard Lagoon Whitewood SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Diesel Generator Inspection/ Functional Test Whitewood SPS(1m) 6212	CLOSE	1/1/23 12:00 AM	1/20/23 02:03 PM	1/20/23 02:03 PM	Generator Test at Whitewood SPS - Completed a genset test at Whitewood SPS: checked oil, fuel, coolant, and block heater no faults displayed recorded running values on sheet
3200317			6212, New Liskeard Lagoon, Process	PM	Health and Safety	1	MONTHS	Health And Safety Inspection (1m) 6212	CLOSE	1/1/23 12:00 AM	1/27/23 03:10 PM	1/27/23 03:10 PM	Health and Safety Inspection - Completed health and safety inspections: checked fire extinguishers, first aid kits, exist, signage, lock out/tag out stations
3204363			6212, New Liskeard Lagoon, Facility	CORR	Refurbish/ Replace/Repair	0		Level Ferric Erratic Readings NL Lagoon 6212	CLOSE		1/17/23 01:13 PM	1/17/23 01:13 PM	-Troubleshoot erratic ferric tank readings. Go up on top of tank, remove transmitter and clean face. Replace transmitter. Readings are now OK.

ONTARIO CLEAN WATER AGENCY
AGENCE ONTARIENNE DES EAUX

Workorder Summary Report

Report Start Date:	Jan 1, 2023 12:00 AM
Report End Date:	Dec 31, 2023 11:59 PM
Location:	6212*
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
3205474			6212, New Liskeard Lagoon Elm SPS	CALL	Refurbish/ Replace/Repair	0		Power Fail Elm SPS 6212	CLOSE		1/23/23 08:11 AM	1/23/23 08:19 AM	Call For critical Alarm -tried logging in remotely to see issue but no communication. Went to site to see and found power was out. called hydro, while on hold the power to the station came back online and communication re established.
3205518			6212, New Liskeard Lagoon	CAP	Predictive Maintenance	0		New Liskeard Lagoon Chemicals 6212	COMP		1/5/24 10:11 AM	1/5/24 10:11 AM	
3208611			6212, New Liskeard Lagoon	PM	Inspection	1	MONTHS	Building and Grounds Maintenance (1m) 6212	CLOSE	2/1/23 12:00 AM	3/2/23 02:47 PM	3/2/23 02:47 PM	Grounds maintenance - Clean snow and floors throughout month
3211167	0000115400	PUMP DIAPHRAGM SODIUM HYPOCHLORITE BYPASS WHITEWOOD SPS	6212, New Liskeard Lagoon Whitewood SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Pump Diaphragm Sodium Hypo Bypass Inspection (1m) 6212	CLOSE	2/1/23 12:00 AM	2/14/23 12:17 PM	2/14/23 12:17 PM	Check Pump -
3211170	0000293671	PUMP DIAPHRAGM 01 FERRIC SULFATE	6212, New Liskeard Lagoon	PM	Refurbish/ Replace/Repair	1	MONTHS	Pump Diaphragm 01 Ferric Sulfate Inspection (1m) 6212	CLOSE	2/1/23 12:00 AM	2/14/23 12:15 PM	2/14/23 12:15 PM	Checked ferric pump - asking for PM kit but unit pumping fine and the other Pump is ready to go if this one fails
3211173	0000115522	PUMP DIAPHRAGM 01 SODIUM HYPOCHLORITE BYPASS NIVEN SPS	6212, New Liskeard Lagoon Niven SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Pump Diaphragm 01 Sodium Hypo Bypass Inspection (1m) 6212	CLOSE	2/1/23 12:00 AM	2/17/23 09:17 AM	2/17/23 09:17 AM	Hypo Bypass Pump Inspection - Completed a drawdown test. Isolated pump and sight glass. Filled sight glass with water ran pump for a minute. 180 mL per min Pump. OK

ONTARIO CLEAN WATER AGENCY
AGENCE ONTARIENNE DES EAUX

Workorder Summary Report

Report Start Date: Jan 1, 2023 12:00 AM
Report End Date: Dec 31, 2023 11:59 PM
Location: 6212*
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
3211176	0000115523	PUMP DIAPHRAGM 02 SODIUM HYPOCHLORITE BYPASS NIVEN SPS	6212, New Liskeard Lagoon Niven SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Pump Diaphragm 02 Sodium Hypo Bypass Inspection (1m) 6212	CLOSE	2/1/23 12:00 AM	2/17/23 09:20 AM	2/17/23 09:20 AM	Hypo Bypass Pump #2 Inspection - Completed a drawdown test. Isolated pump and sight glass. Filled sight glass with water and ran pump for a min. 165 mL per min Pump. Ok
3228286	0000277393	GENERATOR	6212, New Liskeard Lagoon Gray SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Diesel Generator Inspection/ Functional Test Gray SPS (1m) 6212	CLOSE	2/1/23 12:00 AM	2/13/23 12:50 PM	2/13/23 12:50 PM	Run Gen set -
3243013	0000076675	ENGINE DIESEL GOODMAN SPS	6212, New Liskeard Lagoon Goodman SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Diesel Generator Inspection/ Functional Test Goodman SPS (1m) 6212	CLOSE	2/1/23 12:00 AM	2/1/23 11:35 AM	2/1/23 11:35 AM	Generator Test -Hydro is out due to planned interruption generator is running, recorded full level, generator hours, voltage, amperage temourature
3243029	0000115903	ENGINE DIESEL LAGOON	6212, New Liskeard Lagoon, Process	PM	Refurbish/ Replace/Repair	1	MONTHS	Diesel Generator Inspection/ Functional Test NL Lagoon (1m) 6212	CLOSE	2/1/23 12:00 AM	2/14/23 12:16 PM	2/14/23 12:16 PM	Ran Genset -
3243045	0000115923	ENGINE DIESEL MONTGOMERY SPS	6212, New Liskeard Lagoon Montgomery SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Diesel Generator Inspection/ Functional Test Montgomery SPS (1m) 6212	CLOSE	2/1/23 12:00 AM	2/14/23 03:59 PM	2/14/23 03:59 PM	Genset Test at Montgomery SPS - Checked fuel, oil, block heater and coolant no faults displayed recorded running values on sheet
3243066	0000115516	ENGINE DIESEL NIVEN SPS	6212, New Liskeard Lagoon Niven SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Diesel Generator Inspection/ Functional Test Niven SPS (1m) 6212	CLOSE	2/1/23 12:00 AM	2/14/23 03:57 PM	2/14/23 03:57 PM	Genset Test at Niven SPS - Completed generator test at Niven SPS: checked fuel, oil, coolant, and block heater no faults displayed recorded values on sheet
3243082	0000115397	ENGINE DIESEL WHITEWOOD SPS	6212, New Liskeard Lagoon Whitewood SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Diesel Generator Inspection/ Functional Test Whitewood SPS(1m) 6212	CLOSE	2/1/23 12:00 AM	2/13/23 12:52 PM	2/13/23 12:52 PM	Run Genset -

ONTARIO CLEAN WATER AGENCY
AGENCE ONTARIENNE DES EAUX

Workorder Summary Report

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Report End Date:	Dec 31, 2023 11:59 PM
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3243098			6212, New Liskeard Lagoon, Process	PM	Health and Safety	1	MONTHS	Health And Safety Inspection (1m) 6212	CLOSE	2/1/23 12:00 AM	3/2/23 03:02 PM	3/2/23 03:02 PM	Verify operation - Review fire extinguishers, first aid kits and eye wash stations. OK.
3244011			6212, New Liskeard Lagoon Montgomery SPS	CALL	Refurbish/ Replace/Repair	0		Low building temp due to cold weather - Montgomery SPS - 6212	CLOSE		2/3/23 03:30 AM	2/3/23 04:45 AM	Call for minor alarm. - Call for minor alarm. Log in and found low building temp. Drove to site and found heater running but not keeping up due to cold weather. Building still at safe temp and water lines okay. Contacted city to upgrade heater as the little one is not suffice.
3244572			6212, New Liskeard Lagoon Whitewood SPS	CALL	Refurbish/ Replace/Repair	0		Whitewood SPS low temperature - 6212	CLOSE		2/4/23 07:00 AM	2/4/23 09:00 AM	Minor alarm - Call for minor alarm. Low temperature alarm. Found both the main heater and wall plug space heater running but still in alarm. Building temp ok and water lines okay. Found exhaust louvers having large draft, tried to squeeze shut tighter with main shaft adjustment. Lowered low temp alarm to about 8degC rather than the 12degC original setting.
3244574			6212, New Liskeard Lagoon Niven SPS	CALL	Refurbish/ Replace/Repair	0		Niven SPS loss of communication - 6212	CLOSE		2/4/23 03:30 PM	2/4/23 06:30 PM	Critical alarm - Call for critical alarm. Log in to find loss of communication. Drove to site and reset radio. Log in and verified communication now ok.
3244816			6212, New Liskeard Lagoon Niven SPS	CALL	Refurbish/ Replace/Repair	0		lost com. niven SPS 6212	CLOSE		2/7/23 04:30 PM	2/7/23 05:30 PM	lost com. - lost com at niven SPS reset radio on site
3246194			6212, New Liskeard Lagoon Niven SPS	CALL	Refurbish/ Replace/Repair	0		Loss Comm Niven SPS 6212	CLOSE		2/16/23 06:00 PM	2/16/23 07:15 PM	Loss Comm Niven - Had to reset Radio to re establish communication
3246749			6212, New Liskeard Lagoon Niven SPS	CALL	Refurbish/ Replace/Repair	0		Loss Comm Niven SPS 6212	CLOSE		2/20/23 01:30 AM	2/20/23 04:30 AM	Loss Comm Niven - Loss Comm Niven Had to reset radio to re establish communication

ONTARIO CLEAN WATER AGENCY
AGENCE ONTARIENNE DES EAUX

Workorder Summary Report

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3247422			6212, New Liskeard Lagoon Gray SPS	CALL	Refurbish/ Replace/Repair	0		Alarm Critical Loss of Comm NL Sewage 6212	CLOSE		2/25/23 01:53 PM	2/25/23 01:57 PM	- Called for Critical alarm for Gray, Niven pumping station and NL wtp. Reset all radios to resume comms.
3249470			6212, New Liskeard Lagoon	PM	Inspection	1	MONTHS	Building and Grounds Maintenance (1m) 6212	CLOSE	3/1/23 12:00 AM	4/17/23 02:53 PM	4/17/23 02:53 PM	Work Completed last month -
3252589	0000115400	PUMP DIAPHRAGM SODIUM HYPOCHLORITE BYPASS WHITEWOOD SPS	6212, New Liskeard Lagoon Whitewood SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Pump Diaphragm Sodium Hypo Bypass Inspection (1m) 6212	CLOSE	3/1/23 12:00 AM	3/6/23 08:57 AM	3/6/23 08:57 AM	Verify operation - Verify operation of chemical dosing pump by performing a drawdown test. OK.
3252592	0000293671	PUMP DIAPHRAGM 01 FERRIC SULFATE	6212, New Liskeard Lagoon	PM	Refurbish/ Replace/Repair	1	MONTHS	Pump Diaphragm 01 Ferric Sulfate Inspection (1m) 6212	CLOSE	3/1/23 12:00 AM	3/6/23 08:58 AM	3/6/23 08:58 AM	Verify operation - Verify operation of chemical dosing pump by performing a drawdown test. OK.
3252595	0000115522	PUMP DIAPHRAGM 01 SODIUM HYPOCHLORITE BYPASS NIVEN SPS	6212, New Liskeard Lagoon Niven SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Pump Diaphragm 01 Sodium Hypo Bypass Inspection (1m) 6212	CLOSE	3/1/23 12:00 AM	3/6/23 08:58 AM	3/6/23 08:58 AM	Verify operation - Verify operation of chemical dosing pump by performing a drawdown test. OK.
3252598	0000115523	PUMP DIAPHRAGM 02 SODIUM HYPOCHLORITE BYPASS NIVEN SPS	6212, New Liskeard Lagoon Niven SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Pump Diaphragm 02 Sodium Hypo Bypass Inspection (1m) 6212	CLOSE	3/1/23 12:00 AM	3/6/23 08:58 AM	3/6/23 08:58 AM	Verify operation - Verify operation of chemical dosing pump by performing a drawdown test. OK.
3264609			6212, New Liskeard Lagoon	PM	Inspection	3	MONTHS	ANALYZER PH PORTABLE LAGOON CALIBRATION (3M) 6212	CLOSE	3/1/23 12:00 AM	3/8/23 09:15 AM	3/8/23 09:15 AM	- Made fresh buffers and soaked probe in 4.00 to clean probe. Calibrated meter using 4.00 pH and 7.00 pH buffer solutions as per manufactures instructions. Renewed storage solution.
3271286	0000277393	GENERATOR	6212, New Liskeard Lagoon Gray SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Diesel Generator Inspection/ Functional Test Gray SPS (1m) 6212	CLOSE	3/1/23 12:00 AM	3/6/23 08:52 AM	3/6/23 08:52 AM	Test run generator - Test run diesel generator. Record all parameters on maintenance record.

ONTARIO CLEAN WATER AGENCY
AGENCE ONTARIENNE DES EAUX

Workorder Summary Report

Report Start Date: Jan 1, 2023 12:00 AM
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				WorkOrder		PM Schedule		Workorder Details					
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3286901	0000076675	ENGINE DIESEL GOODMAN SPS	6212, New Liskeard Lagoon Goodman SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Diesel Generator Inspection/ Functional Test Goodman SPS (1m) 6212	CLOSE	3/1/23 12:00 AM	3/6/23 08:53 AM	3/6/23 08:53 AM	Test run generator - Test run diesel generator. Record all parameters on maintenance record.
3286917	0000115903	ENGINE DIESEL LAGOON	6212, New Liskeard Lagoon, Process	PM	Refurbish/ Replace/Repair	1	MONTHS	Diesel Generator Inspection/ Functional Test NL Lagoon (1m) 6212	CLOSE	3/1/23 12:00 AM	3/6/23 08:53 AM	3/6/23 08:53 AM	Verify operation - Test run diesel generator. Record all parameters on maintenance record.
3286933	0000115923	ENGINE DIESEL MONTGOMERY SPS	6212, New Liskeard Lagoon Montgomery SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Diesel Generator Inspection/ Functional Test Montgomery SPS (1m) 6212	CLOSE	3/1/23 12:00 AM	3/6/23 08:54 AM	3/6/23 08:54 AM	Test run generator - Test run diesel generator. Record all parameters on maintenance record.
3286949	0000115516	ENGINE DIESEL NIVEN SPS	6212, New Liskeard Lagoon Niven SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Diesel Generator Inspection/ Functional Test Niven SPS (1m) 6212	CLOSE	3/1/23 12:00 AM	3/6/23 08:54 AM	3/6/23 08:54 AM	Test run generator - Test run diesel generator. Record all parameters on maintenance record.
3286965	0000115397	ENGINE DIESEL WHITEWOOD SPS	6212, New Liskeard Lagoon Whitewood SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Diesel Generator Inspection/ Functional Test Whitewood SPS(1m) 6212	CLOSE	3/1/23 12:00 AM	3/6/23 08:54 AM	3/6/23 08:54 AM	Test run generator - Test run diesel generator. Record all parameters on maintenance record.
3286981			6212, New Liskeard Lagoon, Process	PM	Health and Safety	1	MONTHS	Health And Safety Inspection (1m) 6212	CLOSE	3/1/23 12:00 AM	4/18/23 09:10 AM	4/18/23 09:10 AM	Completed last month -
3287610			6212, New Liskeard Lagoon Niven SPS	CALL	Refurbish/ Replace/Repair	0		Niven SPS loss of communication - 6212	CLOSE		3/2/23 12:45 AM	3/2/23 03:00 AM	Call for critical alarm -Call for critical alarm, log in to find loss of communication. Drove to site and reset radio. Verified ok.
3290352	0000293613	METER FLOW EFFLUENT LAGOON	6212, New Liskeard Lagoon	EMER	Inspection	0		Flow Effluent NL Lagoon Erratic 6212	CLOSE		3/20/23 01:54 PM	3/20/23 01:54 PM	- Noticed on daily review that the effluent flow had recorded max flow for few minutes and then returned to normal. Travel to site and clean snow off of panels to get at effluent flow transducer, Clean ice, snow and debris from stillwell and off of transducer head and face. Replace panels and monitor operation for a bit. Seems OK now.

ONTARIO CLEAN WATER AGENCY
AGENCE ONTARIENNE DES EAUX

Workorder Summary Report

Report Start Date: Jan 1, 2023 12:00 AM
Report End Date: Dec 31, 2023 11:59 PM
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				WorkOrder		PM Schedule		Workorder Details					
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3290790			6212, New Liskeard Lagoon Niven SPS	CALL	Refurbish/ Replace/Repair	0		Loss Comm Gray SPS 6212	CLOSE		3/23/23 04:15 AM	3/23/23 05:30 AM	Loss Comm Gray SPS - Call For Loss Comm. had to reset radio on site to re establish Communication
3291294			6212, New Liskeard Lagoon Gray SPS	CALL	Refurbish/ Replace/Repair	0		Low Level Gray SPS 6212	CLOSE		3/27/23 01:45 AM	3/27/23 03:00 AM	Low Level Alarm - Call For low level alarm on arrival found the level to be rising again. reviewed trends and level had dropped to 0.51 meters. the miltronics ultrasonic must have gotten hung up on grease build up on the wall causing the pumps to stay running and pump the pit to empty. Station will need to be cleaned out.
3293746			6212, New Liskeard Lagoon	PM	Inspection	1	MONTHS	Building and Grounds Maintenance (1m) 6212	CLOSE	4/1/23 12:00 AM	4/25/23 10:08 AM	4/25/23 10:08 AM	clean facilities -
3297327	0000115400	PUMP DIAPHRAGM SODIUM HYPOCHLORITE BYPASS WHITEWOOD SPS	6212, New Liskeard Lagoon Whitewood SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Pump Diaphragm Sodium Hypo Bypass Inspection (1m) 6212	CLOSE	4/1/23 12:00 AM	4/11/23 06:54 PM	4/11/23 06:54 PM	Pump Diaphragm Sodium Hypo Bypass Inspection (1m) 6212 - Isolated pump and sight glass and completed draw down test: Approx 425mL per min. Checked hypo tank level. ok Pump ran good
3297330	0000293671	PUMP DIAPHRAGM 01 FERRIC SULFATE	6212, New Liskeard Lagoon	PM	Refurbish/ Replace/Repair	1	MONTHS	Pump Diaphragm 01 Ferric Sulfate Inspection (1m) 6212	CLOSE	4/1/23 12:00 AM	4/24/23 05:50 AM	4/24/23 05:50 AM	Pump Diaphragm 01 Ferric Sulfate Inspection (1m) 6212 - Hot flushed Pump 1 & 2
3297333	0000115522	PUMP DIAPHRAGM 01 SODIUM HYPOCHLORITE BYPASS NIVEN SPS	6212, New Liskeard Lagoon Niven SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Pump Diaphragm 01 Sodium Hypo Bypass Inspection (1m) 6212	CLOSE	4/1/23 12:00 AM	4/11/23 06:39 PM	4/11/23 06:39 PM	Pump Diaphragm 01 Sodium Hypo Bypass Inspection (1m) 6212 - Isolated pump and sight glass and completed a draw down test: Approx. 155mL per min Pump ran good. Checked hypo tank level. Ok Added calcium hypochlorite

ONTARIO CLEAN WATER AGENCY
AGENCE ONTARIENNE DES EAUX

Workorder Summary Report

Report Start Date: Jan 1, 2023 12:00 AM
Report End Date: Dec 31, 2023 11:59 PM
Location: 6212*
Work Order Type: CALL,CAP,CORR,EMER,OPER,PM
Work Order Class:

				WorkOrder		PM Schedule		Workorder Details					
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3297336	0000115523	PUMP DIAPHRAGM 02 SODIUM HYPOCHLORITE BYPASS NIVEN SPS	6212, New Liskeard Lagoon Niven SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Pump Diaphragm 02 Sodium Hypo Bypass Inspection (1m) 6212	CLOSE	4/1/23 12:00 AM	4/11/23 06:45 PM	4/11/23 06:45 PM	Pump Diaphragm 02 Sodium Hypo Bypass Inspection (1m) 6212 - Isolated pump and sight glass and completed drawdown test: Approx 165mL per min Pump ran good.
3318071	0000277393	GENERATOR	6212, New Liskeard Lagoon Gray SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Diesel Generator Inspection/ Functional Test Gray SPS (1m) 6212	CLOSE	4/1/23 12:00 AM	4/6/23 03:52 PM	4/6/23 03:52 PM	Diesel Generator Inspection/ Functional Test Gray SPS (1m) 6212 - Completed genset test: checked oil, fuel, coolant and block heater no faults displayed. recorded running values on sheet
3337233	0000076675	ENGINE DIESEL GOODMAN SPS	6212, New Liskeard Lagoon Goodman SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Diesel Generator Inspection/ Functional Test Goodman SPS (1m) 6212	CLOSE	4/1/23 12:00 AM	4/25/23 10:13 AM	4/25/23 10:13 AM	Run Genset -
3337249	0000115903	ENGINE DIESEL LAGOON	6212, New Liskeard Lagoon, Process	PM	Refurbish/ Replace/Repair	1	MONTHS	Diesel Generator Inspection/ Functional Test NL Lagoon (1m) 6212	CLOSE	4/1/23 12:00 AM	4/24/23 05:41 AM	4/24/23 05:41 AM	Diesel Generator Inspection/ Functional Test NL Lagoon (1m) 6212 - Completed genset test: checked oil, fuel, block heater and coolant. no faults displayed recorded running values on sheet
3337265	0000115923	ENGINE DIESEL MONTGOMERY SPS	6212, New Liskeard Lagoon Montgomery SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Diesel Generator Inspection/ Functional Test Montgomery SPS (1m) 6212	CLOSE	4/1/23 12:00 AM	4/24/23 05:43 AM	4/24/23 05:43 AM	Diesel Generator Inspection/ Functional Test Montgomery SPS (1m) 6212 -Completed genset test: checked oil, fuel, block heater and coolant. no faults displayed recorded running values on sheet

ONTARIO CLEAN WATER AGENCY
AGENCE ONTARIENNE DES EAUX

Workorder Summary Report

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3337281	0000115516	ENGINE DIESEL NIVEN SPS	6212, New Liskeard Lagoon Niven SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Diesel Generator Inspection/ Functional Test Niven SPS (1m) 6212	CLOSE	4/1/23 12:00 AM	4/6/23 03:55 PM	4/6/23 03:55 PM	Diesel Generator Inspection/ Functional Test Niven SPS (1m) 6212 - Completed genset test: checked fuel, oil, coolant and block heater no faults displayed recorded running values on sheet
3337297	0000115397	ENGINE DIESEL WHITEWOOD SPS	6212, New Liskeard Lagoon Whitewood SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Diesel Generator Inspection/ Functional Test Whitewood SPS(1m) 6212	CLOSE	4/1/23 12:00 AM	4/6/23 03:58 PM	4/6/23 03:58 PM	Diesel Generator Inspection/ Functional Test Whitewood SPS(1m) 6212 - Completed genset test: checked fuel, oil, coolant and block heater no faults displayed recorded running values on sheet
3337313			6212, New Liskeard Lagoon, Process	PM	Health and Safety	1	MONTHS	Health And Safety Inspection (1m) 6212	CLOSE	4/1/23 12:00 AM	4/25/23 10:11 AM	4/25/23 10:11 AM	Check Facility - fire extinguishers , emergency exits and light and eye wash station
3337324	0000277330	TANK WET WELL CEDAR SPS	6212, New Liskeard Lagoon Cedar SPS	PM	Refurbish/ Replace/Repair	6	MONTHS	Wetwell Inspection Cedar SPS (6m) 6212	CLOSE	4/1/23 12:00 AM	7/10/23 03:02 PM	7/10/23 03:02 PM	Check Wet Well -No major grease build up

ONTARIO CLEAN WATER AGENCY
AGENCE ONTARIENNE DES EAUX

Workorder Summary Report

Report Start Date:	Jan 1, 2023 12:00 AM
Report End Date:	Dec 31, 2023 11:59 PM
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Work Order Class:	

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3339894			6212, New Liskeard Lagoon Elm SPS	CALL	Predictive Maintenance	0		High Levels at Elm and Montgomery SPS, 6212	CLOSE		4/11/23 04:00 PM	4/11/23 09:30 PM	High Levels at Elm and Montgomery SPS, 6212 - Called in for high levels at both Elm and Montgomery SPS due to high temperatures causing the snow to melt quickly. Arrived at Elm SPS with Steve Burnett to assess the wetwell high level and he determined not to haul the mobile diesel pump to site because there was still 6FT from the bottom of the crossover and it would not overflow because the sun was going down. I monitored the site unit the level went down. Max level reached was approx. 2FT below the crossover. Monitored the high level at Montgomery and prepared the mobile pump for an emergency overflow even t if the level continued to increase. Level increased over 2.00m and I had to monitor the level through the hatch because the LIT no longer could read however there was no overflow event because the level started to decrease.
3340161			6212, New Liskeard Lagoon Gray SPS	CALL	Predictive Maintenance	0		Call In - Power Outage at Elm SPS, 6212	CLOSE		4/13/23 04:00 PM	4/13/23 09:00 PM	Power Fail -

ONTARIO CLEAN WATER AGENCY
AGENCE ONTARIENNE DES EAUX

Workorder Summary Report

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3340162			6212, New Liskeard Lagoon Elm SPS	CALL	Predictive Maintenance	0		Call In - Power Outage at Elm SPS, 6212	CLOSE		4/13/23 04:00 PM	4/13/23 08:30 PM	Call In - Power Outage at Elm SPS, 6212 - Called out to Elm, Niven, Whitewood, Cedar and Gray SPS due to a large scale power outage in the area. Notified Bryce that Elm SPS had no power and he went and got the mobile generator. During that time, I was on the phone with Hydro one at 1532 reporting the power outage in which they estimated the power being restored at approx. 1830. I monitored the SPS and received high level during that time due to snow melting quickly and determined the mobile pump was necessary. I monitored the level and it started to decrease to a normal setpoint. Power was restored at approx. 1821, I disconnected the generator and manually transferred Hydro.
3340163			6212, New Liskeard Lagoon Montgomery SPS	CALL	Predictive Maintenance	0		Call In- High level due snow melting at Montgomery SPS, 6212	CLOSE		4/13/23 05:00 PM	4/13/23 11:15 PM	Call In- High level due snow melting at Montgomery SPS, 6212 - Call In at Montgomery SPS at 1646 while I was called out for Elm SPS. Drove to site and level was rising. Checked hatch. OK and monitored level on site and through SCADA. Both pumps lockout when the power was restored but I was able to reset via mobile SCADA and check onsite. Level decreased to a normal setpoint at approx. 2309

ONTARIO CLEAN WATER AGENCY
AGENCE ONTARIENNE DES EAUX

Workorder Summary Report

Report Start Date:	Jan 1, 2023 12:00 AM
Report End Date:	Dec 31, 2023 11:59 PM
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WO #	Asset ID	Asset Description	Location Description	Type	Class	FEQ	Units	Work Order Description	Status	Schedule Start	Actual Start	Actual Finsh	WorkLog Detail
3339835			6212, New Liskeard Lagoon Elm SPS	CALL	Refurbish/ Replace/Repair	0		Power Fail Elm SPS 6212	CLOSE		4/13/23 04:15 PM	4/13/23 07:45 PM	Power Fail - Call for pump and power fail at elm, gray and Niven, managed to get pump one and 3 at Niven started remotely but pump 2 wouldn't reset. Drove to Gray found generator in fault had to kill power to ECU on the generator and then was finally able to fire up generator then all 3 pumps came online as there was a high level in the WET Well. Grabbed Portable Generator for Elm hauled to site and got the station back pumping. The WET Well Was at 4.41 m which is flowing down the over flow pipe to whitewood SPS
3342080			6212, New Liskeard Lagoon Niven SPS	CALL	Refurbish/ Replace/Repair	0		Alarm Loss of Comm Niven PS 6212	CLOSE		4/29/23 12:10 PM	4/29/23 12:13 PM	-Called for critical alarm at Niven pumping station. Arrived to find radio locked up. Reset radio to restore communications.
3343784			6212, New Liskeard Lagoon	PM	Inspection	1	MONTHS	Building and Grounds Maintenance (1m) 6212	CLOSE	5/1/23 12:00 AM	5/17/23 03:58 PM	5/17/23 03:58 PM	Clean up Facilities -
3346469	0000115400	PUMP DIAPHRAGM SODIUM HYPOCHLORITE BYPASS WHITEWOOD SPS	6212, New Liskeard Lagoon Whitewood SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Pump Diaphragm Sodium Hypo Bypass Inspection (1m) 6212	CLOSE	5/1/23 12:00 AM	5/19/23 01:06 PM	5/19/23 01:06 PM	Test Hypo Pump -
3346472	0000293671	PUMP DIAPHRAGM 01 FERRIC SULFATE	6212, New Liskeard Lagoon	PM	Refurbish/ Replace/Repair	1	MONTHS	Pump Diaphragm 01 Ferric Sulfate Inspection (1m) 6212	CLOSE	5/1/23 12:00 AM	5/17/23 03:57 PM	5/17/23 03:57 PM	Test ferric Pump operation -
3346475	0000115522	PUMP DIAPHRAGM 01 SODIUM HYPOCHLORITE BYPASS NIVEN SPS	6212, New Liskeard Lagoon Niven SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Pump Diaphragm 01 Sodium Hypo Bypass Inspection (1m) 6212	CLOSE	5/1/23 12:00 AM	5/23/23 12:47 PM	5/23/23 12:47 PM	Tested Pump operation -
3346478	0000115523	PUMP DIAPHRAGM 02 SODIUM HYPOCHLORITE BYPASS NIVEN SPS	6212, New Liskeard Lagoon Niven SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Pump Diaphragm 02 Sodium Hypo Bypass Inspection (1m) 6212	CLOSE	5/1/23 12:00 AM	5/23/23 12:48 PM	5/23/23 12:48 PM	Tested Pump Operation -
3365666	0000277393	GENERATOR	6212, New Liskeard Lagoon Gray SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Diesel Generator Inspection/ Functional Test Gray SPS (1m) 6212	CLOSE	5/1/23 12:00 AM	5/15/23 02:25 PM	5/15/23 02:25 PM	Ran Genset recorded stats -

ONTARIO CLEAN WATER AGENCY
AGENCE ONTARIENNE DES EAUX

Workorder Summary Report

Report Start Date: Jan 1, 2023 12:00 AM
Report End Date: Dec 31, 2023 11:59 PM
Location: 6212*
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
3372933			6212, New Liskeard Lagoon	CALL	Refurbish/ Replace/Repair	0		Deliver Diesel Pump to Elm As per Steve 6212	CLOSE		4/29/23 09:00 AM	4/29/23 11:15 AM	Deliver pump to elm SPS - Delivered the Diesel pump to Elm St SPS upon Steve's requests as we got a major rain fall warning from environment Canada.
3382566	0000076675	ENGINE DIESEL GOODMAN SPS	6212, New Liskeard Lagoon Goodman SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Diesel Generator Inspection/ Functional Test Goodman SPS (1m) 6212	CLOSE	5/1/23 12:00 AM	5/23/23 07:23 AM	5/23/23 07:23 AM	Ran Genset -
3382582	0000115903	ENGINE DIESEL LAGOON	6212, New Liskeard Lagoon, Process	PM	Refurbish/ Replace/Repair	1	MONTHS	Diesel Generator Inspection/ Functional Test NL Lagoon (1m) 6212	CLOSE	5/1/23 12:00 AM	5/23/23 07:21 AM	5/23/23 07:21 AM	Ran Genset -
3382598	0000115923	ENGINE DIESEL MONTGOMERY SPS	6212, New Liskeard Lagoon Montgomery SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Diesel Generator Inspection/ Functional Test Montgomery SPS (1m) 6212	CLOSE	5/1/23 12:00 AM	5/23/23 07:25 AM	5/23/23 07:25 AM	Ran Genset -
3382614	0000115516	ENGINE DIESEL NIVEN SPS	6212, New Liskeard Lagoon Niven SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Diesel Generator Inspection/ Functional Test Niven SPS (1m) 6212	CLOSE	5/1/23 12:00 AM	5/23/23 12:52 PM	5/23/23 12:52 PM	Ran Genset -
3382630	0000115397	ENGINE DIESEL WHITEWOOD SPS	6212, New Liskeard Lagoon Whitewood SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Diesel Generator Inspection/ Functional Test Whitewood SPS(1m) 6212	CLOSE	5/1/23 12:00 AM	5/23/23 12:53 PM	5/23/23 12:53 PM	Ran Genset -
3382646			6212, New Liskeard Lagoon, Process	PM	Health and Safety	1	MONTHS	Health And Safety Inspection (1m) 6212	CLOSE	5/1/23 12:00 AM	5/19/23 01:08 PM	5/19/23 01:08 PM	Complete H&S Inspection at all 6212 sites -
3385197			6212, New Liskeard Lagoon Niven SPS	CALL	Predictive Maintenance	0		Called In - Loss of Comm at Niven SPS, 6212	CLOSE		5/12/23 05:15 PM	5/12/23 05:30 PM	Called In - Loss of Comm at Niven SPS, 6212 - Called in-critical alarm at Niven SPS. Drove to site and reset RMT due to loss comm. Logged into SCADA remotely and confirmed comm was restored.
3389470			6212, New Liskeard Lagoon	PM	Inspection	1	MONTHS	Building and Grounds Maintenance (1m) 6212	CLOSE	6/1/23 12:00 AM	6/19/23 07:43 AM	6/19/23 07:43 AM	Clean up Facilities and Pick up Garbage -

ONTARIO CLEAN WATER AGENCY
AGENCE ONTARIENNE DES EAUX

Workorder Summary Report

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Report End Date:	Dec 31, 2023 11:59 PM
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Work Order Class:	

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3392316	0000060258	METER LEVEL WETWELL WHITEWOOD SPS	6212, New Liskeard Lagoon Whitewood SPS	PM	Calibration	1	YEARS	Meter Level Wet Well Whitewood SPS Inspection/Service (1y) 6212	CLOSE	6/1/23 12:00 AM	6/6/23 05:02 PM	6/6/23 05:02 PM	- Transducer face is 2780 mm below top of hatch lip. Verified calibration by taking a physical measurement from hatch to water level and comparing to meter reading. Water level is slightly turbulent. Verified O.K.
3392321	0000076664	METER LEVEL 01 WETWELL GOODMAN SPS	6212, New Liskeard Lagoon Goodman SPS	PM	Calibration	1	YEARS	Meter Level 01 Wet Well Goodman SPS Inspection/Service (1y) 6212	CLOSE	6/1/23 12:00 AM	6/6/23 04:41 PM	6/6/23 04:41 PM	- Transducer face is 543 mm below top metal grating. Verified calibration by taking a physical measurement from liquid level to top of floor grating and comparing to meter reading. Liquid surface on this side is turbulent.
3392326	0000076665	METER LEVEL 02 WETWELL GOODMAN SPS	6212, New Liskeard Lagoon Goodman SPS	PM	Calibration	1	YEARS	Meter Level 02 Wet Well Goodman SPS Inspection/Service (1y) 6212	CLOSE	6/1/23 12:00 AM	6/6/23 04:46 PM	6/6/23 04:46 PM	-Transducer face is mounted 545 mm below floor grating. Verified calibration by taking a physical measurement from liquid level to top of floor grating and comparing that to the reading on the level transmitter.
3392331	0000115513	METER LEVEL WETWELL NIVEN SPS	6212, New Liskeard Lagoon Niven SPS	PM	Calibration	1	YEARS	Meter Level Wet Well Niven SPS Inspection/Service (1y) 6212	CLOSE	6/1/23 12:00 AM	6/6/23 04:24 PM	6/6/23 04:24 PM	- Milltronics transducer face is 128 mm below the floor. Verified calibration with a tape measure from floor to water level at number two pump hatch.

ONTARIO CLEAN WATER AGENCY
AGENCE ONTARIENNE DES EAUX

Workorder Summary Report

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Report End Date:	Dec 31, 2023 11:59 PM
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WO #	Asset ID	Asset Description	Location Description	Type	Class	FEQ	Units	Work Order Description	Status	Schedule Start	Actual Start	Actual Finsh	WorkLog Detail
3392336	0000277327	METER LEVEL WETWELL CEDAR SPS	6212, New Liskeard Lagoon Cedar SPS	PM	Calibration	1	YEARS	Meter Level Wet Well Cedar SPS Inspection/Service (1y) 6212	CLOSE	6/1/23 12:00 AM	6/9/23 01:51 PM	6/9/23 01:51 PM	- Benchmark, Transducer head is 556mm above floor grating. Grate to hatch lip = 3313mm. 3313 - 556 = 2757mm. Verified calibration by taking a physical measurement from hatch lip to liquid level and comparing to meter reading.
3392341	0000115400	PUMP DIAPHRAGM SODIUM HYPOCHLORITE BYPASS WHITEWOOD SPS	6212, New Liskeard Lagoon Whitewood SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Pump Diaphragm Sodium Hypo Bypass Inspection (1m) 6212	CLOSE	6/1/23 12:00 AM	6/8/23 02:02 PM	6/8/23 02:02 PM	Tested hypo pump - ok
3392346	0000293671	PUMP DIAPHRAGM 01 FERRIC SULFATE	6212, New Liskeard Lagoon	PM	Refurbish/ Replace/Repair	1	MONTHS	Pump Diaphragm 01 Ferric Sulfate Inspection (1m) 6212	CLOSE	6/1/23 12:00 AM	6/19/23 08:52 AM	6/19/23 08:52 AM	Tested Ferric Pump -
3392349	0000115522	PUMP DIAPHRAGM 01 SODIUM HYPOCHLORITE BYPASS NIVEN SPS	6212, New Liskeard Lagoon Niven SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Pump Diaphragm 01 Sodium Hypo Bypass Inspection (1m) 6212	CLOSE	6/1/23 12:00 AM	6/8/23 02:04 PM	6/8/23 02:04 PM	Tested hypo pump - OK
3392352	0000115523	PUMP DIAPHRAGM 02 SODIUM HYPOCHLORITE BYPASS NIVEN SPS	6212, New Liskeard Lagoon Niven SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Pump Diaphragm 02 Sodium Hypo Bypass Inspection (1m) 6212	CLOSE	6/1/23 12:00 AM	6/8/23 02:18 PM	6/8/23 02:18 PM	Tested hypo pump - ok
3392355	0000115899	SAMPLER EFFLUENT LAGOON	6212, New Liskeard Lagoon, Process	PM	Refurbish/ Replace/Repair	1	YEARS	Sampler Effluent Lagoon Inspection (1y) 6212	CLOSE	6/1/23 12:00 AM	6/13/23 08:48 AM	6/13/23 08:48 AM	-Inspect and change sampler peristaltic pump hose. Verify sampler operation by taking a manual sample. OK
3392364	0000115924	SAMPLER RAW GOODMAN SPS	6212, New Liskeard Lagoon Goodman SPS	PM	Refurbish/ Replace/Repair	1	YEARS	Sampler Raw Goodman SPS Inspection (1y) 6212	CLOSE	6/1/23 12:00 AM	6/14/23 03:17 PM	6/14/23 03:17 PM	- Inspect peristaltic pump hose and switch ends. Calibrate sample. Take manual sample OK. Test full bottle switch.

ONTARIO CLEAN WATER AGENCY
AGENCE ONTARIENNE DES EAUX

Workorder Summary Report

Report Start Date:	Jan 1, 2023 12:00 AM
Report End Date:	Dec 31, 2023 11:59 PM
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WO #	Asset ID	Asset Description	Location Description	Type	Class	FEQ	Units	Work Order Description	Status	Schedule Start	Actual Start	Actual Finsh	WorkLog Detail
3392373	0000115396	METER FLOW RAW WHITEWOOD SPS	6212, New Liskeard Lagoon Whitewood SPS	PM	Calibration	1	YEARS	METER FLOW RAW WHITEWOOD SPS CALIB./ VERIFICATION (1Y) 6212	CLOSE	6/1/23 12:00 AM	6/16/23 06:27 PM	6/16/23 06:27 PM	- Collect a sump pump and pump out pit. -Verified calibration by comparing flow reading on Transit Time portable flowmeter to actual value displayed on meter as per manufactures instructions. Confined space entry is required. Pipe is 8" pvc.
3392379	0000115395	METER FLOW WHITEWOOD SPS BYPASS	6212, New Liskeard Lagoon Whitewood SPS	PM	Calibration	1	YEARS	METER FLOW BYPASS WHITEWOOD SPS CALIB./ VERIFICATION (1Y) 6212	CLOSE	6/1/23 12:00 AM	6/16/23 06:29 PM	6/16/23 06:29 PM	
3392385	0000293629	METER FLOW NIVEN SPS BYPASS	6212, New Liskeard Lagoon Niven SPS	PM	Calibration	1	YEARS	METER FLOW BYPASS NIVEN SPS CALIB./VERIFICATION (1Y) 6212	CLOSE	6/1/23 12:00 AM	6/6/23 03:29 PM	6/6/23 03:29 PM	- Verified calibration by comparing ultrasonic measuring head value and actual measurements to a tape measured standard. Parshall Flume FP mod 500168 ser 10F1940. Tested alarm call out and automatic chem pump operation. OK. Washed down flume and channel.
3392391	0000076666	METER FLOW RAW GOODMAN	6212, New Liskeard Lagoon Goodman SPS	PM	Calibration	1	YEARS	METER FLOW RAW GOODMAN SPS CALIB./VERIFICATION (1Y) 6212	CLOSE	6/1/23 12:00 AM	6/15/23 03:11 PM	6/15/23 03:11 PM	- Get genset running to supply power for sump pump. Set pump in chamber and get going. Wait for it to pump down. - Verified calibration by comparing flow reading on Transit Time portable flowmeter to actual value displayed on meter as per manufactures instructions. Calibration requires a Z configuration on 14" carbon steel pipe spool in distribution chamber. Also requires two people.

ONTARIO CLEAN WATER AGENCY
AGENCE ONTARIENNE DES EAUX

Workorder Summary Report

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Report End Date:	Dec 31, 2023 11:59 PM
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Work Order Type:	CALL,CAP,CORR,EMER,OPER,PM
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WO #	Asset ID	Asset Description	Location Description	Type	Class	FEQ	Units	Work Order Description	Status	Schedule Start	Actual Start	Actual Finsh	WorkLog Detail
3392397	0000076724	METER FLOW RAW NEW LISKEARD	6212, New Liskeard Lagoon, Process	PM	Calibration	1	YEARS	METER FLOW NIVEN SPS CALIB./VERIFICATION (1Y) 6212	CLOSE	6/1/23 12:00 AM	6/6/23 04:13 PM	6/6/23 04:13 PM	- Verified calibration by comparing flow reading on Transit Time portable flowmeter to actual value displayed on meter as per manufactures instructions. Ran pump no. 3 in Manual for a constant flow. Verified reading on HMI. Pipe is 14" SS 316 sch 10.
3394201	0000293603	PRESSURE TRANSMITTER BLOWER AERATION	6212, New Liskeard Lagoon, Process	PM	Calibration	1	YEARS	TRANSMITTER PRESSURE LAGOON AERATION - ANNUAL CALIBRATION (1Y) 6212	CLOSE	6/1/23 12:00 AM	6/12/23 02:40 PM	6/12/23 02:40 PM	- Calibrated transmitter by applying pressure to input at 0.0, 25, 50, 75 and 100 % and measuring mA output as per manufactures instructions. Verified calibration with HMI. No calibration was necessary at this time.
3399487	0000277321	TRANSMITTER	6212, New Liskeard Lagoon Montgomery SPS	PM	Calibration	1	YEARS	METER LEVEL WET WELL MONTG. SPS INSPECTION (1Y) 6212	CLOSE	6/1/23 12:00 AM	6/9/23 01:26 PM	6/9/23 01:26 PM	- Transducer head benchmark, 3490 to floor - transducer face is 946 mm above floor = 2544 mm from transducer face to hatch lip. Verified calibration by taking a physical measurement from hatch lip to liquid level and comparing to meter reading.
3399588	0000293601	DATALOGGER LAGOON PROCESS	6212, New Liskeard Lagoon, Process	PM	Refurbish/ Replace/Repair	1	YEARS	DATALOGGER LAGGON CALIBRATION (1Y) 6212	CLOSE	6/1/23 12:00 AM	6/12/23 02:28 PM	6/12/23 02:28 PM	-Verified calibration of all channels by comparing Datalogger display value to the desired display value generated by loop calibrator at 0, 25, 50, 75 and 100 %.

ONTARIO CLEAN WATER AGENCY
AGENCE ONTARIENNE DES EAUX

Workorder Summary Report

Report Start Date:	Jan 1, 2023 12:00 AM
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3404569			6212, New Liskeard Lagoon	PM	Inspection	3	MONTHS	ANALYZER PH PORTABLE LAGOON CALIBRATION (3M) 6212	CLOSE	6/1/23 12:00 AM	6/6/23 07:27 AM	6/6/23 07:27 AM	- Made fresh buffers and soaked probe in 4.00 to clean probe. Calibrated meter using 4.00 pH and 7.00 pH buffer solutions as per manufactures instructions. Renewed storage solution.
3410081	0000076767	ANALYZER DO PORTABLE LAGOON	6212, New Liskeard Lagoon, Facility	PM	Inspection	1	YEARS	ANALYZER DO LAGOON CALIB / VERIF. (1Y) 6212	CLOSE	6/1/23 12:00 AM	6/12/23 02:49 PM	6/12/23 02:49 PM	- Calibrated meter by performing the Water-Saturated Air (100%) procedure as described by the manufacturer. Verified calibration O.K.
3410169	0000293311	RECORDER DATA LOGGER NIVEN SPS	6212, New Liskeard Lagoon Niven SPS	PM	Calibration	1	YEARS	DATALOGGER NIVEN SPS CALIB / VERIF. (1Y) 6212	CLOSE	6/1/23 12:00 AM	6/6/23 04:33 PM	6/6/23 04:33 PM	-Verified calibration of all channels by comparing Datalogger display value to the desired display value generated at 0,25,50,75 and 100 % by loop calibrator.
3410171	0000293313	RECORDER DATA LOGGER MONTGMERY SPS	6212, New Liskeard Lagoon Montgomery SPS	PM	Calibration	1	YEARS	DATALOGGER MONTG. SPS CALIBRATION (1Y) 6212	CLOSE	6/1/23 12:00 AM	6/9/23 01:30 PM	6/9/23 01:30 PM	-Verified calibration of all channels by comparing Datalogger display value to the desired display value generated at 0,25,50,75 and 100%.
3410173	0000293314	RECORDER DATA LOGGER WHITEWOOD SPS	6212, New Liskeard Lagoon Whitewood SPS	PM	Calibration	1	YEARS	DATALOGGER WWSPS CALIBRATION (1Y) 6212	CLOSE	6/1/23 12:00 AM	6/6/23 05:13 PM	6/6/23 05:13 PM	- Verified calibration of all channels by comparing Datalogger display value to the corresponding mA value at 0, 25, 50, 75 and 100%. Calibration verified O.K.

ONTARIO CLEAN WATER AGENCY
AGENCE ONTARIENNE DES EAUX

Workorder Summary Report

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3410181	0000293317	RECORDER DATA LOGGER CEDAR ST SPS	6212, New Liskeard Lagoon Cedar SPS	PM	Calibration	1	YEARS	DATALOGGER CEDAR SPS CALIBRATION (1Y) 6211	CLOSE	6/1/23 12:00 AM	6/12/23 10:02 AM	6/12/23 10:02 AM	-Verified calibration of all channels by comparing Datalogger display value to the desired display value generated by loop calibrator at 0, 25, 50, 75 and 100 %.
3410183	0000293316	RECORDER DATA LOGGER GOODMAN SPS	6212, New Liskeard Lagoon Goodman SPS	PM	Calibration	1	YEARS	DATALOGGER GOODMAN SPS CALIBRATION (1Y) 6211	CLOSE	6/1/23 12:00 AM	6/6/23 04:54 PM	6/6/23 04:54 PM	- Verified calibration of all channels by comparing Datalogger display value to the desired display value generated by loop calibrator at 0,25,50,75 and 100 %. Calibration verified O.K.
3410257	0000293320	METER FLOW RAW GRAY SPS	6212, New Liskeard Lagoon Gray SPS	PM	Calibration	1	YEARS	METER FLOW GRAY SPS CALIBRATION VERIF.(1Y) 6212	CLOSE	6/1/23 12:00 AM	6/16/23 05:38 PM	6/16/23 05:38 PM	-Verified calibration by comparing flow reading on Transit Time portable flowmeter to actual value displayed on meter as per manufactures instructions. Pipe is 18" SS 316. Confined space entry required.
3410296	0000293318	TRANSMITTER LEVEL WET WELL 01 GRAY SPS	6212, New Liskeard Lagoon Gray SPS	PM	Inspection	1	YEARS	L.I.T. WET WELL 01 CALIBRATION/VERIF. (1Y) 6212	CLOSE	6/1/23 12:00 AM	6/16/23 06:10 PM	6/16/23 06:10 PM	- Milltronics transducer face is 30 cm below top of metal grating. Verified calibration by taking a physical measurement from metal grate to liquid level and comparing to meter reading. Confined space entry is required.

ONTARIO CLEAN WATER AGENCY
AGENCE ONTARIENNE DES EAUX

Workorder Summary Report

Report Start Date: Jan 1, 2023 12:00 AM
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3410299	0000293319	TRANSMITTER LEVEL WET WELL 02 GRAY SPS	6212, New Liskeard Lagoon Gray SPS	PM	Inspection	1	YEARS	L.I.T. WET WELL 02 CALIBRATION/VERIF. (1Y) 6212	CLOSE	6/1/23 12:00 AM	6/16/23 06:20 PM	6/16/23 06:20 PM	- Milltronics transducer face is 310mm below top of metal grating. Verified calibration by taking a physical measurement from grate to liquid level and comparing to meter reading. Confined space entry is required.
3411758	0000293613	METER FLOW EFFLUENT LAGOON	6212, New Liskeard Lagoon	PM	Calibration	1	YEARS	FLOW METER NL LAGOON EFF (1Y) 6212	CLOSE	6/1/23 12:00 AM	6/6/23 07:34 AM	6/6/23 07:34 AM	-Verified calibration by comparing ultrasonic measuring head "distance" value and actual measurement in inches from transducer face to liquid level with tape measure.
3411795	0000293615	RECORDER DATA LOGGER GRAY RD SPS	6212, New Liskeard Lagoon Gray SPS	PM	Calibration	1	YEARS	RECORDER DATALOGGER GRAY RD SPS (1Y) 6212	CLOSE	6/1/23 12:00 AM	6/13/23 01:24 PM	6/13/23 01:24 PM	- Verified calibration of all channels by comparing Datalogger display value to the desired display value generated by Fluke processmeter at 0, 25, 50, 75 and 100 %. Calibration verified O.K.
3412947	0000293327	METER LEVEL WET WELL ELM ST SPS	6212, New Liskeard Lagoon Elm SPS	PM	Calibration	1	YEARS	Meter Level Wet Well Elm St Verification/Calibration (1Y) 6212	CLOSE	6/1/23 12:00 AM	6/8/23 09:27 AM	6/8/23 09:27 AM	- Benchmark, probe tip is 6745 mm below lower hatch lip. Measured from hatch lip to liquid level and compared to level transmitter reading. Probe tip is 6170 mm to bottom tie wrap sitting on top of conduit. Conduit top is 575 mm below hatch lip = 6745 mm. Tipped floats and verified pump operation and alarms.
3412949	0000293326	RECORDER DATA LOGGER ELM ST SPS	6212, New Liskeard Lagoon Elm SPS	PM	Refurbish/ Replace/Repair	1	YEARS	Recorder Datalogger Elm St SPS Verification/Calibration (1Y) 6212	CLOSE	6/1/23 12:00 AM	6/8/23 09:05 AM	6/8/23 09:05 AM	-Verified calibration of channel by comparing Datalogger display value to the desired display value generated by loop calibrator at 0,25,50,75 and 100 %.

ONTARIO CLEAN WATER AGENCY
AGENCE ONTARIENNE DES EAUX

Workorder Summary Report

Report Start Date: Jan 1, 2023 12:00 AM
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WO #	Asset ID	Asset Description	Location Description	Type	Class	FEQ	Units	Work Order Description	Status	Schedule Start	Actual Start	Actual Finsh	WorkLog Detail
3413025	0000277393	GENERATOR	6212, New Liskeard Lagoon Gray SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Diesel Generator Inspection/ Functional Test Gray SPS (1m) 6212	CLOSE	6/1/23 12:00 AM	6/19/23 09:02 AM	6/19/23 09:02 AM	Ran Genset - Tested generator all ok
3413112	0000293360	TRANSMITTER PRESSURE DISCHARGE	6212, New Liskeard Lagoon Gray SPS	PM	Calibration	1	YEARS	Transmitter Pressure Discharge Gray Rd Calibration (1Y) 6212	CLOSE	6/1/23 12:00 AM	6/16/23 05:51 PM	6/16/23 05:51 PM	- Verify calibration of pressure transmitter with a Fluke pressure calibrator and applying pressure at 0,25, 50, 75 and 100 %. Readings were taken at the HMI due to the environment. This is a confined space entry.
3429945	0000076675	ENGINE DIESEL GOODMAN SPS	6212, New Liskeard Lagoon Goodman SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Diesel Generator Inspection/ Functional Test Goodman SPS (1m) 6212	CLOSE	6/1/23 12:00 AM	6/20/23 02:57 PM	6/20/23 02:57 PM	Ran Genset -
3429961	0000115903	ENGINE DIESEL LAGOON	6212, New Liskeard Lagoon, Process	PM	Refurbish/ Replace/Repair	1	MONTHS	Diesel Generator Inspection/ Functional Test NL Lagoon (1m) 6212	CLOSE	6/1/23 12:00 AM	6/19/23 09:06 AM	6/19/23 09:06 AM	Ran Genset -
3429977	0000115923	ENGINE DIESEL MONTGOMERY SPS	6212, New Liskeard Lagoon Montgomery SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Diesel Generator Inspection/ Functional Test Montgomery SPS (1m) 6212	CLOSE	6/1/23 12:00 AM	6/8/23 02:36 PM	6/8/23 02:36 PM	Ran Genset - recorded running Values
3429993	0000115516	ENGINE DIESEL NIVEN SPS	6212, New Liskeard Lagoon Niven SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Diesel Generator Inspection/ Functional Test Niven SPS (1m) 6212	CLOSE	6/1/23 12:00 AM	6/8/23 02:38 PM	6/8/23 02:38 PM	Ran Genset - Record running values
3430009	0000115397	ENGINE DIESEL WHITEWOOD SPS	6212, New Liskeard Lagoon Whitewood SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Diesel Generator Inspection/ Functional Test Whitewood SPS(1m) 6212	CLOSE	6/1/23 12:00 AM	6/8/23 02:39 PM	6/8/23 02:39 PM	Ran Genset - Recorded running values
3430025			6212, New Liskeard Lagoon, Process	PM	Health and Safety	1	MONTHS	Health And Safety Inspection (1m) 6212	CLOSE	6/1/23 12:00 AM	6/19/23 07:59 AM	6/19/23 07:59 AM	H&S Inspection - Check Fire Extinguisher, E lights, Eye Wash

ONTARIO CLEAN WATER AGENCY
AGENCE ONTARIENNE DES EAUX

Workorder Summary Report

Report Start Date:	Jan 1, 2023 12:00 AM
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Location:	6212*
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
3432881			6212, New Liskeard Lagoon	CALL	Refurbish/ Replace/Repair	0		Loss Comm NL Lagoon 6212	CLOSE		6/9/23 06:00 AM	6/9/23 07:30 AM	Loss Comm NL Lagoon - Call for Loss Comm NL Lagoon , Power cycled radio to re establish communication everything came back, then at 6:45 got called out again for loss comm. Had to power cycle the radio again thins time i left it off for 5 minutes then powered it back up. everything seems to be stable now. hasn't failed for an hour and a half now.
3433223			6212, New Liskeard Lagoon Niven SPS	CALL	Refurbish/ Replace/Repair	0		Niven SPS Loss Comm 6212	CLOSE		6/9/23 05:15 PM	6/9/23 06:30 PM	Loss Comm Niven - Had to power Cycle radio to re establish communication
3434764			6212, New Liskeard Lagoon Gray SPS	CALL	Refurbish/ Replace/Repair	0		Goodman SPS loss of power due to hydro work 6212	CLOSE		6/13/23 09:30 PM	6/13/23 10:00 PM	Call for critical alarm - Call for critical alarm. Log in and found loss of power and generator running. Hydro performing maintenance in the area. OK.
3434766			6212, New Liskeard Lagoon Niven SPS	CALL	Refurbish/ Replace/Repair	0		Niven SPS loss of communication - 6212	CLOSE		6/14/23 05:00 AM	6/14/23 07:30 AM	
3434767			6212, New Liskeard Lagoon Gray SPS	CALL	Refurbish/ Replace/Repair	0		Gray Rd SPS intrusion alarm - 6212	CLOSE		6/18/23 12:15 PM	6/18/23 01:00 PM	- Call for critical alarm. Log in remotely and found intrusion alarm. Upon arrival to site, found flowmeter hatch wide open as it was not secured properly. Closed and verified latch. Informed operations. OK.
3435186			6212, New Liskeard Lagoon Gray SPS	CALL	Predictive Maintenance	0		Call In - Loss of Comm at Gray SPS, 6212	CLOSE		6/23/23 07:30 PM	6/23/23 07:45 PM	Call In - Loss of Comm at Gray SPS, 6212 - Critical alarm at Gray SPS due to loss of comm. Drove to site and reset radio and comm was restored.

ONTARIO CLEAN WATER AGENCY
AGENCE ONTARIENNE DES EAUX

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				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
3435185			6212, New Liskeard Lagoon Niven SPS	CALL	Predictive Maintenance	0		Call In - Loss of Comm at Niven SPS, 6212	CLOSE		6/25/23 03:30 AM	6/25/23 03:45 AM	Call In - Loss of Comm at Niven SPS, 6212 - Called in for critical alarm at Niven SPS. Logged in remotely and loss of comm. Drove to site and reset the radio. I had to power cycle twice before comm was restored.
3436018			6212, New Liskeard Lagoon	CALL	Refurbish/ Replace/Repair	0		Loss Comm All New Liskeard 6212	CLOSE		6/28/23 12:45 AM	6/28/23 04:45 AM	Loss Comm All NL - Call for Loss Comm all NL tried resetting AP in Dymond but that didn't seem to be the issue, attempted to reset the radio back in Haileybury but that did not resolve the issue. I disconnected the new Lakeshore radio AP and all comms came back. after talking with Brad he said they are sharing the same 900 frequency and they are competing for the same comms and causing issues. will leave radio off until they city switches all the radios over in NL
3438262			6212, New Liskeard Lagoon	PM	Inspection	1	MONTHS	Building and Grounds Maintenance (1m) 6212	CLOSE	7/1/23 12:00 AM	7/17/23 07:55 AM	7/17/23 07:55 AM	clean up -
3441340	0000115400	PUMP DIAPHRAGM SODIUM HYPOCHLORITE BYPASS WHITEWOOD SPS	6212, New Liskeard Lagoon Whitewood SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Pump Diaphragm Sodium Hypo Bypass Inspection (1m) 6212	CLOSE	7/1/23 12:00 AM	7/17/23 07:57 AM	7/17/23 07:57 AM	Tested hypo pump rate -
3441343	0000293671	PUMP DIAPHRAGM 01 FERRIC SULFATE	6212, New Liskeard Lagoon	PM	Refurbish/ Replace/Repair	1	MONTHS	Pump Diaphragm 01 Ferric Sulfate Inspection (1m) 6212	CLOSE	7/1/23 12:00 AM	7/17/23 08:05 AM	7/17/23 08:05 AM	Tested pump rate -
3441346	0000115522	PUMP DIAPHRAGM 01 SODIUM HYPOCHLORITE BYPASS NIVEN SPS	6212, New Liskeard Lagoon Niven SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Pump Diaphragm 01 Sodium Hypo Bypass Inspection (1m) 6212	CLOSE	7/1/23 12:00 AM	7/17/23 08:00 AM	7/17/23 08:00 AM	Tested pump rate -

ONTARIO CLEAN WATER AGENCY
AGENCE ONTARIENNE DES EAUX

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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
3441349	0000115523	PUMP DIAPHRAGM 02 SODIUM HYPOCHLORITE BYPASS NIVEN SPS	6212, New Liskeard Lagoon Niven SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Pump Diaphragm 02 Sodium Hypo Bypass Inspection (1m) 6212	CLOSE	7/1/23 12:00 AM	7/17/23 08:01 AM	7/17/23 08:01 AM	Tested pump rate -
3460443	0000277393	GENERATOR	6212, New Liskeard Lagoon Gray SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Diesel Generator Inspection/ Functional Test Gray SPS (1m) 6212	CLOSE	7/1/23 12:00 AM	7/13/23 03:03 PM	7/13/23 03:03 PM	Ran Genset recoded Values -
3478418	0000277393	GENERATOR	6212, New Liskeard Lagoon Gray SPS	PM	Refurbish/ Replace/Repair	1	YEARS	Diesel Generator Inspection/ Functional Test Gray SPS (1y) 6212	CLOSE	7/1/23 12:00 AM	7/5/23 01:24 PM	7/5/23 01:24 PM	Completed by Contractor -
3478430	0000076675	ENGINE DIESEL GOODMAN SPS	6212, New Liskeard Lagoon Goodman SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Diesel Generator Inspection/ Functional Test Goodman SPS (1m) 6212	CLOSE	7/1/23 12:00 AM	7/20/23 01:30 PM	7/20/23 01:30 PM	Ran Genset -
3478446	0000076675	ENGINE DIESEL GOODMAN SPS	6212, New Liskeard Lagoon Goodman SPS	PM	Refurbish/ Replace/Repair	1	YEARS	Diesel Generator Inspection/ Functional Test Goodman SPS (1y) 6212	CLOSE	7/1/23 12:00 AM	7/5/23 01:19 PM	7/5/23 01:19 PM	Completed by Contractor -
3478458	0000115903	ENGINE DIESEL LAGOON	6212, New Liskeard Lagoon, Process	PM	Refurbish/ Replace/Repair	1	MONTHS	Diesel Generator Inspection/ Functional Test NL Lagoon (1m) 6212	CLOSE	7/1/23 12:00 AM	7/13/23 03:07 PM	7/13/23 03:07 PM	Ran Genset -
3478474	0000115903	ENGINE DIESEL LAGOON	6212, New Liskeard Lagoon, Process	PM	Refurbish/ Replace/Repair	1	YEARS	Diesel Generator Inspection/ Functional Test NL Lagoon (1y) 6212	CLOSE	7/1/23 12:00 AM	7/5/23 01:21 PM	7/5/23 01:21 PM	Completed by Contractor -
3478486	0000115923	ENGINE DIESEL MONTGOMERY SPS	6212, New Liskeard Lagoon Montgomery SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Diesel Generator Inspection/ Functional Test Montgomery SPS (1m) 6212	CLOSE	7/1/23 12:00 AM	7/20/23 01:35 PM	7/20/23 01:35 PM	Ran Genset -
3478502	0000115923	ENGINE DIESEL MONTGOMERY SPS	6212, New Liskeard Lagoon Montgomery SPS	PM	Refurbish/ Replace/Repair	1	YEARS	Diesel Generator Inspection/ Functional Test Montgomery SPS (1y) 6212	CLOSE	7/1/23 12:00 AM	7/5/23 01:23 PM	7/5/23 01:23 PM	Completed by Contractor -
3478514	0000115516	ENGINE DIESEL NIVEN SPS	6212, New Liskeard Lagoon Niven SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Diesel Generator Inspection/ Functional Test Niven SPS (1m) 6212	CLOSE	7/1/23 12:00 AM	7/20/23 01:38 PM	7/20/23 01:38 PM	Ran Genset -
3478530	0000115516	ENGINE DIESEL NIVEN SPS	6212, New Liskeard Lagoon Niven SPS	PM	Refurbish/ Replace/Repair	1	YEARS	Diesel Generator Inspection/ Functional Test Niven SPS (1y) 6212	CLOSE	7/1/23 12:00 AM	7/5/23 01:26 PM	7/5/23 01:26 PM	Completed by Contractor -
3478542	0000115397	ENGINE DIESEL WHITEWOOD SPS	6212, New Liskeard Lagoon Whitewood SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Diesel Generator Inspection/ Functional Test Whitewood SPS(1m) 6212	CLOSE	7/1/23 12:00 AM	7/20/23 01:39 PM	7/20/23 01:39 PM	Ran Genset -

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
3478558	0000115397	ENGINE DIESEL WHITEWOOD SPS	6212, New Liskeard Lagoon Whitewood SPS	PM	Refurbish/ Replace/Repair	1	YEARS	Diesel Generator Inspection/ Functional Test Whitewood SPS (1y) 6212	CLOSE	7/1/23 12:00 AM	7/5/23 01:29 PM	7/5/23 01:29 PM	- Completed by contractors -
3478570			6212, New Liskeard Lagoon, Process	PM	Health and Safety	1	MONTHS	Health And Safety Inspection (1m) 6212	CLOSE	7/1/23 12:00 AM	7/17/23 08:08 AM	7/17/23 08:08 AM	Check Fire Extinguishers and Eye Wash -
3479236			6212, New Liskeard Lagoon Niven SPS	CALL	Refurbish/ Replace/Repair	0		call lost communication niven SPS6212	CLOSE		7/1/23 08:15 AM	7/1/23 09:00 AM	lost com. - lost communication reset radio on site
3480086			6212, New Liskeard Lagoon Elm SPS	CALL	Refurbish/ Replace/Repair	0		High Level Elm, Niven Due to heavy rain 6212	CLOSE		7/6/23 11:00 PM	7/7/23 02:00 AM	Elm High Level - Call from Chris, Elm High level alarm, level rising 2 pumps running at whitewood and 3 at Niven. Went and grabbed Diesel Pump and hauled to site, by the time we were about to set up the pump the levels were dropping and rain had subsided. left pump on site for the night.
3480154			6212, New Liskeard Lagoon Elm SPS	CALL	Compliance	0		Call in due to rain event	CLOSE		7/7/23 01:49 PM	7/7/23 01:52 PM	- Called by Elm, Cedar, Niven pumping stations. Monitor levels at Haileybury scada to make sure there were no overflows. Rain stopped and all was well.
3481468			6212, New Liskeard Lagoon Niven SPS	CALL	Refurbish/ Replace/Repair	0		Loss Comm Niven SPS 6212	CLOSE		7/12/23 05:15 AM	7/12/23 06:45 AM	Loss Of Comm - Loss of Comm had to reset power to radio to re establish communication
3481701			6212, New Liskeard Lagoon Gray SPS	CALL	Refurbish/ Replace/Repair	0		Loss of Comm Gray SPS 6212	CLOSE		7/12/23 04:15 PM	7/12/23 08:00 PM	Loss Comm Gray SPS - Had to cycle power to the radio to reestablish communication
3482241			6212, New Liskeard Lagoon Cedar SPS	CALL	Refurbish/ Replace/Repair	0		Call Hi Level Cedar due to heavy Rain 6212	CLOSE		7/16/23 06:15 PM	7/16/23 09:15 PM	Hi Level due to heavy Rain - Call For high Level due to heavy rain. Went to put rubber mat over the storm drain that feeds into the pump station but it was stolen again. Need to come up with a better solution to this problem.

ONTARIO CLEAN WATER AGENCY
AGENCE ONTARIENNE DES EAUX

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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
3483775			6212, New Liskeard Lagoon Gray SPS	CORR	Refurbish/ Replace/Repair	0		grinder fail gray SPS troubleshoot 6212	CLOSE		7/27/23 07:37 AM	7/27/23 07:44 AM	grinder fail - not able to fix need to be removed with crane
3484346			6212, New Liskeard Lagoon Cedar SPS	CALL	Refurbish/ Replace/Repair	0		Call In - Loss of Comm at Cedar SPS, 6212	CLOSE		7/28/23 04:00 AM	7/28/23 05:30 AM	Call In - Loss of Comm at Cedar SPS, 6212 - Called in for critical alarm - loss of comm. Drove to site and reset radio multiple ties but it would not restore. Notified Bryce and he will contact the City.
3483973			6212, New Liskeard Lagoon Cedar SPS	CALL	Refurbish/ Replace/Repair	0		Call For Radio Fail Cedar 6212	CLOSE		7/28/23 04:45 AM	7/28/23 07:30 AM	Call From Cassie Radio Dead At Cedar - Trouble shoot Radio and power. There was power to the radio but not powering up. radio is dead. Disabled the Loss Comm Alarm and will check the station daily to verify it is operating properly.
3485955			6212, New Liskeard Lagoon	PM	Inspection	1	MONTHS	Building and Grounds Maintenance (1m) 6212	CLOSE	8/1/23 12:00 AM	8/2/23 02:43 PM	8/2/23 02:43 PM	Clean up around Facilities -
3488539	0000115400	PUMP DIAPHRAGM SODIUM HYPOCHLORITE BYPASS WHITEWOOD SPS	6212, New Liskeard Lagoon Whitewood SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Pump Diaphragm Sodium Hypo Bypass Inspection (1m) 6212	CLOSE	8/1/23 12:00 AM	8/9/23 12:39 PM	8/9/23 12:39 PM	Tested Pump operation -
3488542	0000293671	PUMP DIAPHRAGM 01 FERRIC SULFATE	6212, New Liskeard Lagoon	PM	Refurbish/ Replace/Repair	1	MONTHS	Pump Diaphragm 01 Ferric Sulfate Inspection (1m) 6212	CLOSE	8/1/23 12:00 AM	8/2/23 02:45 PM	8/2/23 02:45 PM	Pump Checks -
3488545	0000115522	PUMP DIAPHRAGM 01 SODIUM HYPOCHLORITE BYPASS NIVEN SPS	6212, New Liskeard Lagoon Niven SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Pump Diaphragm 01 Sodium Hypo Bypass Inspection (1m) 6212	CLOSE	8/1/23 12:00 AM	8/9/23 12:49 PM	8/9/23 12:49 PM	Tested hypo pump -
3488548	0000115523	PUMP DIAPHRAGM 02 SODIUM HYPOCHLORITE BYPASS NIVEN SPS	6212, New Liskeard Lagoon Niven SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Pump Diaphragm 02 Sodium Hypo Bypass Inspection (1m) 6212	CLOSE	8/1/23 12:00 AM	8/9/23 12:50 PM	8/9/23 12:50 PM	
3504541			6212, New Liskeard Lagoon	PM	Compliance	5	YEARS	Sludge Depth Monitoring NL Lagoon 6212 (5Y)	CLOSE	8/1/23 12:00 AM	9/20/23 02:42 PM	9/20/23 02:42 PM	Sludge Judge Cell D1,D2,A1,A2 -
3506124	0000277393	GENERATOR	6212, New Liskeard Lagoon Gray SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Diesel Generator Inspection/ Functional Test Gray SPS (1m) 6212	CLOSE	8/1/23 12:00 AM	8/2/23 03:09 PM	8/2/23 03:09 PM	Ran Genset -

ONTARIO CLEAN WATER AGENCY
AGENCE ONTARIENNE DES EAUX

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WO #	Asset ID	Asset Description	Location Description	Type	Class	FEQ	Units	Work Order Description	Status	Schedule Start	Actual Start	Actual Finsh	WorkLog Detail
3521931	0000076675	ENGINE DIESEL GOODMAN SPS	6212, New Liskeard Lagoon Goodman SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Diesel Generator Inspection/ Functional Test Goodman SPS (1m) 6212	CLOSE	8/1/23 12:00 AM	8/3/23 01:47 PM	8/3/23 01:47 PM	Ran Genset -
3521947	0000115903	ENGINE DIESEL LAGOON	6212, New Liskeard Lagoon, Process	PM	Refurbish/ Replace/Repair	1	MONTHS	Diesel Generator Inspection/ Functional Test NL Lagoon (1m) 6212	CLOSE	8/1/23 12:00 AM	8/2/23 03:11 PM	8/2/23 03:11 PM	Ran Genset -
3521963	0000115923	ENGINE DIESEL MONTGOMERY SPS	6212, New Liskeard Lagoon Montgomery SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Diesel Generator Inspection/ Functional Test Montgomery SPS (1m) 6212	CLOSE	8/1/23 12:00 AM	8/2/23 03:17 PM	8/2/23 03:17 PM	Ran Genset -
3521979	0000115516	ENGINE DIESEL NIVEN SPS	6212, New Liskeard Lagoon Niven SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Diesel Generator Inspection/ Functional Test Niven SPS (1m) 6212	CLOSE	8/1/23 12:00 AM	8/9/23 12:51 PM	8/9/23 12:51 PM	Ran Genset -
3521995	0000115397	ENGINE DIESEL WHITEWOOD SPS	6212, New Liskeard Lagoon Whitewood SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Diesel Generator Inspection/ Functional Test Whitewood SPS(1m) 6212	CLOSE	8/1/23 12:00 AM	8/9/23 12:52 PM	8/9/23 12:52 PM	Ran Genset -
3522011			6212, New Liskeard Lagoon, Process	PM	Health and Safety	1	MONTHS	Health And Safety Inspection (1m) 6212	CLOSE	8/1/23 12:00 AM	8/3/23 07:23 AM	8/3/23 07:23 AM	Check Fire Extinguishers, e lights and eye wash -
3523101			6212, New Liskeard Lagoon	CAP	Refurbish/ Replace/Repair	0		Replacement Ferric Pump Service Kits 6212	CLOSE		9/18/23 03:15 PM	9/18/23 03:15 PM	
3525873			6212, New Liskeard Lagoon Montgomery SPS	CALL	Predictive Maintenance	0		Call In - Loss of Comm at Montgomery & Elm SPS, 6212	CLOSE		8/19/23 03:15 AM	8/19/23 04:15 AM	Call In - Loss of Comm at Montgomery & Elm SPS, 6212 - Called in at Montgomery and Elm SPS. Logged into SCADA remotely - loss of comm. Drove to sites and tried resetting radio and it did not work. Tried Whitewood and back to other sites and did not work. Disable the communication alarms on both Elm and Montgomery and will notify Bryce today.

ONTARIO CLEAN WATER AGENCY
AGENCE ONTARIENNE DES EAUX

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3525900			6212, New Liskeard Lagoon Niven SPS	CALL	Predictive Maintenance	0		Call In - Loss of Comm at Niven SPS, 6212	CLOSE		8/20/23 11:30 AM	8/20/23 11:45 AM	Call In - Loss of Comm at Niven SPS, 6212 - Called in for critical alarm at Niven SPS. Logged into SCADA remotely and loss of comm. Reset radio and comm was restored.
3526127			6212, New Liskeard Lagoon Elm SPS	CALL	Refurbish/ Replace/Repair	0		Loss of Comm Montgomery and Elm 6212	CLOSE		8/19/23 07:00 AM	8/19/23 09:00 AM	Loss Comm Elm and Montgomery - Cassie Had issue with communication issues from elm and Montgomery to Whitewood SPS. Logged into the System to check radios and they were still out. We t to site and powered down Whitewood AP then powered done Montgomery and elm. then powered all 3 Back up and communication re established. radios are staring to show major signs of failure. City setting up new radio system starting Tuesday hopefully this resolves a lot of issues moving forward.
3526425			6212, New Liskeard Lagoon Niven SPS	CALL	Refurbish/ Replace/Repair	0		Loss Comm Niven SPS 6212	CLOSE		8/21/23 07:00 PM	8/21/23 08:45 PM	Loss Comm niven - Had to power Cycle Radio to reestablish communication
3527492			6212, New Liskeard Lagoon Niven SPS	CALL	Refurbish/ Replace/Repair	0		Loss Comm Niven SPS 6212	CLOSE		8/28/23 06:00 PM	8/28/23 07:30 PM	Loss Comm Niven - On Arrival found radio at Niven not communicating, cycled power to the radio communication wouldn't re establish. Went to Dymond Res and reset AP radio and communication was re established.
3527493			6212, New Liskeard Lagoon Gray SPS	CALL	Refurbish/ Replace/Repair	0		Low Level Alarm Gray Rd 6212	CLOSE		8/28/23 11:30 PM	8/29/23 01:45 AM	Low Level Gray SPS - On Arrival everything was back to normal reviewed trends and noticed the level jumped up and down for about 15 minutes but then went back to normal. We will need to get down and clean out station with the assistance of the City

ONTARIO CLEAN WATER AGENCY
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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
3527892			6212, New Liskeard Lagoon Gray SPS	CAP	Refurbish/ Replace/Repair	0		Gray Road Grinder Removal 6212	CLOSE		9/8/23 02:53 PM	9/8/23 02:53 PM	
3529401			6212, New Liskeard Lagoon	PM	Inspection	1	MONTHS	Building and Grounds Maintenance (1m) 6212	CLOSE	9/1/23 12:00 AM	9/22/23 01:14 PM	9/22/23 01:14 PM	Clean up -
3532656	0000115400	PUMP DIAPHRAGM SODIUM HYPOCHLORITE BYPASS WHITEWOOD SPS	6212, New Liskeard Lagoon Whitewood SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Pump Diaphragm Sodium Hypo Bypass Inspection (1m) 6212	CLOSE	9/1/23 12:00 AM	9/25/23 12:22 PM	9/25/23 12:22 PM	Test hypo Pump -
3532659	0000293671	PUMP DIAPHRAGM 01 FERRIC SULFATE	6212, New Liskeard Lagoon	PM	Refurbish/ Replace/Repair	1	MONTHS	Pump Diaphragm 01 Ferric Sulfate Inspection (1m) 6212	CLOSE	9/1/23 12:00 AM	9/25/23 01:58 PM	9/25/23 01:58 PM	Test Ferric Pump -
3532662	0000115522	PUMP DIAPHRAGM 01 SODIUM HYPOCHLORITE BYPASS NIVEN SPS	6212, New Liskeard Lagoon Niven SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Pump Diaphragm 01 Sodium Hypo Bypass Inspection (1m) 6212	CLOSE	9/1/23 12:00 AM	9/25/23 12:17 PM	9/25/23 12:17 PM	Test Hypo Pump -
3532665	0000115523	PUMP DIAPHRAGM 02 SODIUM HYPOCHLORITE BYPASS NIVEN SPS	6212, New Liskeard Lagoon Niven SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Pump Diaphragm 02 Sodium Hypo Bypass Inspection (1m) 6212	CLOSE	9/1/23 12:00 AM	9/25/23 12:25 PM	9/25/23 12:25 PM	Test Hypo Pump -
3544393	0000277317	ANALYZER PH Lagoon Effluent	6212, New Liskeard Lagoon	PM	Inspection	3	MONTHS	ANALYZER PH PORTABLE LAGOON CALIBRATION (3M) 6212	CLOSE	9/1/23 12:00 AM	9/18/23 09:10 PM	9/18/23 09:10 PM	- Made fresh buffers and soaked probe in 4.00 to clean probe. Calibrated meter using 4.00 pH and 7.00 pH buffer solutions as per manufactures instructions.
3551923	0000277393	GENERATOR	6212, New Liskeard Lagoon Gray SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Diesel Generator Inspection/ Functional Test Gray SPS (1m) 6212	CLOSE	9/1/23 12:00 AM	9/18/23 03:33 PM	9/18/23 03:33 PM	Ran Genset -
3570285	0000076675	ENGINE DIESEL GOODMAN SPS	6212, New Liskeard Lagoon Goodman SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Diesel Generator Inspection/ Functional Test Goodman SPS (1m) 6212	CLOSE	9/1/23 12:00 AM	9/20/23 03:10 PM	9/20/23 03:10 PM	Ran Genset -
3570301	0000115903	ENGINE DIESEL LAGOON	6212, New Liskeard Lagoon, Process	PM	Refurbish/ Replace/Repair	1	MONTHS	Diesel Generator Inspection/ Functional Test NL Lagoon (1m) 6212	CLOSE	9/1/23 12:00 AM	10/23/23 03:46 PM	10/23/23 03:46 PM	ran - ran main off record value on sheet
3570317	0000115923	ENGINE DIESEL MONTGOMERY SPS	6212, New Liskeard Lagoon Montgomery SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Diesel Generator Inspection/ Functional Test Montgomery SPS (1m) 6212	CLOSE	9/1/23 12:00 AM	9/18/23 03:34 PM	9/18/23 03:34 PM	Ran Genset -

ONTARIO CLEAN WATER AGENCY
AGENCE ONTARIENNE DES EAUX

Workorder Summary Report

Report Start Date:	Jan 1, 2023 12:00 AM
Report End Date:	Dec 31, 2023 11:59 PM
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3570333	0000115516	ENGINE DIESEL NIVEN SPS	6212, New Liskeard Lagoon Niven SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Diesel Generator Inspection/ Functional Test Niven SPS (1m) 6212	CLOSE	9/1/23 12:00 AM	9/25/23 12:14 PM	9/25/23 12:14 PM	Ran Genset -
3570349	0000115397	ENGINE DIESEL WHITEWOOD SPS	6212, New Liskeard Lagoon Whitewood SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Diesel Generator Inspection/ Functional Test Whitewood SPS(1m) 6212	CLOSE	9/1/23 12:00 AM	9/25/23 12:26 PM	9/25/23 12:26 PM	Ran Genset -
3570365			6212, New Liskeard Lagoon, Process	PM	Health and Safety	1	MONTHS	Health And Safety Inspection (1m) 6212	CLOSE	9/1/23 12:00 AM	9/22/23 01:16 PM	9/22/23 01:16 PM	
3572842			6212, New Liskeard Lagoon Elm SPS	CALL	Predictive Maintenance	0		Call In - Overflow due to extreme rainfall event at SPS, 6212	CLOSE		9/7/23 12:15 AM	9/7/23 07:30 AM	Call In - Overflow due to extreme rainfall event at SPS, 6212 - Called in for high level at Elm. Drove to site and monitored the level on the HMI and it was rising quickly and wetwell pumps could not keep up. Called Bryce and we brought the mobile diesel pump to site and do an emergency overflow into creek. Chlorinated the discharge area with calcium hypochlorite and collected samples High level at Montgomery SPS, ran pump and overflow because the wetwell pumps could not keep up to heavy rainfall event. Put in gas pump and overflowed into the ditch. Chlorinated with chlorine pucked and sampled. Overflow at Whitwood and Niven. Chlorinated and samples All overflow were reported and terminated.

ONTARIO CLEAN WATER AGENCY
AGENCE ONTARIENNE DES EAUX

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3571616			6212, New Liskeard Lagoon Niven SPS	CALL	Refurbish/ Replace/Repair	0		Call For help with Overflows 6212	CLOSE		9/7/23 12:45 AM	9/7/23 04:00 AM	Hi Level all SPS over flows - Assist Cassie with overflows and getting pumps set up at elm SPS. Battery was dead on pump had to boost the pump but once started it ran all night.
3571621			6212, New Liskeard Lagoon Elm SPS	CALL	Refurbish/ Replace/Repair	0		Loss Comm Elm and Montgomery 6212	CLOSE		9/5/23 01:15 AM	9/5/23 03:15 AM	Loss Comm Elm and Montgomery - Had to reset AP at Whitewood to re establish Communication
3571668	0000293653	SAMPLER RAW GRAY RD	6212, New Liskeard Lagoon Gray SPS	CORR	Refurbish/ Replace/Repair	0		Sampler Gray st. PS Plugged	CLOSE		9/7/23 08:04 PM	9/7/23 08:04 PM	- Called to troubleshoot no sample. Found sampler plugged. Replaced pump hose with new hose and hooked up compressor to blow air back through line. Took a sample then pumped a pail of water back through the line to clean line. Reset sampler back to normal program.
3573551			6212, New Liskeard Lagoon Whitewood SPS	CALL	Refurbish/ Replace/Repair	0		lost com.montgomery and elms 6212	CLOSE		9/14/23 11:30 PM	9/15/23 12:30 AM	lost comunication - reset radio at whitewood SPS due to lost com. at montgomery and elms
3574045			6212, New Liskeard Lagoon Goodman SPS	CALL	Refurbish/ Replace/Repair	0		Pump 3 Fail 6212	CLOSE		9/18/23 05:15 PM	9/18/23 08:00 PM	Pump 3 Fail - Pump 3 tripped tried resetting it tripped again, reversed the pump and put it back then it tripped again. Will need to investigate more tomorrow pump may need to be pulled
3620879			6212, New Liskeard Lagoon Montgomery SPS	CALL	Predictive Maintenance	0		Call In - Loss of Comm at Montgomery and Elm SPS, 6212	CLOSE		9/26/23 05:30 AM	9/26/23 07:00 AM	Call In - Loss of Comm at Montgomery and Elm SPS, 6212 - Called in for loss of comm for Montgomery and Elm SPS. Drove to Montgomery and power cycled RMT. Then drove to Whitewood SPS and power cycled AP and RMT. Comm restored at Elm and Montgomery

ONTARIO CLEAN WATER AGENCY
AGENCE ONTARIENNE DES EAUX

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3575686			6212, New Liskeard Lagoon Goodman SPS	CAP	Refurbish/ Replace/Repair	0		Pull Goodman # 3 Pump 6212	CLOSE		10/30/23 10:05 AM	10/30/23 10:05 AM	Pulled pump to have repaired -
3577842			6212, New Liskeard Lagoon	PM	Inspection	1	MONTHS	Building and Grounds Maintenance (1m) 6212	CLOSE	10/1/23 12:00 AM	10/30/23 09:59 AM	10/30/23 09:59 AM	Clean up -
3581114	0000115400	PUMP DIAPHRAGM SODIUM HYPOCHLORITE BYPASS WHITEWOOD SPS	6212, New Liskeard Lagoon Whitewood SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Pump Diaphragm Sodium Hypo Bypass Inspection (1m) 6212	CLOSE	10/1/23 12:00 AM	10/24/23 03:52 PM	10/24/23 03:52 PM	test - test pump ok add cl2 puck to tank
3581117	0000293671	PUMP DIAPHRAGM 01 FERRIC SULFATE	6212, New Liskeard Lagoon	PM	Refurbish/ Replace/Repair	1	MONTHS	Pump Diaphragm 01 Ferric Sulfate Inspection (1m) 6212	CLOSE	10/1/23 12:00 AM	10/24/23 03:53 PM	10/24/23 03:53 PM	flush - flush cold water
3581120	0000115522	PUMP DIAPHRAGM 01 SODIUM HYPOCHLORITE BYPASS NIVEN SPS	6212, New Liskeard Lagoon Niven SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Pump Diaphragm 01 Sodium Hypo Bypass Inspection (1m) 6212	CLOSE	10/1/23 12:00 AM	10/24/23 03:54 PM	10/24/23 03:54 PM	test - test pump ok add cl2 puck to tank
3581123	0000115523	PUMP DIAPHRAGM 02 SODIUM HYPOCHLORITE BYPASS NIVEN SPS	6212, New Liskeard Lagoon Niven SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Pump Diaphragm 02 Sodium Hypo Bypass Inspection (1m) 6212	CLOSE	10/1/23 12:00 AM	10/24/23 03:55 PM	10/24/23 03:55 PM	test - test pump ok add cl2 puck to tank
3600890	0000277393	GENERATOR	6212, New Liskeard Lagoon Gray SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Diesel Generator Inspection/ Functional Test Gray SPS (1m) 6212	CLOSE	10/1/23 12:00 AM	10/23/23 03:47 PM	10/23/23 03:47 PM	ran - ran and record value on sheet
3619903	0000076675	ENGINE DIESEL GOODMAN SPS	6212, New Liskeard Lagoon Goodman SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Diesel Generator Inspection/ Functional Test Goodman SPS (1m) 6212	CLOSE	10/1/23 12:00 AM	10/16/23 07:25 AM	10/16/23 07:25 AM	test - ran on test and record value on sheet
3619919	0000115903	ENGINE DIESEL LAGOON	6212, New Liskeard Lagoon, Process	PM	Refurbish/ Replace/Repair	1	MONTHS	Diesel Generator Inspection/ Functional Test NL Lagoon (1m) 6212	CLOSE	10/1/23 12:00 AM	10/24/23 07:40 AM	10/24/23 07:40 AM	ran - ran and record value on sheet
3619935	0000115923	ENGINE DIESEL MONTGOMERY SPS	6212, New Liskeard Lagoon Montgomery SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Diesel Generator Inspection/ Functional Test Montgomery SPS (1m) 6212	CLOSE	10/1/23 12:00 AM	10/24/23 03:56 PM	10/24/23 03:56 PM	ran - ran and record value on sheet
3619951	0000115516	ENGINE DIESEL NIVEN SPS	6212, New Liskeard Lagoon Niven SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Diesel Generator Inspection/ Functional Test Niven SPS (1m) 6212	CLOSE	10/1/23 12:00 AM	10/16/23 07:41 AM	10/16/23 07:41 AM	test - ran and record value on sheet
3619967	0000115397	ENGINE DIESEL WHITEWOOD SPS	6212, New Liskeard Lagoon Whitewood SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Diesel Generator Inspection/ Functional Test Whitewood SPS(1m) 6212	CLOSE	10/1/23 12:00 AM	10/16/23 07:46 AM	10/16/23 07:46 AM	test - ran and record value on sheet

ONTARIO CLEAN WATER AGENCY
AGENCE ONTARIENNE DES EAUX

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3619983			6212, New Liskeard Lagoon, Process	PM	Health and Safety	1	MONTHS	Health And Safety Inspection (1m) 6212	CLOSE	10/1/23 12:00 AM	10/30/23 10:00 AM	10/30/23 10:00 AM	Check Fire Extinguishers and Eye Wash -
3619994	0000277330	TANK WET WELL CEDAR SPS	6212, New Liskeard Lagoon Cedar SPS	PM	Refurbish/ Replace/Repair	6	MONTHS	Wetwell Inspection Cedar SPS (6m) 6212	CLOSE	10/1/23 12:00 AM	10/30/23 10:03 AM	10/30/23 10:03 AM	Check Wet well all ok no grease build up -
3621123			6212, New Liskeard Lagoon Montgomery SPS	CALL	Refurbish/ Replace/Repair	0		Hi Level Montgomery SPS Due to heavy Rain 6212	CLOSE		10/5/23 05:45 AM	10/5/23 07:30 AM	Hi Level Due to heavy Rain - Hi Level Hi Level due to heavy rain - On arrival both pumps were pumping but the level was rising just above the floor but not at the Hi Hi level float yet so no need to bypass yet. will continue to monitor
3621136			6212, New Liskeard Lagoon Gray SPS	CALL	Refurbish/ Replace/Repair	0		Loss comm Gray SPS 6212	CLOSE		10/3/23 09:30 PM	10/4/23 10:45 PM	Loss Comm - Call For Loss of Comm Gray SPS had to power cycle radio to re establish Communication
3621137			6212, New Liskeard Lagoon Goodman SPS	CALL	Refurbish/ Replace/Repair	0		Goodman Pump 1 Fail 6212	CLOSE		10/3/23 04:45 PM	10/3/23 06:30 PM	
3623229			6212, New Liskeard Lagoon Gray SPS	CALL	Refurbish/ Replace/Repair	0		Call In - Loss of Comm at Gray SPS, 6212	CLOSE		10/16/23 04:30 AM	10/16/23 04:45 AM	Call In - Loss of Comm at Gray SPS, 6212 - Called in for loss of comm. Drove to site and reset radio and comm was restored
3625307			6212, New Liskeard Lagoon Niven SPS	CALL	Refurbish/ Replace/Repair	0		Power Outage 6212	CLOSE		10/29/23 07:00 AM	10/29/23 03:00 PM	Power outage 6212 - Goodman pump fail and NL lagoon blower fail, Generator running, Hydro working on 600V lines changing transformers downtown New Liskeard
3627123			6212, New Liskeard Lagoon	PM	Inspection	1	MONTHS	Building and Grounds Maintenance (1m) 6212	COMP	11/1/23 12:00 AM	11/30/23 03:18 PM	11/30/23 03:18 PM	- cleaned up spider webs, took out garbage, swept up.
3629656	0000115400	PUMP DIAPHRAGM SODIUM HYPOCHLORITE BYPASS WHITEWOOD SPS	6212, New Liskeard Lagoon Whitewood SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Pump Diaphragm Sodium Hypo Bypass Inspection (1m) 6212	CLOSE	11/1/23 12:00 AM	11/15/23 07:25 AM	11/15/23 07:25 AM	check - check and test pump all good

ONTARIO CLEAN WATER AGENCY
AGENCE ONTARIENNE DES EAUX

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WO #	Asset ID	Asset Description	Location Description	Type	Class	FEQ	Units	Work Order Description	Status	Schedule Start	Actual Start	Actual Finsh	WorkLog Detail
3629659	0000293671	PUMP DIAPHRAGM 01 FERRIC SULFATE	6212, New Liskeard Lagoon	PM	Refurbish/ Replace/Repair	1	MONTHS	Pump Diaphragm 01 Ferric Sulfate Inspection (1m) 6212	CLOSE	11/1/23 12:00 AM	11/8/23 10:39 AM	11/8/23 10:39 AM	
3629662	0000115522	PUMP DIAPHRAGM 01 SODIUM HYPOCHLORITE BYPASS NIVEN SPS	6212, New Liskeard Lagoon Niven SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Pump Diaphragm 01 Sodium Hypo Bypass Inspection (1m) 6212	CLOSE	11/1/23 12:00 AM	11/8/23 10:43 AM	11/8/23 10:43 AM	check and test - check hypo tank and test pump rate
3629665	0000115523	PUMP DIAPHRAGM 02 SODIUM HYPOCHLORITE BYPASS NIVEN SPS	6212, New Liskeard Lagoon Niven SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Pump Diaphragm 02 Sodium Hypo Bypass Inspection (1m) 6212	CLOSE	11/1/23 12:00 AM	11/8/23 10:46 AM	11/8/23 10:46 AM	
3646208	0000277393	GENERATOR	6212, New Liskeard Lagoon Gray SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Diesel Generator Inspection/ Functional Test Gray SPS (1m) 6212	CLOSE	11/1/23 12:00 AM	11/8/23 10:35 AM	11/8/23 10:35 AM	ran - training Danny ran and record value on sheet
3661191	0000076675	ENGINE DIESEL GOODMAN SPS	6212, New Liskeard Lagoon Goodman SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Diesel Generator Inspection/ Functional Test Goodman SPS (1m) 6212	CLOSE	11/1/23 12:00 AM	11/14/23 03:35 PM	11/14/23 03:35 PM	ran - training Danny on genset running record value on sheet display need to look at light flashing
3661207	0000115903	ENGINE DIESEL LAGOON	6212, New Liskeard Lagoon, Process	PM	Refurbish/ Replace/Repair	1	MONTHS	Diesel Generator Inspection/ Functional Test NL Lagoon (1m) 6212	CLOSE	11/1/23 12:00 AM	11/14/23 03:37 PM	11/14/23 03:37 PM	ran - training danny on genset running record value on sheet
3661223	0000115923	ENGINE DIESEL MONTGOMERY SPS	6212, New Liskeard Lagoon Montgomery SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Diesel Generator Inspection/ Functional Test Montgomery SPS (1m) 6212	CLOSE	11/1/23 12:00 AM	11/14/23 03:38 PM	11/14/23 03:38 PM	ran - ran and record value on sheet
3661239	0000115516	ENGINE DIESEL NIVEN SPS	6212, New Liskeard Lagoon Niven SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Diesel Generator Inspection/ Functional Test Niven SPS (1m) 6212	CLOSE	11/1/23 12:00 AM	11/8/23 10:34 AM	11/8/23 10:34 AM	ran - training Danny ran and record value on sheet
3661255	0000115397	ENGINE DIESEL WHITEWOOD SPS	6212, New Liskeard Lagoon Whitewood SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Diesel Generator Inspection/ Functional Test Whitewood SPS(1m) 6212	CLOSE	11/1/23 12:00 AM	11/8/23 10:37 AM	11/8/23 10:37 AM	ran - training Danny ran and record value on sheet
3661271			6212, New Liskeard Lagoon, Process	PM	Health and Safety	1	MONTHS	Health And Safety Inspection (1m) 6212	BUSCOMP	11/1/23 12:00 AM	11/23/23 03:02 PM	11/23/23 03:02 PM	checked first aid kits and fire extinguishers -checked the pin on extinguishers and first aids kits

ONTARIO CLEAN WATER AGENCY
AGENCE ONTARIENNE DES EAUX

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3664525			6212, New Liskeard Lagoon Whitewood SPS	CALL	Predictive Maintenance	0		Call In - Generator Room Low Temperature Alarm at Whitewood SPS, 6212	CLOSE		11/6/23 06:45 AM	11/6/23 07:00 AM	Call In - Generator Room Low Temperature Alarm at Whitewood SPS, 6212 - Called in at Whitewood SPS for Generator room low temperature alarm Arrived at facility and turned on space heater above the PLC. Also increased unit heater from 21 to 25. Checked chlorine room and it was ok. Stayed on site till the room was warm and the low alarm was off.
3663898			6212, New Liskeard Lagoon Gray SPS	CALL	Refurbish/ Replace/Repair	0		lost com. gray SPS 6212	CLOSE		11/9/23 04:55 AM	11/9/23 05:45 AM	lost com. - lost communication reset radio on site came on ok
3665145			6212, New Liskeard Lagoon Montgomery SPS	CALL	Refurbish/ Replace/Repair	0		Loss of Comm Montgomery PS 6212	COMP		11/19/23 12:04 PM	11/19/23 12:07 PM	- Called for loss of comm at Montgomery and Elm pumping stations. Reset Ap radio at Whitewood.
3665355			6212, New Liskeard Lagoon Niven SPS	CALL	Refurbish/ Replace/Repair	0		Niven Loss of Comm 6212	COMP		11/20/23 08:42 AM	11/20/23 08:46 AM	- Reset radio at Niven station.
3666310			6212, New Liskeard Lagoon Niven SPS	CALL	Refurbish/ Replace/Repair	0		Call In - Low wetwell alarm at Niven SPS, 6212	COMP		11/25/23 02:30 AM	11/25/23 03:00 AM	Call In - Low wetwell alarm at Niven SPS, 6212 - Called-in at Niven SPS for l min low level of 1.00m whic wetwell level trends on the are blips of false level drops get a look at the trans. head to Instrumentation on Mond
3668383			6212, New Liskeard Lagoon	PM	Inspection	1	MONTHS	Building and Grounds Maintenance (1m) 6212	COMP	12/1/23 12:00 AM	12/11/23 08:38 AM	12/11/23 08:38 AM	Clean Facilities -

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3670860	0000115400	PUMP DIAPHRAGM SODIUM HYPOCHLORITE BYPASS WHITEWOOD SPS	6212, New Liskeard Lagoon Whitewood SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Pump Diaphragm Sodium Hypo Bypass Inspection (1m) 6212	COMP	12/1/23 12:00 AM	12/11/23 08:39 AM	12/11/23 08:39 AM	Tested Pump and CHecked for leaks -
3670865	0000293671	PUMP DIAPHRAGM 01 FERRIC SULFATE	6212, New Liskeard Lagoon	PM	Refurbish/ Replace/Repair	1	MONTHS	Pump Diaphragm 01 Ferric Sulfate Inspection (1m) 6212	COMP	12/1/23 12:00 AM	12/6/23 07:19 AM	12/6/23 07:19 AM	flush - flush and check pump rate
3670868	0000115522	PUMP DIAPHRAGM 01 SODIUM HYPOCHLORITE BYPASS NIVEN SPS	6212, New Liskeard Lagoon Niven SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Pump Diaphragm 01 Sodium Hypo Bypass Inspection (1m) 6212	COMP	12/1/23 12:00 AM	12/11/23 08:40 AM	12/11/23 08:40 AM	Tested Pump and CHecked for leaks -
3670871	0000115523	PUMP DIAPHRAGM 02 SODIUM HYPOCHLORITE BYPASS NIVEN SPS	6212, New Liskeard Lagoon Niven SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Pump Diaphragm 02 Sodium Hypo Bypass Inspection (1m) 6212	COMP	12/1/23 12:00 AM	12/11/23 08:41 AM	12/11/23 08:41 AM	Tested Pump and CHecked for leaks -
3682340	0000277317	ANALYZER PH Lagoon Effluent	6212, New Liskeard Lagoon	PM	Inspection	3	MONTHS	ANALYZER PH PORTABLE LAGOON CALIBRATION (3M) 6212	COMP	12/1/23 12:00 AM	12/6/23 09:56 AM	12/6/23 09:56 AM	- Made fresh buffers and soaked probe in 4.00 to clean probe. Calibrated meter using 4.00 pH and 7.00 pH buffer solutions as per manufactures instructions. Renewed storage solution.
3687697	0000277393	GENERATOR	6212, New Liskeard Lagoon Gray SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Diesel Generator Inspection/ Functional Test Gray SPS (1m) 6212	COMP	12/1/23 12:00 AM	12/6/23 07:17 AM	12/6/23 07:17 AM	ran - ran on record value on sheet
3702614	0000076675	ENGINE DIESEL GOODMAN SPS	6212, New Liskeard Lagoon Goodman SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Diesel Generator Inspection/ Functional Test Goodman SPS (1m) 6212	COMP	12/1/23 12:00 AM	12/11/23 08:51 AM	12/11/23 08:51 AM	Run Genset - Everything worked properly until i went to shut the generator down and the transfer switched started chattering again. Managed to get ATS to stop chattering and call city to confirm they approved the New ATS board to resolve the issue
3702630	0000115903	ENGINE DIESEL LAGOON	6212, New Liskeard Lagoon, Process	PM	Refurbish/ Replace/Repair	1	MONTHS	Diesel Generator Inspection/ Functional Test NL Lagoon (1m) 6212	COMP	12/1/23 12:00 AM	12/6/23 07:20 AM	12/6/23 07:20 AM	ran - ran and record value on sheet
3702646	0000115923	ENGINE DIESEL MONTGOMERY SPS	6212, New Liskeard Lagoon Montgomery SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Diesel Generator Inspection/ Functional Test Montgomery SPS (1m) 6212	COMP	12/1/23 12:00 AM	12/11/23 08:54 AM	12/11/23 08:54 AM	Ran Genset -

ONTARIO CLEAN WATER AGENCY
AGENCE ONTARIENNE DES EAUX

Workorder Summary Report

Report Start Date:	Jan 1, 2023 12:00 AM
Report End Date:	Dec 31, 2023 11:59 PM
Location:	6212*
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
3702662	0000115516	ENGINE DIESEL NIVEN SPS	6212, New Liskeard Lagoon Niven SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Diesel Generator Inspection/ Functional Test Niven SPS (1m) 6212	COMP	12/1/23 12:00 AM	12/11/23 08:55 AM	12/11/23 08:55 AM	Ran Genset -
3702678	0000115397	ENGINE DIESEL WHITEWOOD SPS	6212, New Liskeard Lagoon Whitewood SPS	PM	Refurbish/ Replace/Repair	1	MONTHS	Diesel Generator Inspection/ Functional Test Whitewood SPS(1m) 6212	COMP	12/1/23 12:00 AM	12/11/23 09:03 AM	12/11/23 09:03 AM	Ran Genset -
3702694			6212, New Liskeard Lagoon, Process	PM	Health and Safety	1	MONTHS	Health And Safety Inspection (1m) 6212	COMP	12/1/23 12:00 AM	12/11/23 09:08 AM	12/11/23 09:08 AM	Checked E lights and Fire Extinguishers and eye wash -
3703319			6212, New Liskeard Lagoon Gray SPS	CALL	Refurbish/ Replace/Repair	0		Loss Comm Gray SPS 6212	COMP		12/3/23 01:30 AM	12/3/23 03:00 AM	Call for Loss of Comm - Had to reset radio to re establish communication
3705502			6212, New Liskeard Lagoon Niven SPS	CALL	Refurbish/ Replace/Repair	0		Low Clearwell Alarm Niven SPS 6212	COMP		12/13/23 09:15 PM	12/13/23 11:00 PM	Low Wet Well Alarm Niven SPS - On arrival everything was ok Reviewed the trends and found a dip on the trends to 0.98 m low level set to 1m pumps shut off at 1.2m . Verified the head for the LIT was clean and no build up on the walls in the Wet well. Will Get the Instrument techs to take a closer look tomorrow the transducer head may be failing. the trending isnt terribly dirty but there are the odd dip here and there on it.
3705766			6212, New Liskeard Lagoon Niven SPS	CALL	Refurbish/ Replace/Repair	0		Loss Comm Niven SPS 6212	COMP		12/15/23 01:30 AM	12/15/23 03:15 AM	Loss Comm Niven -Reset power to radio to re establish communication
3707383			6212, New Liskeard Lagoon Niven SPS	CALL	Refurbish/ Replace/Repair	0		Loss of Comm Niven PS 6212	COMP		12/29/23 02:58 PM	12/29/23 03:01 PM	- Reset radio

APPENDIX E
Incident Reports

Incident of Non-Compliance

Revised 2014-06-18, Rev. 2

Ontario Clean Water Agency
Agence Ontarienne Des Eaux

Facility	New Liskeard Lagoon	**OCWA Org #**	6212
Operator	Ilona Bruneau, PCT	**DWS/Works #**	110000515

X Incident of non-compliance ☐ PTTW exceedance ☐ MDWL exceedance ☐ ECA exceedance (check one)

Incident Failed to collect additional effluent sample when the system exceeded its peak design capacity

Date July 6, 2023 **Time**

Legislation ECA No. 5103-CDFJWC, Condition 9(2)

Details

An additional effluent sample should have been collected when the system exceeded its peak design capacity of 8250 m3/day on July 6, 2023. The totalized flow for July 6th = 8588 m3/day

Operator conducted a review of the daily SCADA report on July 7th for July 6th which indicated a raw total flow for the day as 3542 m3/day. The total flow is the sum of the flows from Niven Sewage pumping station (SPS), Gray SPS and Goodman SPS. The operator did not notice that the total flow for the Niven St. SPS was incorrect due to a communication issue with the station and the SCADA. This resulted in a total flow recorded on the Daily Report and round sheet as 3542 m3/day.

Resolution

A review of data by compliance staff on September 11, 2023 discovered that the total flow for July 6th was actually 8558 m3/day and additional effluent sampling should have been initiated.

The operator conducting the review was made aware of the issue and the Data Review Procedure for sewage systems will be reviewed by the PCT to see if improvements can be made to prevent this type of mistake from occurring in the future.

The procedure was reviewed and operators must ensure that there is a value for each pump station on the Daily SCADA Report. If the value is not typical (low), the operator must review the Field Data Manager (FDM) for the actual flow for the day.

Contact: Scott Hanselman (MECP)

Date September 11, 2023 **Time**

Details Report provided via email

Contact:

Date **Time**

Details

PCTs	Entered in OPEX	By:
	Entered in Incidents & Events Summary	By:

Incident of Non-Compliance

Revised 2014-06-18, Rev. 2

Ontario Clean Water Agency
Agence Ontarienne Des Eaux

Operator Signature: Ilona Bruneau **Date** September 11, 2023

Please fax completed form to: PCT at 705 567 7974 (April, Ilona, Rebecca or Yvan)
Local MOE Fax: 705 497 6866 (North Bay), 705 235 1520 (Timmins), 705 942 6327 (Sault Ste Marie)
MOE SAC Tel: 1 800 268 6060 Fax: 1 800 268 6061

PCTs	Entered in OPEX	By:
	Entered in Incidents & Events Summary	By:

APPENDIX F

Summary of Abnormal Discharge Events

New Liskeard Lagoon Sewage Collection System

Summary of Abnormal Discharge Events

Facility Works Number: **110000515**
Facility Owner: **City of Temiskaming Shores**
Facility Classification: **Class 1 Wastewater Treatment**
Receiver: **Lake Temiskaming**
Service Population: **4900**
Total Design Capacity: **5500.0 m3/day**
Period Being Reported: **01/2023 12/2023**

									Concentrations					Loadings			
Date	Pump Station	Start Time (hh:mm)	Stop Time (hh:mm)	Duration (hr)	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)
16-Jun-23	Whitewood	12:35	12:35	20 seconds	Spill	0.31	No	During a flow meter calibration, the overflow pump was turned on by operator in error. Pump was turned off immediately	No sample collected due to the short duration of the event.								
07-Sep-23	Niven Street	00:40	06:46	6.2	Overflow	2272.4	Yes	Extreme rainfall	32	402	0.767	2.1	180000	73	914	1.74	4.8
07-Sep-23	Montgomery	01:10	07:33	6.4	Overflow	421.3	Yes	Extreme rainfall	14	82	0.486	1.4	240000	5.8	35	0.21	0.6
07-Sep-23	Robert-Elm	00:00	10:21	10.3	Overflow	2,137.5	Yes	Extreme rainfall	2.0	40	0.253	0.5	11000	4.3	86	0.54	1.1
07-Sep-23	Whitewood	00:59	5:06	4.1	Overflow	1,008.2	Yes	Extreme rainfall	5.0	20	0.202	0.8	23000	5.0	20	0.20	0.8