

REQUIREMENTS FOR ANNUAL PERFORMANCE REPORT

This report has been prepared in accordance with Amended Environmental Compliance Approval Number 8860-9N8NCX Section 8.4 items a) through l) for the New Horizons (Everett) waste Water Treatment Plant and with Environmental Compliance Approval #097-W601, Issue 1 for the Township of Adjala-Tosorontio Municipal Sewage Collection System.

ECA 8860-9N8NCX, Section 8.4 REPORTING REQUIREMENTS

(4) The Owner shall prepare and submit a performance report to the Water Supervisor on an annual basis, within ninety (90) days following the end of the period being reported upon. The first such report shall cover the first annual period following the commencement of operation of the Works and subsequent reports shall be submitted to cover successive annual periods following thereafter. The reports shall contain, but shall not be limited to, the following information:

- (a) a summary and interpretation of all monitoring data and a comparison to the effluent objectives outlined in Condition 5, review of impacts on groundwater at the property boundary if any and an overview of the success and adequacy of the Works;
- (b) a description of any operating problems encountered and corrective actions taken;
- (c) a summary of all maintenance carried out on any major structure, equipment, apparatus, mechanism or thing forming part of the Works;
- (d) a summary of any effluent quality assurance or control measures undertaken in the reporting period;
- (e) a summary of the calibration and maintenance carried out on all effluent monitoring equipment;
- (f) a description of efforts made and results achieved in meeting the Effluent Objectives of Condition 5. (g) a tabulation of the volume of sludge generated in the reporting period, an outline of anticipated volumes to be generated in the next reporting period and a summary of the locations to where the sludge was disposed;
- (h) a summary of any complaints received during the reporting period and any steps taken to address the complaints;
- (i) a summary of all By-pass, spill or abnormal discharge events;
- (j) a copy of all Notice of Modifications submitted to the Water Supervisor as a result of Schedule B, Section 1, with a status report on the implementation of each modification;
- (k) a report summarizing all modifications completed as a result of Schedule B, Section 3; and
- (l) any other information the Water Supervisor requires from time to time.

Table of Contents

1.	System Description	4
2.	Flow Summary	5
2.1	Comparison of Effluent Flow Data with Rated Capacity.....	5
3.	Effluent Objectives, Groundwater Impacts, Success & Adequacy of the System	6
3.1	Water Quality Monitoring Program.....	7
3.1.1	Sampling Locations, Parameters, Frequency and Method(s).....	7
3.1.2	Effluent Quality Compliance Objectives	8
3.2	Comparison of Effluent Quality Data to the Compliance Objectives	8
3.2.1	Final Effluent	9
3.3	Interpretation and Summary of Other Monitoring Data.....	10
3.3.1	Influent Monitoring.....	10
3.3.2	Groundwater Monitoring for Nitrates.....	10
3.3.3	Impacts on Groundwater at the Property Boundary.....	13
3.3.4	Groundwater Level Monitoring at Piezometer Number 1, 2 & 3.....	13
3.4	Success and Adequacy of the Works	14
4.	Operational Issues and Corrective Actions.....	14
5.	Effluent Objective Results and Efforts	15
6.	System Maintenance	17
6.1	Work Management System	17
6.2	Preventative Maintenance	17
6.3	Summary of Major Maintenance.....	17
7.	Effluent Quality Assurance.....	18
7.1	Adherence to Provincial Regulations.....	18
7.2	Use of Accredited Laboratories	18
7.3	Operation by Licensed Operators.....	18
7.4	Sampling and Analysis.....	18
7.5	In-house Analysis	18
7.6	Calibrations	19

8.	Calibration of Monitoring Equipment.....	19
9.	Sludge Production and Disposal	19
10.	Summary of Community Complaints Received	20
11.	By-pass, Spill or Abnormal Discharge Events.....	20
11.1	Bypass and Overflow Events.....	20
11.2	Spill Events	21
11.3	Abnormal Discharge Events	21
12.	Notice of Modification (Limited Operational Flexibility)	21
13.	Modification Summary	22
14.	Other Information.....	22
15.	Municipal Sewage Collection System- Annual Performance Report.....	23
15.1	Description of the Works	24
15.2	Summary of Monitoring Data and Interpretation	25
15.3	Summary of Operating Problems Encountered and Corrective Actions Taken	25
15.4	Summary of Calibration, Maintenance, and Repairs.....	25
15.5	Community Complaints Received in Relation to the Sewage Works	25
15.6	Alterations to the Authorized System	26
15.7	Summary of Collection System Overflow(s) and Spill(s) of Sewage	26
15.8	Efforts Made to Reduce Collection System Overflows, Spills, STP Overflows, and/or STP Bypasses	26

Appendices

- Appendix A: Annual Flow and Effluent Quality Summary
- Appendix B: R.J. Burnside & Associates Limited- Site Property Boundary Map
- Appendix C: Historical Groundwater Level Monitoring for Piezometer #1, 2 and 3
- Appendix D: System Maintenance Work Order Summary
- Appendix E: Flow Meter Calibration Record
- Appendix F: Modifications to the System: Limited Operational Flexibility Records
- Appendix G: Environmental incident Reports

The enclosed 2023 Annual Performance Report has been prepared in accordance with Amended Environmental Compliance Approval Number 8860-9N8NCX Section 8.4 items a) through l) for the New Horizons Wastewater Treatment Plant and with Environmental Compliance Approval #097-W601, Issue 1 for the Township of Adjala-Tosorontio Municipal Sewage Collection System for the reporting period of January 1, 2023 to December 31, 2023.

1. System Description

The New Horizon Wastewater Treatment Plant is a rotating biological contactor (RBC) plant located in Everett, Ontario. The WWTP and its collection system are owned by the Corporation of the Township of Adjala-Tosorontio and are operated on behalf of the Owner by the Ontario Clean Water Agency (OCWA). The amended ECA was issued to the existing municipal sewage treatment works for the collection, transmission, treatment and disposal of domestic sewage with a rated capacity of 175 m³/d. The works consists of two raw sewage pumping stations which discharge into the treatment plant.

Within the Packaged Sewage Treatment Plant, the major process units consist of: one primary settling tank and sludge storage, one three-stage Rotating Biological Contractor (RBC), one single-stage denitrification zone RBC equipped with a carbon source dosing system, one alum/PASS dosing system to aid in flocculation if needed, one surface area final settling tank, two filter feed pumps in the clarifier and three single-media sand filters. The WWTP discharges treated effluent into a subsurface tile-bed system.

The Final effluent Pump Station consists of one final effluent dosing pumping station and a 100 mm diameter forcemain to the primary distribution box of the subsurface final effluent disposal system. The primary distribution box splits flow evenly to six splitter distribution boxes feeding three tile beds. In the event of an outage, a standby diesel generator supplies the works with backup power.

An overview of the New Horizons Wastewater Treatment System can be found in the following table:

Table 1. New Horizons Wastewater Treatment Plant System Overview

Facility Name:	New Horizons Wastewater Treatment Plant
Facility Type:	Rotating Biological Contractor (RBC) with chemical dosing and sand filtration
Plant Classification:	N/A
Works Number:	110003629
Rated Capacity:	175 m ³ /day
Discharge Point:	Subsurface Tile Beds
Environmental Compliance Approval:	8421-9PMHXN (Issue Date: October 21, 2014)

2. Flow Summary

The Rated Capacity listed in the most current ECA for New Horizon WWTP is 175 cubic metres per day (m³/day). Typically the Rated Capacity listed in an ECA is determined based on the highest average annual flow during which the sewage treatment plant can consistently meet site specific effluent quality criteria (as per the Ontario Design Guidelines for Sewage Works); this is usually dictated by the most limiting treatment/process unit in the system. ECA 8660-9N8NCX, Section 5(2) requires the Owner to use its best efforts to (a) operate the works within the Rated Capacity of the Works.

2.1 Comparison of Effluent Flow Data with Rated Capacity

Based on the definition of the Rated Capacity, a single exceedance does not necessarily result in a non-compliance event, however, if a system continually exceeds its Rated Capacity, this could result in reduced treatment efficiency and lead to effluent objective exceedances.

For the reporting period, Table 2 and Graph 1 compare monthly average effluent flow and monthly maximum (peak) effluent flow to the ECA Effluent Rated Capacity.

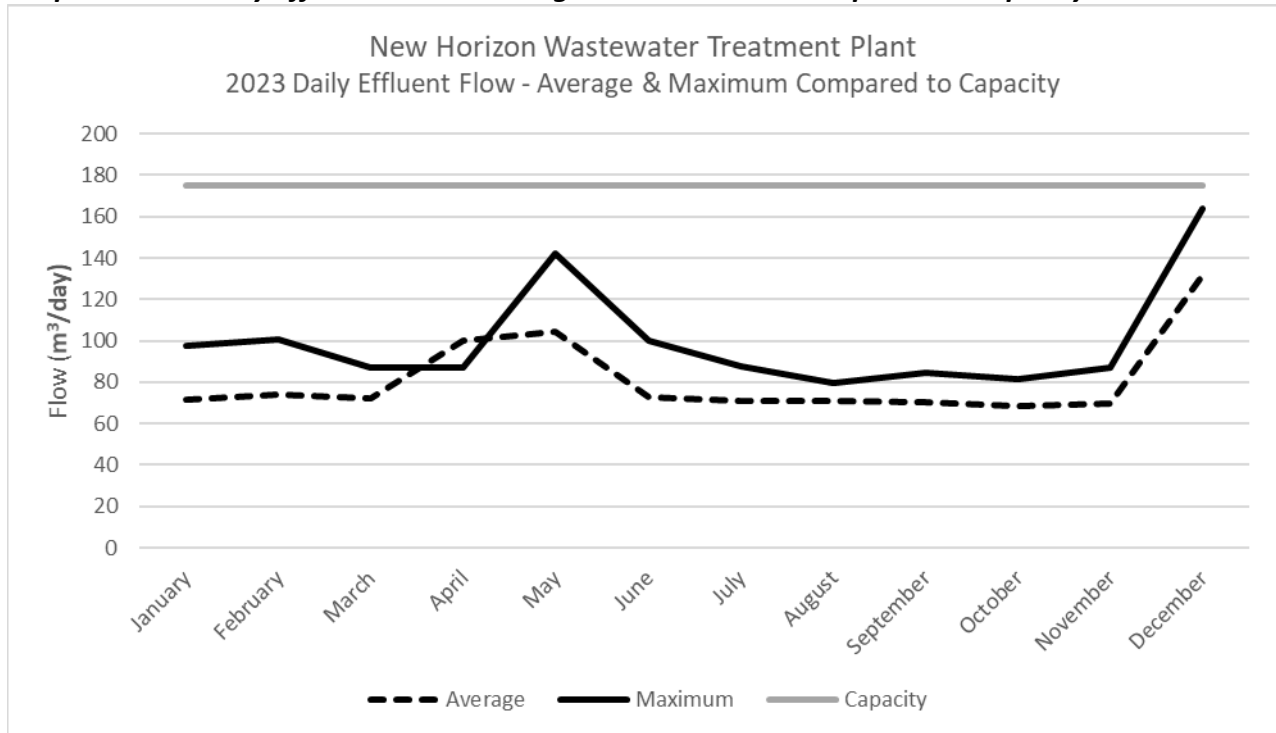
Table 2: 2023 Final Effluent Flow Average and Maximum Daily Flow Data with Comparison to the Rated Capacity

Month	Average Daily Effluent Flow (m ³ /day)	% of Rated Capacity	Maximum (Peak) Daily Effluent Flow (m ³ /day)	% of Rated Capacity	Total Effluent Flow
January	71.56	40.89	97.70	55.83	2,218.34
February	73.80	42.17	100.71	57.55	2,066.53
March	72.10	41.20	86.89	49.65	2,235.05
April	99.99	57.14	86.89	49.65	2,999.56
May	104.55	59.74	142.00	81.14	3,241.00
June	73.00	41.71	100.32	57.33	2,190.07
July	70.64	40.37	87.57	50.04	2,189.77
August	70.68	40.39	79.65	45.51	2,191.08
September	70.45	40.26	84.34	48.25	2,113.63
October	68.48	39.13	81.18	46.39	2,122.88
November	69.99	39.99	86.76	49.58	2,099.77
December	131.88	75.36	163.70	93.54	4,088.30
2023	81.52	46.58	163.70	93.54	29,755.98

Note: As per the ECA, 'Rated Capacity' is defined as "the Average Daily Flow for which the Works are approved to handle".

Note: As per the ECA, 'Average Daily Flow' is defined as "the cumulative total sewage flow to the sewage works during a calendar year divided by the number of days during which sewage was flowing to the sewage works that year".

Graph 1: 2023 Daily Effluent Flow - Average and Maximum Compared to Capacity



During the report period, the New Horizon WWTP average daily flow was 81.52 m³/day or 46.58% of the Rated Capacity. December 27, 2023 daily flow of 163.70 m³/day, was the peak daily flow for the reporting period which was 93.54% of the Rated Capacity. Peak flows in December were attributed to using effluent water after the flow meter to backwash the filter media.

If the Annual Average Daily Flow reaches/exceeds 80% of the Rated Capacity, current best practice is to assess issues and provide recommendations for proactive actions. For 2023, the annual Average Daily Flow was below 80% of the Rated Capacity. See *Appendix A – Annual Flow and Effluent Quality Summary*, for details.

3. Effluent Objectives, Groundwater Impacts, Success & Adequacy of the System

Where ECA 8860-9N8NCX, Section 8.4, Element (a) requires:

“A summary and interpretation of all monitoring data and a comparison to the effluent objectives outlined in Condition 5, review of impacts on groundwater at the property boundary if any and an overview of the success and adequacy of the Works;”

Where condition 5 is “imposed to establish non-enforceable effluent quality objectives which the Owner is obligated to use best efforts to strive towards on an on-going basis. These objectives are to be used as a mechanism to trigger corrective action proactively and voluntarily before environmental impairment occurs”.

3.1 Water Quality Monitoring Program

3.1.1 Sampling Locations, Parameters, Frequency and Method(s)

The following table outlines the water quality monitoring program at the New Horizon WWTP as per the current ECA as it applies to grab samples collected and analyzed by an external laboratory. An additional monitoring program is in place for measuring groundwater levels at Piezometers #1, #2, and #3 on a monthly basis.

Table 3: Water Quality Monitoring Program and Sampling Points – as per ECA 8860-9N8NCX Section 7.(1)(2)(3)(4)

Source ^{3B}	Parameter	Frequency ^{#A}	Method
Influent	BOD ₅ , TSS, TKN	Quarterly	Grab External Analysis
Effluent	CBOD ₅ , TSS, Total Nitrogen, <i>E.Coli</i>	Monthly	Grab External Analysis
Groundwater Monitoring Wells (MW-1, MW-2, MW-3, MW-4)	Nitrates	Quarterly	Grab External Analysis
Piezometer No. 1 ^{3C}	Groundwater Level	Monthly	Grab Internal Analysis

Note: BOD₅ is Biochemical Oxygen Demand; CBOD₅ is Carbonaceous Biochemical Oxygen Demand; TKN is Total Kjeldahl Nitrogen; TP is Total Phosphorus; and TSS is Total Suspended Solids

Note: As per Section 7, the Owner shall, upon commencement of operations of the Works, carry out the monitoring program and all samples and measurements taken for the purposes of the Approval are to be taken at a time and in a location characteristic of the quality and quantity of the effluent stream over the time period being monitored.

Note: As per Section 7.5, the methods and protocols for sampling, analysis and recording shall conform, in order of precedence, to the methods and protocols specified in (a) the Ministry’s Procedure F-10-1, “Procedures for Sampling and Analysis Requirements for Municipal and Private Sewage Treatment Works (Liquid Waste Streams Only) or as amended (b) the Ministry’s publication “Protocol for the Sampling and Analysis of Industrial/Municipal Wastewater” (January 1999) or as amended and (c) the publication “Standard Methods for the Examination of Water and Wastewater” (21st edition) or as amended.

^{3A}As per ECA 8660-9N8NCX Section 7.2 the following definitions apply (a) monthly means once every month; (b) quarterly means once every three months.

^{3B}As per ECA 8660-9N8NCX Section 7, the influent monitoring sampling point is the inlet to packaged sewage treatment plant; the effluent monitoring sampling point is the effluent discharged to subsurface disposal system; and groundwater samples shall be collected of the groundwater in the monitoring wells on a quarterly basis and analyzed for nitrates.

^{3C}As per ECA 8660-9N8NCX Section 7.6, the Owner shall monitor and record the groundwater level in piezometer No. 1 on a monthly basis. As a proactive approach, the Operating Authority records the groundwater level at all monitoring wells on a monthly basis (Piezometer 1, 2 and 3).

3.1.2 Effluent Quality Compliance Objectives

Section 5(1) of ECA 8660-9N8NCX requires the Owner to use best efforts to design, construct and operate the Works within the objective that the concentrations of the materials listed in Table 3 - Effluent Objectives of the ECA, as such that the effluent parameters are not exceeded in the effluent being discharged to the subsurface disposal system. The following table outlines the effluent water quality compliance objectives at the New Horizons WWTP as per Table 3 of Section 5(1) of the ECA.

Table 4: Final Effluent Concentration Objectives - as per Table 3 of ECA 8860-9N8NCX Section 5(1).

Parameter	Units	Compliance Objective
Carbonaceous Biochemical Oxygen Demand (CBOD ₅)	mg/L	10.0
Total Suspended Solids (TSS)	mg/L	10.0
Total Nitrogen (TKN + Nitrite + Nitrate) ^{4A}	mg/L	5.0
<i>E.Coli</i>	CFU/100 mL	N/A ^{4B}

^{4A}Total Nitrogen is defined as (TKN + Nitrite + Nitrate), where TKN is Total Kjeldahl Nitrogen

^{4B}ECA 8860-9N8NCX Section 5(1) does not list any compliance objectives for *E.Coli*. However, *E.Coli* must be sampled on a monthly basis as part of the sampling program.

3.2 Comparison of Effluent Quality Data to the Compliance Objectives

The following table summarizes the monthly effluent quality data for the reporting period compared with the ECA compliance objectives. The most current ECA for the New Horizon WWTP does not contain final effluent compliance limits, only objectives; as such any exceedances to the concentration objectives are not reportable as a non-compliance. See *Appendix A – Annual Flow and Effluent Quality Report* for a facility performance assessment report containing monthly and annual final effluent quality data.

3.2.1 Final Effluent

Table 5: Final Effluent Results Compared to the Concentration Objectives Listed in Table 3 of ECA 8860-9N8NCX Section 5(1).

Month	Monthly Final Effluent Concentration Compared to Compliance Objectives							
	CBOD ₅ (mg/L)	Within Objective? (10 mg/L)	TSS (mg/L)	Within Objective? (10 mg/L)	Total Nitrogen (mg/L)	Within Objective (5 mg/L)	<i>E.Coli</i> (CFU/100 mL)	Within Objective?
January	<2.0	Yes	4.0	Yes	17.10	No	106	N/A
February	3.0	Yes	10.0	Yes	17.36	No	56	N/A
March	<2.0	Yes	8.0	Yes	17.57	No	16	N/A
April	<2.0	Yes	11.0	No	12.88	No	91.65	N/A
May	3.0	Yes	6.0	Yes	11.25	No	66	N/A
June	<2.0	Yes	9.0	Yes	10.42	No	224	N/A
July	<2.0	Yes	9.0	Yes	12.50	No	246	N/A
August	<2.0	Yes	5.0	Yes	9.84	No	168	N/A
September	<2.0	Yes	7.0	Yes	12.70	No	243	N/A
October	2.0	Yes	12.0	No	16.40	No	2,000	N/A
November	<2.0	Yes	4.0	Yes	14.20	No	1,040	N/A
December	<2.0	Yes	9.0	Yes	14.80	No	216	N/A
2023	2.15	-	7.92	-	13.92	-	164	-

Treated final effluent from the WWTP operated within the compliance objectives for CBOD₅ for the entire reporting period. The annual average CBOD₅ was 2.15 mg/L. In February and May a maximum of 3.0 mg/L was recorded.

For the majority of the reporting period, the WWTP effluent was within the compliance objectives for Total Suspended Solids (TSS). The monthly average TSS for the year was 7.92 mg/L, with a maximum of 12.00 mg/L experienced in October, 2023 which was one of two exceedance of the objective during the reporting year in April and October. For details see *Section 4. Operational Issues and Corrective Actions*.

Total Nitrogen (TKN + Nitrite + Nitrate) averaged 13.92 mg/L in 2023, peaking at 17.5 mg/L in March. The objective of 5 mg/L was exceeded every month of the reporting period. For details see *Section 4. Operational Issues and Corrective Actions*.

E.Coli concentrations in final effluent is monitored on a monthly basis via a grab sample. There are no compliance limits or objectives listed in the most current ECA for *E.Coli*. For the 2023 reporting year, the average annual result for *E.Coli* was 164 CFU/100 mL with the lowest CFU/100 mL recorded in March at a density of 16 CFU/100 mL and the highest result recorded

in October at a density of 2,000 CFU/mL. The highest recorded concentration was a result of poor filter media performance. For details see *Section 4. Operational Issues and Corrective Actions*.

3.3 Interpretation and Summary of Other Monitoring Data

The following parameters do not have limits or objectives but are monitored on a regular basis (see Section 3.1.1 Sampling Locations, Parameters, Frequency and Method(s) for sampling frequency) as required by the most current ECA.

3.3.1 Influent Monitoring

An annual summary of influent monitoring data can be found in the table below. Influent (raw sewage) sampling is completed on a quarterly basis and sent to an external laboratory for analysis.

Table 6. Raw Sewage Monitoring Parameters as required by ECA 8860-9N8NCX Section 7(1)(Table 1) for New Horizon Wastewater Treatment Plant, 2023

Parameter ^{6A}	Minimum	Maximum	Average
BOD ₅ (mg/L)	58.00	599.00	201.50
Total Suspended Solids (mg/L)	54.00	329.00	133.50
Total Kjeldahl Nitrogen (mg/L)	12.80	79.70	33.35

^{6A}Refer to Appendix A- Annual Flow and Effluent Quality Summary

When comparing raw sewage concentrations in 2023 to 2022 it was observed that:

- BOD₅ – the average concentration for 2023 (201.50 mg/L) is significantly higher than 2022 (71.00 mg/L). The 2023 maximum concentration (599.00 mg/L) was significantly higher than the 2022 maximum (100.0 mg/L).
- TSS – The average 2023 concentration (133.50 mg/L) was lower than the 2022 average (167.75 mg/L). The 2023 maximum concentration (329.0 mg/L) was lower than 2022 maximum (441.0 mg/L).
- TKN – The average 2023 concentration (33.35 mg/L) was higher than the average 2022 concentration (23.93 mg/L). The 2023 maximum concentration of 79.70 mg/L was significantly higher when compared to the 2022 maximum of 33.10 mg/L.

3.3.2 Groundwater Monitoring for Nitrates

The following table summarizes the groundwater quarterly sampling data for nitrates at all the monitoring wells for the reporting period.

Table 7: Nitrate Groundwater Monitoring data at the Monitoring Wells (MW #1, MW #2, MW #3 and MW #4) as per Table 3 of ECA 8860-9N8NCX Section 7(4)

Calculated Reasonable Use Nitrate Standard= 2.61 mg/L ^{7A}				
Sample Date	MW #1 Nitrate (mg/L)	MW #2 Nitrate (mg/L)	MW #3 Nitrate (mg/L)	MW #4 Nitrate (mg/L)
2023-01-19	0.38	15.10	17.00	3.41
2023-04-27	0.55	13.50	24.20	2.00
2023-07-19	0.60	12.30	18.50	2.21
2023-10-30	0.16	13.90	10.90	2.80

^{7A}The Reasonable Use Standard at the property boundary for Nitrate is 2.61 mg/L, which is based on the R.J. Burnside & Associates Limited letter dated August 20, 2012 to Brad Allen of the MECP Barrie District Office.

In 2012, R.J. Burnside & Associate Limited (Burnside) was retained by the Township of Adjala-Tosorontio, to conduct a water quality monitoring program at the New Horizon WWTP. MW1 is located on the south side of the sewage plant and is intend as a background well. Previous studies of the site indicate that groundwater flows to the northwest, therefore MW 2, 3 and 4 were located north and west of the septic beds adjacent to the property boundary, in order to provide information on down gradient water quality and compliance with the Reasonable Use Policy. See *Appendix B* for a detailed map of the property boundaries.

The Reasonable Use Concept (RUC) is outlined by the MECP, based on discharge of final effluent and the level of a contaminate originating at the disposal site, and its impingement on adjacent properties. In this case the contaminant is nitrate.

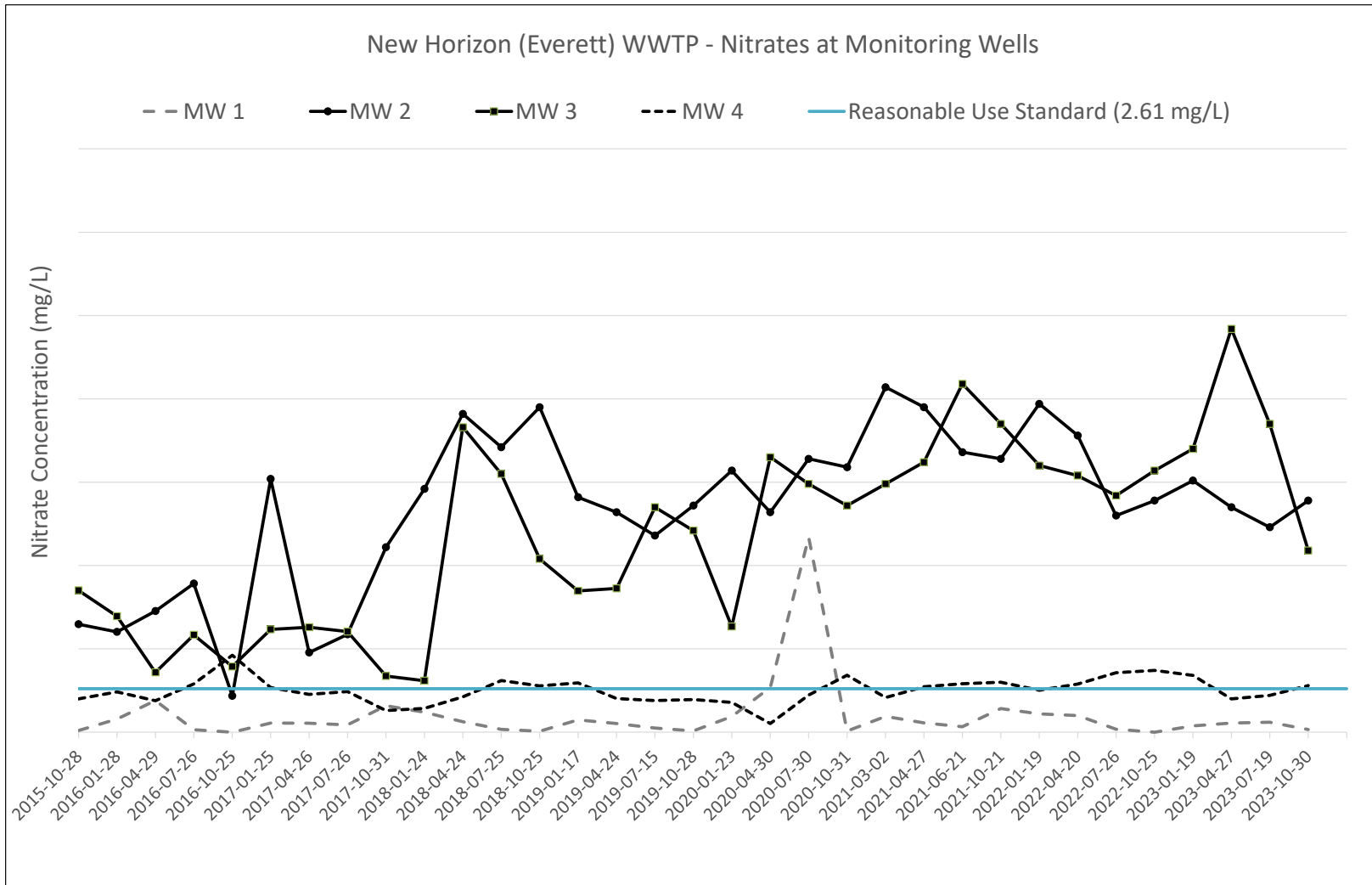
In a letter dated May 10, 2012 to Brad Allen of the Barrie MECP local office by Burnside, who completed the drilling and installation of the four monitoring wells, Reasonable Use Standard was calculated to be 2.61 mg/L of nitrate as the maximum acceptable concentration on adjacent property following the Ministry’s Provincial Guidelines for nitrate concentrations under the Ontario Drinking Water Quality Standards (ODWQS).

Based on the above information the following observations from 2023 in comparison to previous years include:

- South of the tile bed, MW #1, continues to have nitrate levels below the standard
- North of the tile field, MW #2 and MW #3, have consistently exceeded the standard
- The maximum reading of 24.20 mg/L was observed in MW #3 in April 2023.
- MW #4 nitrate concentration has fluctuated just above or just below the standard
- Ground water appears to be traveling in a northerly direction

The following graph provides a representation of the nitrate levels at the monitoring wells between October 2015 and October 2023.

Graph 2: 2023 Groundwater Nitrate Concentrations Data at the Monitoring Wells (MW #1, MW #2, MW #3, and MW #4) compared to the Calculated Reasonable Use Standard



3.3.3 Impacts on Groundwater at the Property Boundary

Nitrate is a naturally occurring form of nitrogen in groundwater. Surface runoff, agricultural fertilizing activities, wastewater treatment facilities which discharge to tile beds, etc., leech into the groundwater contain nitrates. Although necessary for plants life, high nitrates in drinking water can cause adverse health effects in humans.

Initial water level measurements taken at the monitoring wells confirmed that shallow groundwater flow at the site is northwest, and that nitrate discharged from the tile bed is moving with the groundwater towards the property boundary, impinging upon adjacent properties and causing the groundwater at the property boundary to have a higher nitrate level.

In terms of drinking water quality, the Everett Drinking Water system follows the Ontario guidelines for the Ontario Drinking Water Quality Standards (ODWQS). Nitrate levels under O.Reg 170/03 are sampled quarterly and nitrate levels from the treated water system at both Grohal and Ballpark Pumphouses continue to show nitrate concentrations below the minimum detection limit (0.006 mg/L) suggesting that while nitrate levels at the wastewater treatment plant are elevated and causing increased levels in shallow groundwater at the site and adjacent properties, that the nitrates are not leeching into the groundwater supply system/confined aquifers and affecting the potable water for the Everett DWS users.

3.3.4 Groundwater Level Monitoring at Piezometer Number 1, 2 & 3

As per ECA 8860-9N8NCX Section 7(6), the Owner shall monitor and record the ground water level in Piezometer number 1 on a monthly basis. As a best practice OCWA continues to monitor and record the ground water levels at all four of the monitoring well. For details refer to *Appendix C – Groundwater Level Monitoring*.

Table 8. Groundwater Level Monitoring at Piezometer Number 1, 2 and 3 for 2023*

Parameters	Minimum Elevation (m)	Maximum Elevation (m)	Average Elevation (m)
Piezometer 1	1.80	2.20	2.02
Piezometer 2	3.10	4.10	3.53
Piezometer 3	3.10	4.00	3.55

*Groundwater level is measured from the top of casing

A comparison of groundwater level monitoring data from 2022 to 2023 shows the following:

- **Piezometer 1** – The average level in 2022 (2.28 m) was lower than in 2023 (2.02 m). The 2022 maximum in March, April and May (1.90 m) was lower than the 2023 maximum in August (1.80 m). The 2022 minimum in October (2.70 m) was lower than the 2023 minimum in January, February and April (2.20 m).

- **Piezometer 2** – The average level in 2022 (3.63 m) was lower than in 2023 (3.53 m). The 2022 maximum in April (3.10 m) was the same as the 2023 maximum in April, May and October (3.10 m). The 2022 minimum in October, November and December was the same as the 2023 minimum in November and December (4.10 m).
- **Piezometer 3** – The average level in 2022 (3.93 m) was lower than in 2023 (3.55 m). The 2022 maximum in April (3.30 m) was lower than the 2023 maximum in April (3.10 m). The 2022 minimum in October, November (4.50 m) was lower than the 2023 minimum in October and November (4.00 m).

3.4 Success and Adequacy of the Works

The current sewage treatment program provides effluent that meets the flow requirements and some of the effluent quality objectives for the reports described in section 2.1 to 3.2 for the 2023 reporting year, New Horizon WWTP operated below the rated capacity as set out in the most current ECA.

For the duration of the reporting year, CBOD₅ remained in compliance with the final effluent objective and has shown an overall decrease in the concentrations year over year. Past frequent issues with the TSS objective limit concentrations exceedances between 2012 and 2019 have mostly been corrected, and for the most part, TSS concentrations were in compliance with the objective limits in 2023, with only one instance in the reporting period where an exceedance was noted. Operational issues that led to the TSS exceedance of the objective is described below in Section 4. Operational issues were quickly addressed and once addressed TSS remained in compliance with the objectives for the remainder of the reporting year. However, despite OCWA's best efforts, total nitrogen continues to remain out of compliance with the objective limits.

Based on the above evidence, the current sewage treatment program is deemed adequate for some of the sampling parameters, however the plant is not adequately designed to treat Total Nitrogen as it does not allow for effective denitrification. OCWA will continue to monitor compliance objectives, provide notifications to the MECP, and adjust treatment processes as necessary to continue to meet CBOD₅ and TSS effluent objectives, and continue to seek out practical solutions to meet Total Nitrogen objectives during each reporting period.

4. Operational Issues and Corrective Actions

Where ECA 8860-9N8NCX, section 8.4, element (b) requires:

"A description of any operating problems encountered and corrective actions taken;"

Throughout the reporting period, New Horizon WWTP experienced three (3) notable operating issue as outlined below:

- 1) Total Suspended Solids (TSS) objective exceedance were recorded in April and October, 2023. In April the cause of the exceedance was unknown and there were no signs of poor filter performance. OCWA increased the SternPAC dosage and sugar tank pump frequency. The exceedance in October was a result of poor filter media performance. Filter media replacement is tentatively scheduled for April, 2024. November and December, 2023 monthly sampling results were below the objective following process adjustments until the media can be replaced.
- 2) Total Nitrogen exceedances for every month of the reporting period - since 2015, nitrate concentration north of the infiltration field has been out of compliance with the objective limits. Due to the system design, the ability to process the raw sewage to meet the regulatory objectives is limited. In an effort to meet the nitrate objective, OCWA has made many operational adjustments since 2015 including: Sodium Bisulphite dosing trials, sugar (carbon) dosing and adjusting the dosing as needed on a monthly basis. The largest limiting factor at this facility is the inability to provide effective denitrification.
- 3) April 19 and April 20, 2023- The works experienced a by-pass incident as a result of an equipment failure. See section 11. By-pass, Spill or Abnormal Discharge Events for more information and corrective actions taken.

5. Effluent Objective Results and Efforts

Where, ECA 8860-9N8NCX, section 8.4, element (f) requires:

“A description of efforts made and results achieved in meeting the Effluent Objectives of Condition 6;”

Where: Condition 6 is “imposed to establish non-enforceable effluent quality objectives which the Owner is obligated to use best efforts to strive towards on an ongoing basis. These objectives are to be used as a mechanism to trigger corrective action proactively and voluntarily before environmental impairment occurs and before the compliance limits of Condition 7 are exceed.”

Despite best efforts, objective exceedances for Total Nitrogen were recorded for every month of the reporting period. Although not considered non-compliance issues, OCWA did report each exceedance to the MECP Barrie District Office for their respective months. OCWA made their best effort in achieving the effluent objectives as outlined in the ECA with the help of continuous monitoring equipment, plant checks and detailed notes, process adjustments, in-house sampling and laboratory testing, third-party laboratory regulatory testing, maintenance and repairs as required, and a 24/7 alarm monitoring with out-of-hours call-ins when necessary.

Other corrective actions include weekly in-house laboratory sampling and testing of final effluent parameters for monitoring purposes, hauling sludge on a monthly basis.

In previous years, OCWA has employed a suite of corrective actions to bring the wastewater plant into line with the compliance objectives including:

- In 2017, OCWA's Process Optimization and Technical Services (POTS) completed a thorough study of the New Horizon WWTP and produced a comprehensive report with several process improvement recommendations which were implemented starting in 2018 through to 2020 and included:
 - Installation of a variable frequency drive on the aerobic RBC motor drive to have ability to lower the rotational speed in order to reduce dissolved oxygen levels after aerobic RBC;
 - Introduce an oxygen scavenger to reduce the amount of dissolved oxygen entering the anoxic RBC to improve the denitrification process;
 - Dose a carbon source prior to anoxic RBC after the dissolved oxygen levels are reduced due to the oxygen scavenger chemical addition;
 - Purchase a dissolved oxygen meter and probe for operational checks, process optimizations, and troubleshooting;
 - Modification of the final clarifier inlet pipework and installation of baffles to minimize short-circuiting and optimize solids settling;
 - Confirmation of the over-growth of filamentous bacteria based on microscope tests and perform a shock chlorination treatment in order to improve solids settling;
 - Utilize a portion of the final effluent equalization tank as a final polishing settling tank; and;
 - Modify sludge pumps to remove sludge more effectively and efficiently.

The short-term and long-term recommendations in the study were discussed with the Township of Adjala-Tosorontio Public Works Department and Council at the time and funding was approved to proceed with the above mentioned projects.

In addition, on July 14, 2018 Environmental Compliance Approval Number 5451-AXXPYX was issued to the Township of Adjala-Tosorontio for a new Everett Wastewater Treatment Plant for the establishment, usage and operation of new private sewage works, for the treatment of sanitary and disposal of effluent to Pine Rive via a Sewage Treatment Plant. Enclosed within the new ECA are more stringent final effluent Design Concentration Objectives and Compliance Limits, along with an increased influent and final effluent sampling monitoring program. The ECA was renewed in 2023 and the Township is currently actively engaged in working with the Developer in North Everett to begin construction of the works.

In the meantime, OCWA and the Township of Adjala-Tosorontio will continue to work together to improve the process to the best of their abilities. It is the goal of both parties to continue to use best efforts to operate and maintain the sewage works such that the concentration objectives in the ECA are met while awaiting the development of the new Everett Wastewater Treatment Plant.

6. System Maintenance

6.1 Work Management System

Planned maintenance, including scheduled and non-scheduled maintenance activities are scheduled using a computerized Work Management System (WMS) that allows user to:

- Enter detailed asset information
- Generate and process work orders
- Access maintenance and inspection procedures
- Plan, schedule, and document all asset related tasks and activities
- Access maintenance records and asset histories

Work Orders are automatically generated by the WMS program and are assigned to the applicable Operations staff accordingly.

Please refer to *Appendix D* for a complete summary of work orders completed during the reporting period.

6.2 Preventative Maintenance

There were a number of preventative maintenance tasks completed throughout the reporting period. They are as follows:

- Monthly panel alarm and generator testing
- Monthly sand filter inspections
- Annual tile bed inspections
- Annual valve backflow device inspections
- Annual calibrations (flow meters, gas detectors, pH meters, D.O. probes etc.)
- Annual sewer system flushing

6.3 Summary of Major Maintenance

Where, ECA 8860-9N8NCX, section 8.4, element (c) requires:

“A summary of all maintenance carried out on any major structure, equipment, apparatus, mechanism or thing forming a part of the works;”

During the reporting period, maintenance on major parts of the WWTP include:

- Pump rebuilds and float replacements
- Clarifier Decant Pump Repair
- Sand filter repairs

7. Effluent Quality Assurance

ECA 8860-9N8NCX, section 8.4, element (d) requires:

“A summary of any effluent quality assurance or control measures undertaken in the reporting period;”

Quality assurance and control measures undertaken during the reporting period include adherence to provincial regulations, use of accredited laboratories, operation of the system by Licensed operators, scheduled sampling and analysis, in-house laboratory analysis and calibration of equipment. The sections below provide further details of these measures.

7.1 Adherence to Provincial Regulations

The Ontario Clean Water Agency operates the WWTP in accordance with provincial regulations and the Environmental Compliance Approval.

7.2 Use of Accredited Laboratories

During the reporting period, all chemical sample analyses were conducted by SGS (Lakefield) Canada Inc.; a laboratory audited by the Canadian Association for Laboratory Accreditation Inc. (CALA) and accredited by the Standards Council of Canada (SCC). Accreditation ensures that the laboratory has acceptable laboratory protocols and test methods in place. It also requires the laboratory to provide evidence and assurances of the proficiency of the analysts performing the test methods.

7.3 Operation by Licensed Operators

The WWTP was operated and maintained by Licensed operators. The mandatory licensing program for operators of sewage treatment facilities in Ontario is regulated under the Ontario Water Resources Act (OWRA) Regulation 435/93 and Ontario Regulation 129/04. A Licensed individual has successfully passed the licensing exam and meets the education and experience requirements set out in the regulation.

7.4 Sampling and Analysis

The Ontario Clean Water Agency followed a sampling and analysis schedule that meets the requirements of the ECA.

7.5 In-house Analysis

To support process performance monitoring, adjustment, and optimization, in-house samples were collected and analyzed at the WWTP. In-house analysis was conducted by Licensed operators using Standard Methods. The data generated from these tests was used to determine the treatment efficiency while maintaining process control. All in-house monitoring equipment was calibrated based on the manufacturer’s recommendations. The Operators of the facility continue to use their expertise to make best efforts to meet the ECA Effluent Objectives.

7.6 Calibrations

Third-party and in-house calibrations were completed on various equipment and monitoring and analysis items as required based on manufacturer’s recommendations. Refer to Section 8 for more information regarding calibration of monitoring equipment.

8. Calibration of Monitoring Equipment

Where ECA 8860-9N8NCX, section 8.4, element (e) requires:

“A summary of the calibration and maintenance carried out on all effluent monitoring equipment;”

The flow meters used to measure the final effluent at New Horizon WWTP were calibrated on September 7, 2023 by Indus Control Inc. All program parameters received a passing inspection. Refer to *Appendix E* for a copy of the calibration record.

9. Sludge Production and Disposal

Where ECA 8860-9N8NCX, section 8.4, element (g) requires:

“A tabulation of the volume of sludge generated in the reporting period, an outline of anticipated volumes to be generated in the next reporting period and a summary of the locations to where the sludge was disposed;”

During the reporting period, a total volume of 577.96 m³ of sludge produced by the WWTP was hauled by Region of Huronia Environmental Services Ltd. (ROHES). The sludge was delivered to the ROHES lagoons for storage, for later injection spreading in accordance with Regulation 267/03 under Nutrient Management Act of 2022. Refer to Table 9 for a tabulation of the hauled sludge and the locations of where the sludge was disposed.

Table 9: New Horizon WWTP Sludge Haulage Dates, Location and Volume Hauled for 2023

Date of Haulage	Hauled to Location	Volume Hauled (m ³)
January 10, 2023	Rohes 9 Lagoon	36.36
January 26, 2023	Rohes 7 Lagoon	36.36
February 7, 2023	Rohes 7 Lagoon	36.36
March 10, 2023	Rohes 7 Lagoon	36.40
April 26, 2023	Rohes 5 Lagoon	11.82
June 20, 2023	Rohes 4 Lagoon	36.36
July 11, 2023	Rohes 9 Lagoon	36.36
August 22, 2023	Rohes 4 Lagoon	36.36
September 12, 2023	Rohes 9 Lagoon	72.73
October 3, 2023	Rohes 7 Lagoon	20.45
November 29, 2023	Rohes 9 Lagoon	218.40
Total To Rohes 4 Lagoon:		72.72

Date of Haulage	Hauled to Location	Volume Hauled (m ³)
	Total To Rohes 5 Lagoon:	11.82
	Total To Rohes 7 Lagoon:	129.57
	Total To Rohes 9 Lagoon:	363.85
	Total for 2023:	577.96

The total volume of biosolids hauled during 2023 was 577.96 m³, increase of 105.27 m³ from 2022 (472.69 m³). Typically, New Horizons WWTP hauls the same amount of sludge on a monthly basis (37 m³/month). Occasionally, there are instances where one month a double load of sludge is required due to increased buildup or when maintenance on the system is required, such as pump or filter maintenance. As such, anticipated volume of sludge removed for the next reporting period is between 400 to 600 m³ for the year.

10. Summary of Community Complaints Received

Where, ECA 8860-9N8NCX, section 8.4, element (h) requires:

“A summary of any complaints received during the reporting period and any steps taken to address the complaints;”

For the reporting period, no community complaints were reported to the Owner or Operating Authority for the WWTP.

11. By-pass, Spill or Abnormal Discharge Events

Where, ECA 8860-9N8NCX, section 8.4, element (i) requires:

“A summary of all By-pass, spill or abnormal discharge event;”

According to the ECA, an Event is defined as *“an action or occurrence, at a given location within the Sewage Treatment Plant that causes a Plant By-pass or Plant Overflow. An event ends when there is no occurrence of a bypass or Overflow in the 12-hour period following the last bypass or Overflow. Two events are separated by at least 12 hours during which there has been no reoccurrence of a Bypass or Overflow”*.

The ECA requires the submission of an Event Report of any Bypass and Plant Overflow Event(s) to the Ministry’s local office on a quarterly basis, no later than each of the following dates for each calendar year: February 14, May 15, August 14, and November 15. Such reports were prepared and submitted as per the ECA.

11.1 Bypass and Overflow Events

According to the facility’s current ECA a by-pass is defined as *“diversion of sewage around one or more unit processes with the Sewage Treatment Plant with the sewage flows being returned to the Sewage Treatment Plant treatment train upstream of the Final Effluent sampling location, and discharging to the environment through the Sewage Treatment Plant outfall”*. A

Plant Overflow is defined as a “discharge to the environment from the Sewage Treatment Plant at a location other than the plant outfall or into the plant outfall downstream of the Final Effluent sampling location.”

There was one (1) reportable by-pass event for the reporting period

- 1) April 19 to 20, 2023- SAC Incident #1-3F0490. From April 19 at 0930 to April 20 at 1000 hrs (24 hours and 30 minute duration) an unplanned emergency bypass occurred at the WWTP. Approximately 110 m³ of final effluent which received all treatment before bypassing the sand filters. April 19, 2023 attended the plant and found the clarifier in high level with barely any flow coming out of the sand filters. The operator pulled the backwash pumps for the sand filters and found a hole in one of the discharge lines. Attempted to manually flush the sand filters but they were plugged. The operator had to put the sand filters in bypass at 930 hrs in attempt to get the sand filters working again. Tried to manually backwash, but the filters were too plugged and need replacement. Replacement was scheduled to occur the next day on April 20, 2023. Plant remained in bypass overnight until replacement. Verbal notifications were made as per ECA requirements on April 19, 2023 to SAC, MECP District Office, and local Health Unit and no further actions was advised. Although sampling is not required under the ECA, grab samples were obtained and tested for CBOD₅, TSS, TKN, Nitrate, Nitrite and *E.Coli*. Sand filters were replaced on April 20 and follow-up verbal notifications were made to SAC, MECP District Office, and local Health Unit about the notification of the end of bypass. Written Notification of the incident was provided on April 1, 2023. See Appendix G for a copy of the Environmental incident Report.

11.2 Spill Events

For this reporting period, there were no reportable spill events.

11.3 Abnormal Discharge Events

For this reporting period, there were no reportable abnormal discharge events.

12. Notice of Modification (Limited Operational Flexibility)

Where, ECA 8860-9N8NCX, section 8.4, element (j) requires:

“A copy of all Notice of Modifications submitted to the Water Supervisor as a result of Schedule B, Section 1, with a status report on the implementation of each modification;”, Where: Schedule B, Section 1 is the “Limited Operational Flexibility Criteria for Modifications to Municipal Sewage Works.”

There were no new notices of modification submitted to the Water Supervisor during the reporting period.

A previously submitted Notice of Modification (LOF) issued in 2015 for the use of SternPAC (instead of alum) as an aid to flocculation is still in effect. A copy of the submission form can be found in *Appendix F*.

13. Modification Summary

ECA 8860-9N8NCX, section 8.4, element (k) requires:

“A report summarizing all modifications completed as a result of Schedule B, Section 3;”

As per Schedule B, Section 4, modifications that are not required to follow the notification protocols under Limited Operational Flexibility, provided that the number of pieces and description of the equipment as described in the Approval does not change are listed in Schedule B, Section 3. Section 3 considers these to be “normal or emergency operational modifications, such as repairs, reconstructions, or other improvements that are part of maintenance activities, including cleaning, renovations to existing approved sewage works equipment, provided that the modification is made with Equivalent Equipment, are considered preapproved”.

The following is a summary of the major capital and/or repair work completed at the facility; details can be found in *Appendix D*.

- Pump rebuilds and float replacements
- Sludge hauled, as needed, usually monthly or more
- Clarifier Decant Pump repair
- Sand filter repairs

14. Other Information

Where, ECA 8860-9N8NCX, section 8.4, element (l) requires:

“Any other information the Water Supervisor requires from time to time.”

There was no other information required to be reported to the Water Supervisor for the reporting period.

15. Municipal Sewage Collection System- Annual Performance Report

This report was prepared in accordance with the requirements of the Environmental Compliance Approval for a Municipal Sewage Collection Systems, Schedule E, Section 4.6.1.

Municipal Sewage Collection System ECA #	097-W601, Issue 1
Sewage Works	Township of Adjala-Tosorontio Municipal Sewage Collection System
Collection System Owner	The Corporation of the Township of Adjala-Tosorontio
Reporting Period	January 1, 2023 to December 31, 2023

Is the Annual Report available to the public at no charge on a website on the Internet?

Yes

Note: As per Schedule E, Section 4.7.1 of CLI-ECA #097-W601, the annual performance report must be made available, on request and without charge, to members of the public who are served by the Authorized System; and 4.7.2 must be made available, by June 1st of the same reporting year, to members of the public without charge by publishing the report on the Internet, if the Owner maintains a website on the Internet.

Location where Annual Performance Report required under CLI-ECA #097-W601, Schedule E will be available for inspection. (CLI-ECA #097-W601, Schedule E, Section 4.6.1 & 4.7.1):

- Township of Adjala-Tosorontio Municipal Office, 7855 Side Road 30, Alliston, ON
- <http://www.adjtos.ca>

Pursuant to Schedule E, sections 4.6.3 to 4.6.9, this Annual Performance Report shall:

- a) 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.
- b) If applicable, include a summary of any operating problems encountered and corrective actions taken.
- c) 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.
- d) Include a summary of any complaints related to the Sewage Works received during the reporting period and any steps taken to address the complaints.

- e) Include 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.

- f) Include a summary of all Collection System Overflow(s) and Spill(s) of Sewage.
 - i. Dates;
 - ii. Volumes and durations;
 - iii. If applicable, loadings for total suspended solids, BOD, total phosphorus, and total kjeldahl nitrogen and sampling results for E.Coli;
 - iv. Disinfection, if any; and
 - v. Any adverse impacts(s) and any corrective actions, if applicable

- g) Includes a summary of efforts made to reduce Collection System Overflows, Spills, STP Overflows, and/or STP Bypasses, including the following items, as applicable:
 - i. 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.
 - ii. Details of the establishment and maintenance of a PPCP, including a summary of project progresses compared to the PPCP's timelines.
 - iii. An assessment of the effectiveness of each action taken.
 - iv. 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.
 - v. Public reporting approach including proactive efforts.

15.1 Description of the Works

The Township of Adjala-Tosorontio Municipal Sewage Collection System is owned by the Township of Township of Adjala-Tosorontio and operated by the Ontario Clean Water Agency (OCWA) and consists of The New Horizon Sanitary Collection System. The works are designed for the collection and transmission of sewage, through separate gravity mains, two sewage pumping stations which discharges into the New Horizon Wastewater Treatment Plant. The sewage pumping stations in the Authorized system include:

- New Horizon Pump Station 1 (PS1) – located at 34 Lynch Lane, in the Community of Everett, ON, the PS consists of one deep sealed concrete manhole which is fed by sanitary sewers by gravity, two submersible grinder pumps, floats, level regulators, air relief valves and backflow preventers. The station is connected to a 75 mm diameter forcemain that directs raw domestic sewage directly to the pretreatment tank at New

Horizons WWTP. Emergency power is provided by the back-up diesel generator at the WWTP plant in case of power failure.

- New Horizon Pump Station 2 (PS2) - located at 27 Dekker, in the Community of Everett, ON, the PS consists of one deep sealed concrete manhole which is fed by sanitary sewers by gravity, two submersible grinder pumps, floats, level regulators, air relief valves and backflow preventers. The station is connected to a 50 mm diameter forcemain that directs raw domestic sewage directly to the pretreatment tank at New Horizons WWTP. Emergency power is provided by the back-up diesel generator at the WWTP plant in case of power failure.

The Township of Adjala-Tosorontio Municipal Collection System contains no combined sewage pumping stations, no combined sewage storage structures or combined storage tanks. The authorized collection system also contains no authorized combined sewer collection system overflow points and no authorized sanitary sewer overflow points.

15.2 Summary of Monitoring Data and Interpretation

No monitoring data was required within the municipal sewage collection system for the reporting period.

15.3 Summary of Operating Problems Encountered and Corrective Actions Taken

There were no operating problems encountered within the system for the reporting period

15.4 Summary of Calibration, Maintenance, and Repairs

All in-house monitoring equipment is calibrated/verified as per manufacturer's recommendations. Preventative maintenance is scheduled for all equipment at the sewage treatment plant and pumping stations at regular frequency (frequency depends on the equipment and type of maintenance). Maintenance activities are scheduled within the work management system Maximo, upon completion, operators set the work order to complete. On a monthly basis, preventative work orders are reviewed for completion.

The following maintenance and repair activities were completed during the reporting period:

- Collection System flushing and Pump Station Cleanouts

15.5 Community Complaints Received in Relation to the Sewage Works

There were no community complaints regarding the municipal collection system received during the reporting period.

15.6 Alterations to the Authorized System

There were no alternations made during the reporting period to the authorized system

15.7 Summary of Collection System Overflow(s) and Spill(s) of Sewage

There were no one collection system overflow/spills of sewage for the municipal collection system during the reporting period.

15.8 Efforts Made to Reduce Collection System Overflows, Spills, STP Overflows, and/or STP Bypasses

The sewage pumping stations are equipped with alarm monitoring for high flow events. Preventative maintenance procedures are in place to ensure the sewage pumping stations are operating as designed and include:

- Weekly pump station Inspections
- Alarm Testing

The Township of Adjala-Tosorontio Municipal Collection System does not have any authorized by-pass/overflow points within its works. As per the Wet Weather Flows Compared to the Dry Weather Flows Assessment report that was submitted to the Director on March 25, 2024 there have been no discharge events in the collection system in the prescribed date range of January 1, 2012 and December 31, 2021. The New Horizon Sanitary Collection System does not have issues with Collection System Overflows, Spills, STP Overflows, and/or Bypasses.

2023 Annual Performance Report

Appendix A

Performance Assessment Report: Annual Flow and Effluent Quality

5322 NEW HORIZONS EVERETT WASTEWATER TREATMENT FACILITY 110003629

	1/ 2023	2/ 2023	3/ 2023	4/ 2023	5/ 2023	6/ 2023	7/ 2023	8/ 2023	9/ 2023	10/ 2023	11/ 2023	12/ 2023	<--Total-->	<--Avg-->	<--Max-->	<-Criteria-->
Flows																
Eff. Flow: Total - Final Effluent m³/d	2,218.34	2,066.53	2,235.05	2,999.56	3,241.00	2,190.07	2,189.77	2,191.08	2,113.63	2,122.88	2,099.77	4,088.30	29,755.98			0.00
Eff. Flow: Avg - Final Effluent m³/d	71.56	73.80	72.10	99.99	104.55	73.00	70.64	70.68	70.45	68.48	69.99	131.88		81.52		
Eff. Flow: Max - Final Effluent m³/d	97.70	100.71	86.89	136.81	142.00	100.32	87.57	79.65	84.34	81.18	86.76	163.70			163.70	0.00
Eff Flow: Count - Final Effluent m³/d	31.00	28.00	31.00	30.00	31.00	30.00	31.00	31.00	30.00	31.00	30.00	31.00	365.00			0.00
Carbonaceous Biochemical Oxygen Demand: CBOD																
Eff: Avg cBOD5 - Final Effluent mg/L	< 2.00	3.00	< 2.00	< 2.00	3.00	< 2.00	< 2.00	< 2.00	< 2.00	< 2.00	< 2.00	2.00		< 2.15		10.00
Eff: # of samples of cBOD5 - Final Effluent	1.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	13.00			0.00
Loading: cBOD5 - Final Effluent kg/d	< 0.143	0.221	< 0.144	< 0.200	0.314	< 0.146	< 0.141	< 0.141	< 0.141	< 0.137	< 0.140	0.264		< 0.18	< 0.31	1.750
Biochemical Oxygen Demand: BOD5																
Raw: Avg BOD5 - Raw Sewage mg/L	68.00	0.00	0.00	81.00	0.00	0.00	58.00	0.00	0.00	599.00	0.00	0.00		201.50	599.00	0.00
Raw: # of samples of BOD5 - Raw Sewage	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	4.00			0.00
Total Suspended Solids: TSS																
Raw: Avg TSS - Raw Sewage mg/L	81.00	0.00	0.00	54.00	0.00	0.00	70.00	0.00	0.00	329.00	0.00	0.00		133.50	329.00	0.00
Raw: # of samples of TSS - Raw Sewage	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	4.00			0.00
Eff: Avg TSS - Final Effluent mg/L	4.00	10.00	8.00	10.00	6.00	9.00	9.00	5.00	7.00	12.00	4.00	9.00		7.92	12.00	10.00
Eff: # of samples of TSS - Final Effluent	1.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	13.00			0.00
Loading: TSS - Final Effluent kg/d	0.286	0.738	0.577	1.000	0.627	0.657	0.636	0.353	0.493	0.822	0.280	1.187		0.65	1.19	1.750
Percent Removal: TSS - Raw Sewage %	95.06	0.00	0.00	81.48	0.00	0.00	87.14	0.00	0.00	96.35	0.00	0.00		90.01	96.35	0.00
Nitrogen Series																
Raw: Avg TKN - Raw Sewage mg/L	19.20	0.00	0.00	12.80	0.00	0.00	21.70	0.00	0.00	79.70	0.00	0.00		33.35	79.70	0.00
Raw: # of samples of TKN - Raw Sewage	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	4.00			0.00
Eff: Avg NO3-N - Final Effluent mg/L	16.20	16.60	16.80	11.85	10.10	9.46	11.50	9.84	12.70	15.50	14.10	14.80		13.29	16.80	0.00
Eff: # of samples of NO3-N - Final Effluent	1.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	13.00			0.00
Eff: Avg NO2-N - Final Effluent mg/L	< 0.03	< 0.03	< 0.03	0.08	0.06	0.03	0.05	< 0.03	< 0.03	0.05	0.06	0.05		< 0.04	< 0.08	0.00
Eff: # of samples of NO2-N - Final Effluent	1.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	13.00			0.00
Disinfection																
Eff: GMD E. Coli - Final Effluent cfu/100mL	106.00	56.00	16.00	91.65	66.00	224.00	246.00	168.00	243.00	2,000.00	1,040.00	164.00				
Eff: # of samples of E. Coli - Final Effluent	1.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	13.00			0.00

2023 Annual Performance Report

Appendix B

R.J. Burnside & Associates Ltd. Property Boundary Map

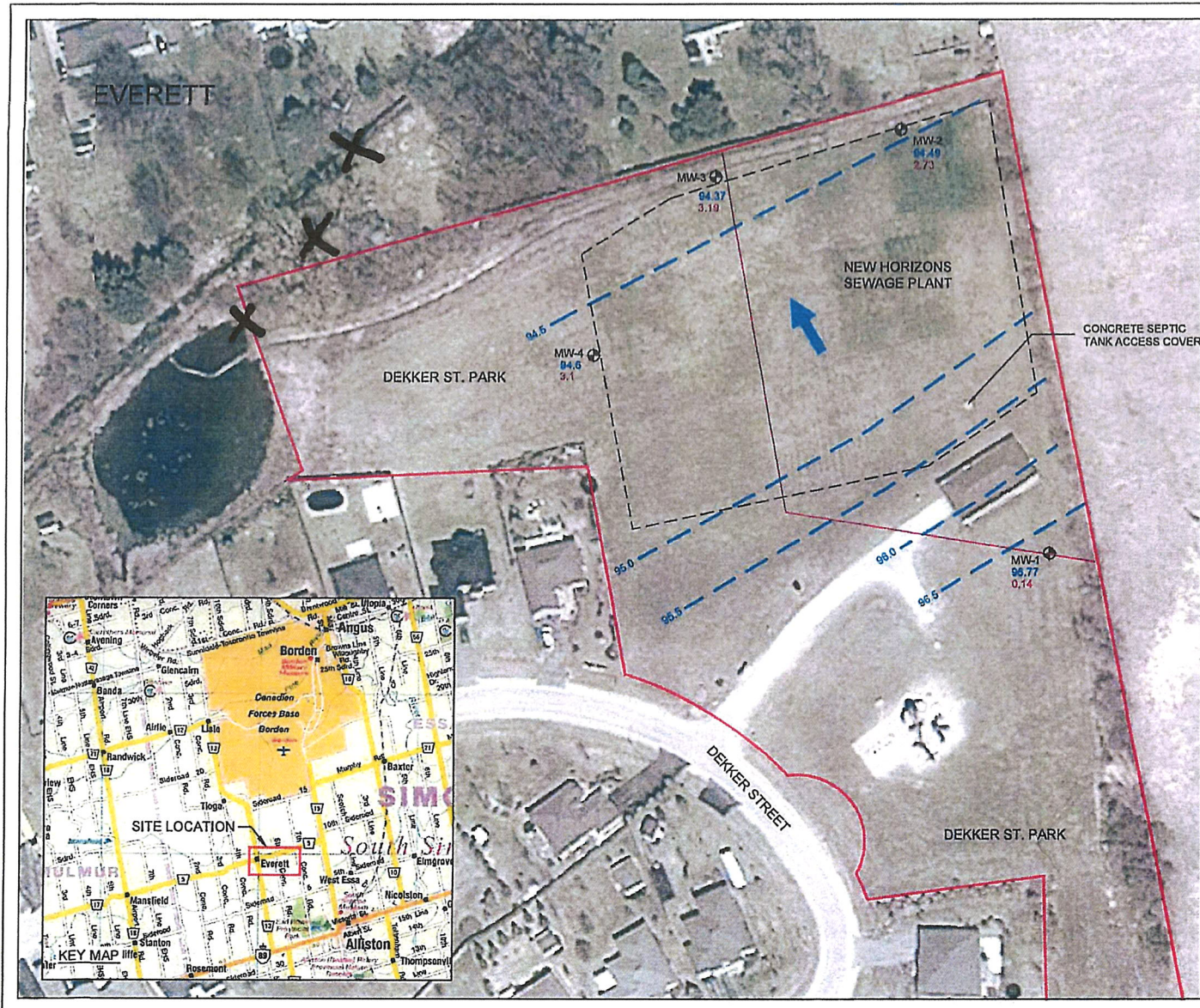


FIGURE 1

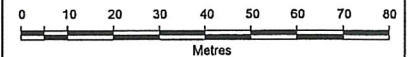
TOWNSHIP OF ADJALA-TOSORONTIO
 NEW HORIZONS SEWAGE PLANT, EVERETT
 WATER QUALITY MONITORING PROGRAM

**NITRATE LEVELS &
 GROUNDWATER FLOW**

LEGEND

- APPROXIMATE SITE OUTLINE
- - - APPROXIMATE OUTLINE OF SEPTIC TILE BED
- MONITORING WELL LOCATION
By Burnside, June 2012
- 94.49 GROUNDWATER ELEVATION (m ald)
July 11, 2012
- INTERPRETED GROUNDWATER ELEVATION CONTOUR (m ald)
July 11, 2012
- ➔ INTERPRETED GROUNDWATER FLOW DIRECTION
July 11, 2012
- 2.73 GROUNDWATER NITRATE CONCENTRATION (mg/L)
July 11, 2012

Air Photo Source:
 Background air photo circa 2011 obtained from Google Earth Professional.



1:1,000
 August 2012
 Project Number: 300031598
 Prepared by: C. Sheppard
 Projection: UTM Zone 17
 Datum: NAD83
 Verified by: D. Durham



031588 WATER QUALITY MONITORING SP.DWG

1:1,000 August 2012 Project Number: 300031598 Prepared by: C. Sheppard

2023 Annual Performance Report

Appendix C

Historical Monthly Static Groundwater Levels from Piezometers #1, #2 and #3
from 2012 to 2023

**New Horizon WWTP - Monitoring Well Levels
2023**

DATE	PIEZ #	PIEZ STICK UP (m)	WATER LEVEL from Top of Stick Up (m)	WATER ELEVATION Below Top of Ground (m)
January 31, 2023	1	1.2	3.4	2.20
January 31, 2023	2	0.5	4.3	3.80
January 31, 2023	3	1	5.0	4.00
February 29, 2023	1	1.2	3.4	2.20
February 29, 2023	2	0.5	4.2	3.70
February 29, 2023	3	1	4.5	3.50
March 29, 2023	1	1.2	3.3	2.10
March 29, 2023	2	0.5	4.1	3.60
March 29, 2023	3	1	4.6	3.60
April 25, 2023	1	1.2	3.0	1.80
April 25, 2023	2	0.5	3.6	3.10
April 25, 2023	3	1	4.1	3.10
May 31, 2023	1	1.2	3.1	1.90
May 31, 2023	2	0.5	3.6	3.10
May 31, 2023	3	1	4.2	3.20
June 28, 2023	1	1.2	3.3	2.10
June 28, 2023	2	0.5	3.9	3.40
June 28, 2023	3	1	4.7	3.70
July 25, 2023	1	1.2	3.4	2.20
July 25, 2023	2	0.5	4.1	3.60
July 25, 2023	3	1	4.6	3.60
August 31, 2023	1	1.2	3.2	2.00
August 31, 2023	2	0.5	4.0	3.50
August 31, 2023	3	1	4.4	3.40
September 29, 2023	1	1.2	3.1	1.90
September 29, 2023	2	0.5	3.8	3.30
September 29, 2023	3	1	4.4	3.40
October 24, 2023	1	1.2	3.2	2.00
October 24, 2023	2	0.5	3.6	3.10
October 24, 2023	3	1	4.8	3.80
November 22, 2023	1	1.2	3.75	2.55
November 22, 2023	2	0.5	4.6	4.10
November 22, 2023	3	1	4.75	3.75
December 12, 2023	1	1.2	3.75	2.55
December 12, 2023	2	0.5	4.5	4.00
December 12, 2023	3	1	4.5	3.50

Note:

* June 2013 – Piezometer No. 2 broke during repairs to bed and was re-measured at 0.5 m

Instructions

1. Well stick up is the measurement of the piezometer above the ground,
2. Water level from the top of the stick is the measurement from top of the piezometer to the water table, and;

3. Water elevation below ground is the measurement of the ground water level.

For example:

PIEZ No.1 Stick up is 1.2 m

If the operator measures 3.8 m then

The water elevation below ground top of ground is 3.8 m – 1.2 m = 2.6 m.

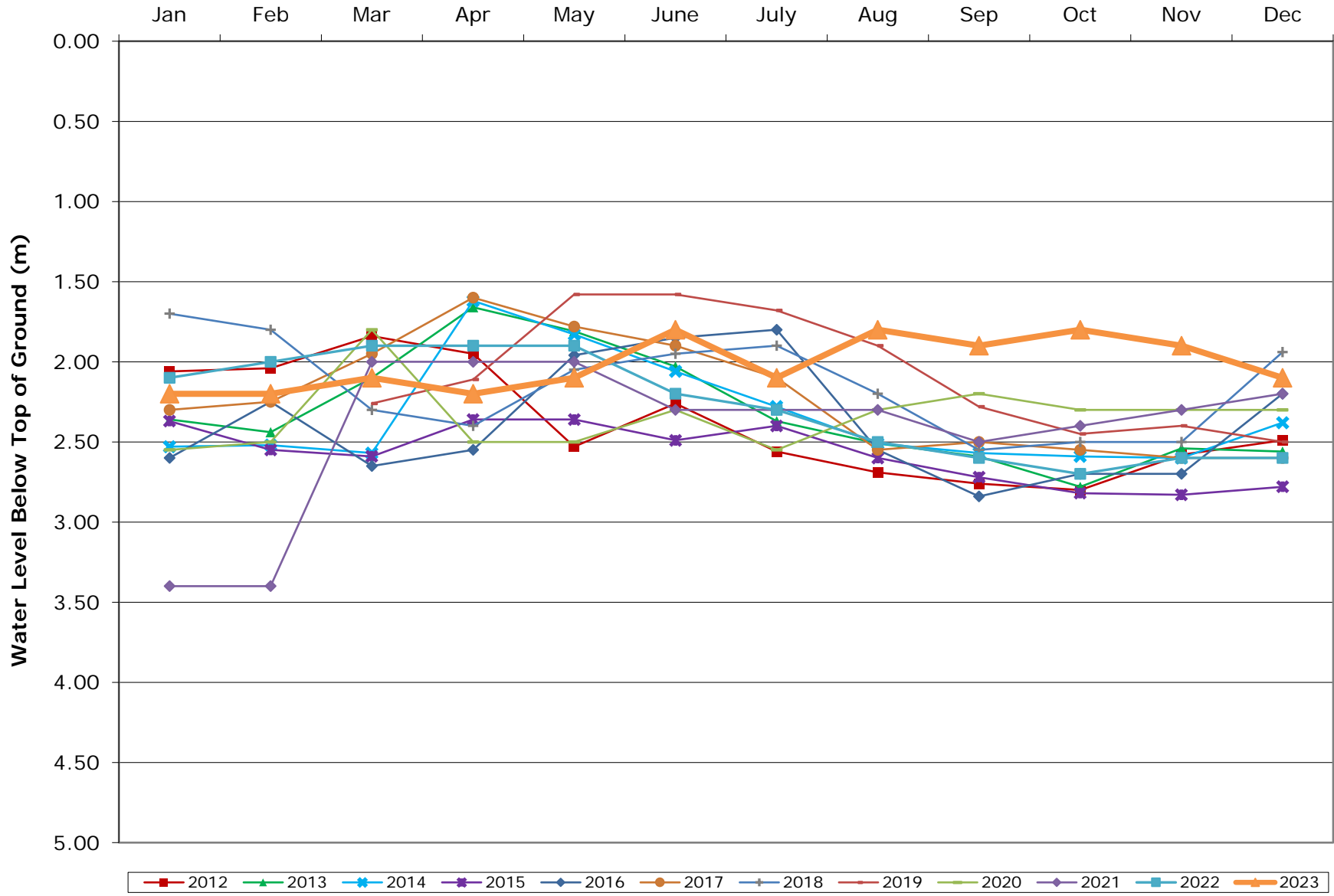
New Horizon WWTP Final Effluent Disposal Field

Monthly Water Level Measurements for PIEZ No.1

(Water Level below Top of Ground (m))

	2012	2013	2014	2015	2016	2017	2018	2019	2020
Jan	2.06	2.36	2.53	2.37	2.60	2.30	1.70	2.20	2.55
Feb	2.04	2.44	2.52	2.55	2.25	2.25	1.80		2.50
Mar	1.84	2.10	2.57	2.59	2.65	1.95	2.30	2.26	1.80
Apr	1.95	1.66	1.62	2.36	2.55	1.60	2.40	2.11	2.50
May	2.53	1.81	1.83	2.36	1.96	1.78	2.05	1.58	2.50
June	2.26	2.03	2.06	2.49	1.85	1.90	1.95	1.58	2.30
July	2.56	2.37	2.28	2.40	1.80	2.10	1.90	1.68	2.55
Aug	2.69	2.51	2.51	2.60	2.55	2.55	2.20	1.90	2.30
Sep	2.76	2.59	2.57	2.72	2.84	2.50	2.55	2.28	2.20
Oct	2.80	2.78	2.59	2.82	2.70	2.55	2.50	2.45	2.30
Nov	2.58	2.54	2.60	2.83	2.70	2.60	2.50	2.40	2.30
Dec	2.49	2.56	2.38	2.78	2.20	2.60	1.94	2.50	2.30

Monthly Water Level Measurements for PIEZ No.1



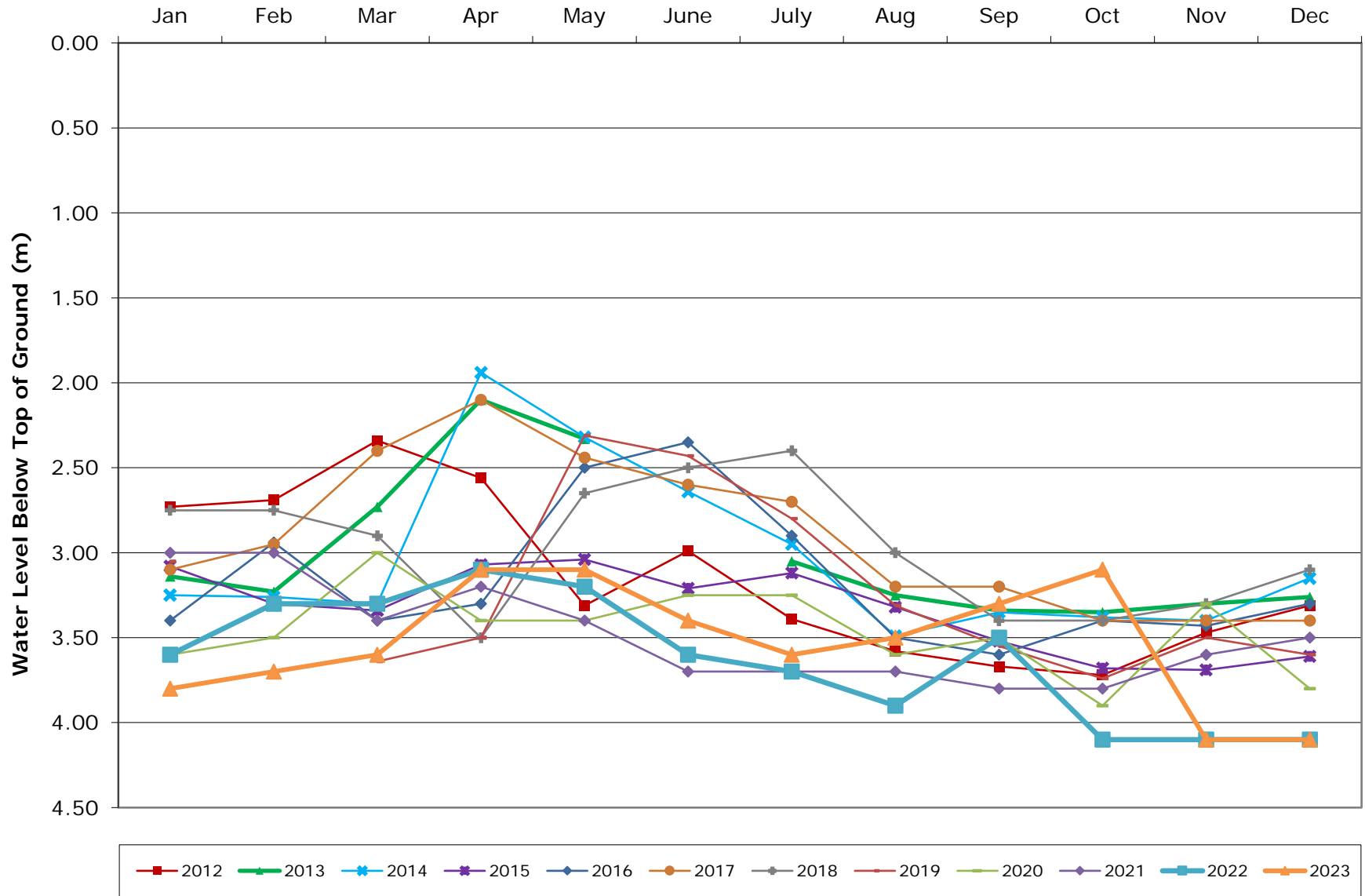
New Horizon WWTP Final Effluent Disposal Field

Monthly Water Level Measurements for PIEZ No.2

(Water Level below Top of Ground (m))

	2012	2013	2014	2015	2016	2017	2018	2019	2020
Jan	2.73	3.14	3.25	3.08	3.40	3.10	2.75	3.05	3.60
Feb	2.69	3.23	3.26	3.30	2.94	2.95	2.75		3.50
Mar	2.34	2.73	3.30	3.34	3.40	2.40	2.90	3.64	3.00
Apr	2.56	2.10	1.94	3.07	3.30	2.10	3.50	3.50	3.40
May	3.31	2.33	2.32	3.04	2.50	2.44	2.65	2.31	3.40
June	2.99		2.64	3.21	2.35	2.60	2.50	2.43	3.25
July	3.39	3.05	2.95	3.12	2.90	2.70	2.40	2.80	3.25
Aug	3.58	3.25	3.49	3.32	3.50	3.20	3.00	3.31	3.60
Sep	3.67	3.34	3.35	3.52	3.60	3.20	3.40	3.55	3.50
Oct	3.72	3.35	3.38	3.68	3.40	3.40	3.40	3.74	3.90
Nov	3.47	3.30	3.40	3.69	3.43	3.40	3.30	3.50	3.30
Dec	3.31	3.26	3.15	3.61	3.30	3.40	3.10	3.60	3.80

Monthly Water Level Measurements for PIEZ No.2



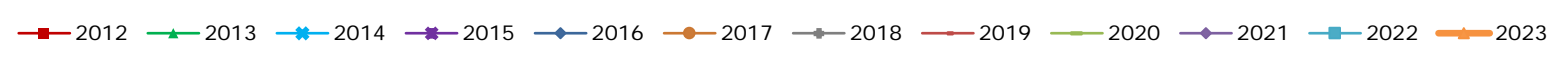
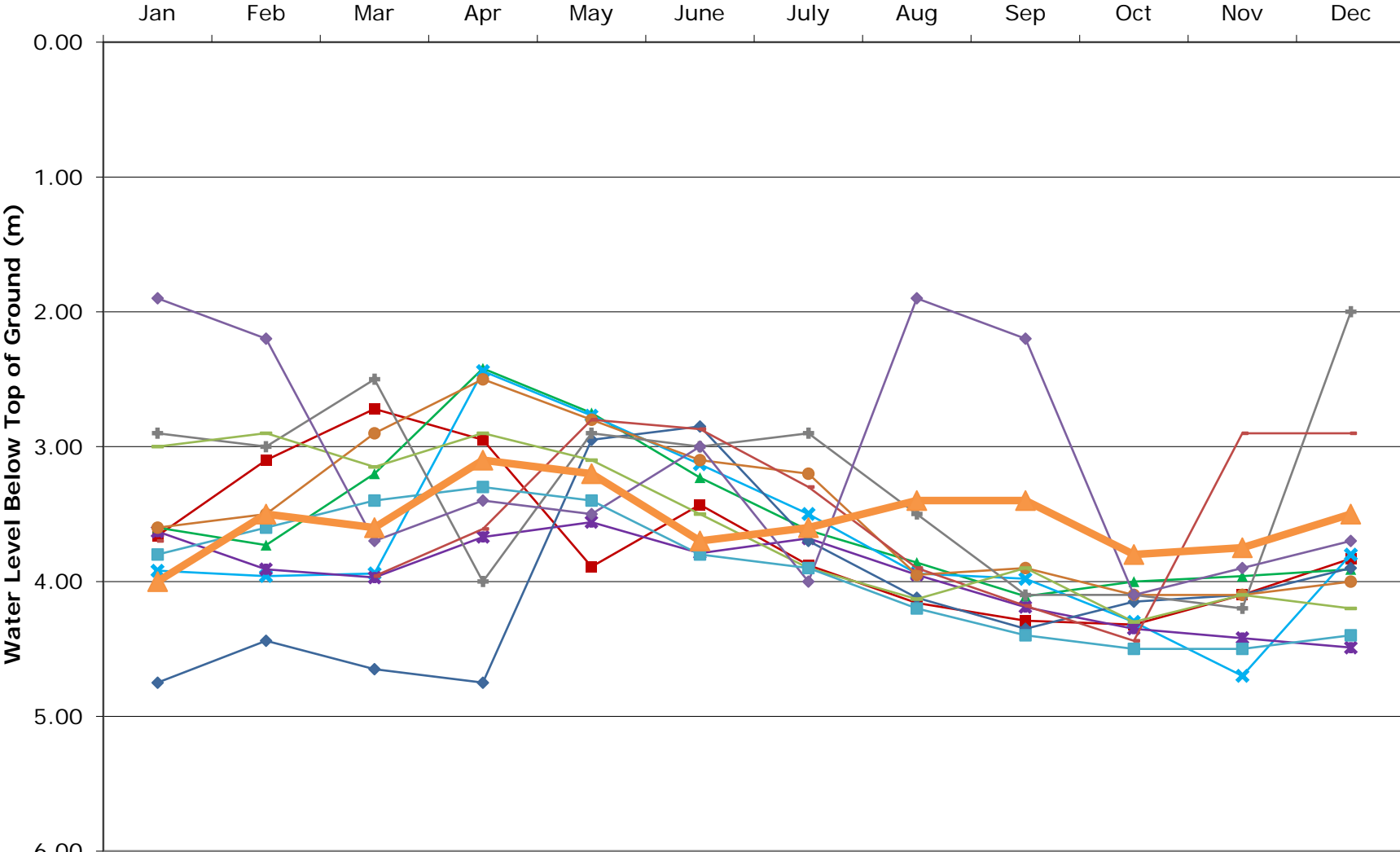
New Horizon WWTP Final Effluent Disposal Field

Monthly Water Level Measurements for PIEZ No.3

(Water Level below Top of Ground (m))

	2012	2013	2014	2015	2016	2017	2018	2019	2020
Jan	3.66	3.60	3.92	3.63	4.75	3.60	2.90	3.70	3.00
Feb	3.10	3.73	3.96	3.91	4.44	3.50	3.00		2.90
Mar	2.72	3.20	3.94	3.97	4.65	2.90	2.50	3.96	3.15
Apr	2.95	2.42	2.44	3.67	4.75	2.50	4.00	3.61	2.90
May	3.89	2.75	2.77	3.56	2.95	2.80	2.90	2.80	3.10
June	3.43	3.23	3.13	3.79	2.85	3.10	3.00	2.87	3.50
July	3.88	3.62	3.50	3.68	3.70	3.20	2.90	3.30	3.90
Aug	4.16	3.86	3.94	3.95	4.12	3.95	3.50	3.90	4.13
Sep	4.29	4.11	3.98	4.19	4.35	3.90	4.10	4.18	3.90
Oct	4.32	4.00	4.30	4.35	4.15	4.10	4.10	4.44	4.30
Nov	4.10	3.96	4.70	4.42	4.10	4.10	4.20	2.90	4.10
Dec	3.83	3.91	3.80	4.49	3.90	4.00	2.00	2.90	4.20

Monthly Water Level Measurements for PIEZ No.3



2023 Annual Performance Report

Appendix D

System Maintenance Work Order Summary for 2023

Work Management System (WMS)

Work Order List

Site: OCWASITE

Work Order	Description	Location	Type	Status	Criticality	Lead	Crew	Work Group	Asset	Route	Job Plan	Scheduled Start	Actual Start	Reported Date
3160281	Panel Alarm Dialer Testing Everett WWTP (1m) 5322	5322-WWEV-F	PM	CLOSE	3 - PM			5322-OPS	0000092469		PANALA03	1/1/23	1/31/23	1/1/23
3161202	Sampling Everett WWTP (1m) 5322	5322-WWEV	PM	CLOSE	3 - PM			5322-OPS			FACOG11GB	1/1/23	1/20/23	1/1/23
3161492	Facility Health & Safety Inspection Everett PS01 (1m) 5322	5322-SP01	OPER	CLOSE	3 - PM			5322-OPS			HSCWI-MR01	1/1/23	1/13/23	1/1/23
3161507	Facility Health & Safety Inspection Everett WWTP (1m) 5322	5322-WWEV	OPER	CLOSE	3 - PM			5322-OPS			HSCWI-MR01	1/1/23	1/13/23	1/1/23
3161946	Daily O&M Activities Everett PS01 Collections (1m) 5322	5322-SP01	OPER	CLOSE	3 - PM			5322-OPS			FACINS01-W	1/1/23	1/27/23	1/1/23
3161951	Daily O&M Activities Everett WWTP (1m) 5322	5322-WWEV	OPER	CLOSE	3 - PM			5322-OPS			FACINS01-W	1/1/23	1/31/23	1/1/23
3164306	Filter Sand #1 Inspection Everett WWTP (1y) 5322	5322-WWEV-P-TT	PM	CLOSE	3 - PM			5322-OPS	0000095541		FILSAN01-A	5/1/23	8/28/23	5/1/23
3164316	Filter Sand #2 Inspection Everett WWTP (1y) 5322	5322-WWEV-P-TT	PM	CLOSE	3 - PM			5322-OPS	0000095542		FILSAN01-A	5/1/23	8/28/23	5/1/23
3164326	Filter Sand #3 Inspection Everett WWTP (1y) 5322	5322-WWEV-P-TT	PM	CLOSE	3 - PM			5322-OPS	0000095543		FILSAN01-A	5/1/23	8/28/23	5/1/23
3165407	FEP Contingency Site Plan Review EVERETT WWTP (2y) 5322	5322-WWEV	PM	INCOMPLETE	3 - PM			SSIM-PCT			FACOG35SP	12/31/23	1/1/23	12/31/23
3165413	Sampling and Testing Everett WWTP (3m) 5322	5322-WWEV	PM	CLOSE	3 - PM			5322-OPS			SAMPLE01-Q	1/1/23	1/20/23	1/1/23
3165419	Facility Emergency Plan Review Everett WWTP (1y) 5322	5322-WWEV	PM	INCOMPLETE	3 - PM			SSIM-PCT			FACOG35	12/31/23	1/1/23	12/31/23
3172624	Inspection of Facility Spill Kit Everett WWTP (1y) 5322	5322-WWEV-F	PM	CLOSE	3 - PM			5322-OPS			SAFSPL00-A	1/1/23	2/24/23	1/1/23
3181184	Everett WWTP Weekly Facility & Security Inspections (1m) 5322	5322-WWEV-F	PM	CLOSE	3 - PM			5322-OPS			1240FACSEC	1/1/23	1/13/23	1/1/23
3181783	Grease RBC Bearings - Everett WWTP (3m) 5322	5322-WWEV-P	PM	CLOSE	4 - High	Mike Maiatico		SSIM-OPS	0000310011			1/1/23	3/21/23	1/1/23
3200716	OCWA Annual Workplace Insp Everett WWTP (1y) 5322	5322-WWEV	OPER	CLOSE	3 - PM			SSIM-H&S			HSCWI-A	12/31/23	11/22/23	12/31/23
3201418	Check Expiry Dates of Lab Items Everett WWTP (6m) 5322	5322-WWEV-P	PM	CLOSE	3 - PM			5322-OPS			EXPREG01-A	1/4/23	2/9/23	1/4/23
3214342	Panel Alarm Dialer Testing Everett WWTP (1m) 5322	5322-WWEV-F	PM	CLOSE	3 - PM			5322-OPS	0000092469		PANALA03	2/1/23	2/27/23	2/1/23
3215282	Sampling Everett WWTP (1m) 5322	5322-WWEV	PM	CLOSE	3 - PM			5322-OPS			FACOG11GB	2/1/23	2/27/23	2/1/23
3215572	Facility Health & Safety Inspection Everett PS01 (1m) 5322	5322-SP01	OPER	CLOSE	3 - PM			5322-OPS			HSCWI-MR01	2/1/23	2/27/23	2/1/23

Work Management System (WMS)

Work Order List

Site: OCWASITE

Work Order	Description	Location	Type	Status	Criticality	Lead	Crew	Work Group	Asset	Route	Job Plan	Scheduled Start	Actual Start	Reported Date
3215587	Facility Health & Safety Inspection Everett WWTP (1m) 5322	5322-WWEV	OPER	CLOSE	3 - PM			5322-OPS			HSCWI-MR01	2/1/23	2/27/23	2/1/23
3216026	Daily O&M Activities Everett PS01 Collections (1m) 5322	5322-SP01	OPER	CLOSE	3 - PM			5322-OPS			FACINS01-W	2/1/23	4/3/23	2/1/23
3216031	Daily O&M Activities Everett WWTP (1m) 5322	5322-WWEV	OPER	CLOSE	3 - PM			5322-OPS			FACINS01-W	2/1/23	4/3/23	2/1/23
3217059	Flow Meter {Qty-21} EFF/INFL Route Insp/Calib (1y) 5105	5105-AONS	PM	CLOSE	3 - PM			5105NSOP		5105FMWW	METFLW06	2/1/23	8/28/23	5/1/23
3217064	Confined Space Gas Detectors {Qty-7} Calibra (6m) 5105	124000	PM	CLOSE	3 - PM			5105NSOP		5105GASM	ANAGASCL-S	2/1/23	10/6/23	5/1/23
3217558	Process Area Fixed Gas Monitors (LELx2 O2 H2S) Insp/Service (6m) 5322	5322-WWEV-P	PM	CLOSE	3 - PM			5322-OPS	0000092470		ANAGAS04-S	2/1/23	3/6/23	4/1/23
3217700	Sewer System Flushing Everett WWTP Collections (2m) 5322	5322-WWEV	PM	CLOSE	3 - PM			5322-OPS			DISFLU02-S	2/1/23	4/3/23	3/1/23
3228492	Fan Exhaust 1+2 Insp/Service Route Everett (1y) 5322	5322-WWEV	PM	CLOSE	3 - PM			SSIM-ELE		5322FANS	FANEXH01-A	2/1/23	4/20/23	4/1/23
3228743	Everett WWTP Weekly Facility & Security Inspections (1m) 5322	5322-WWEV-F	PM	CLOSE	3 - PM			5322-OPS			1240FACSEC	2/1/23	2/27/23	2/1/23
3255851	Panel Alarm Dialer Testing Everett WWTP (1m) 5322	5322-WWEV-F	PM	CLOSE	3 - PM			5322-OPS	0000092469		PANALA03	3/1/23	4/3/23	3/1/23
3256785	Sampling Everett WWTP (1m) 5322	5322-WWEV	PM	CLOSE	3 - PM			5322-OPS			FACOG11GB	3/1/23	4/3/23	3/1/23
3257075	Facility Health & Safety Inspection Everett PS01 (1m) 5322	5322-SP01	OPER	CLOSE	3 - PM			5322-OPS			HSCWI-MR01	3/1/23	4/3/23	3/1/23
3257090	Facility Health & Safety Inspection Everett WWTP (1m) 5322	5322-WWEV	OPER	CLOSE	3 - PM			5322-OPS			HSCWI-MR01	3/1/23	4/3/23	3/1/23
3257529	Daily O&M Activities Everett PS01 Collections (1m) 5322	5322-SP01	OPER	CLOSE	3 - PM			5322-OPS			FACINS01-W	3/1/23	4/3/23	3/1/23
3257534	Daily O&M Activities Everett WWTP (1m) 5322	5322-WWEV	OPER	CLOSE	3 - PM			5322-OPS			FACINS01-W	3/1/23	4/3/23	3/1/23
3258864	Pump Subm 01 East Insp/Service Everett WWTP (1y) 5322	5322-WWEV-P	PM	CLOSE	3 - PM			SSIM-EM	0000092478		PUMSUB01-A	3/1/23	4/20/23	3/1/23
3258873	Pump Subm 02 West Insp/Srv Everett WWTP (1y) 5322	5322-WWEV-P	PM	CLOSE	3 - PM			SSIM-EM	0000092479		PUMSUB01-A	3/1/23	4/20/23	3/1/23
3258882	Pump Subm 01 Sludge Insp/Srv Everett WWTP (1y) 5322	5322-WWEV-P-SH	PM	CLOSE	3 - PM			SSIM-EM	0000092494		PUMSUB01-A	3/1/23	4/20/23	3/1/23
3258891	Pump Subm 02 Sludge Insp/Srv Everett WWTP (1y) 5322	5322-WWEV-P-SH	PM	CLOSE	3 - PM			SSIM-EM	0000092495		PUMSUB01-A	3/1/23	4/20/23	3/1/23

Work Management System (WMS)

Work Order List

Site: OCWASITE

Work Order	Description	Location	Type	Status	Criticality	Lead	Crew	Work Group	Asset	Route	Job Plan	Scheduled Start	Actual Start	Reported Date
3258910	Pump Subm 03 Sludge Insp/Srv Everett WWTP (1y) 5322	5322-WWEV-P-SH	PM	CLOSE	3 - PM			SSIM-EM	0000092496		PUMSUB01-A	3/1/23	4/20/23	3/1/23
3258919	Pump Subm 04 Sludge Insp/Srv Everett WWTP (1y) 5322	5322-WWEV-P-SH	PM	CLOSE	3 - PM			SSIM-EM	0000092497		PUMSUB01-A	3/1/23	4/20/23	3/1/23
3258928	Pump Subm 01 Insp/Service Everett PS01 (1y) 5322	5322-SP01	PM	CLOSE	3 - PM			SSIM-EM	0000092498		PUMSUB01-A	3/1/23	4/20/23	3/1/23
3258937	Pump Subm 02 Insp/Service Everett PS01 (1y) 5322	5322-SP01	PM	CLOSE	3 - PM			SSIM-EM	0000092499		PUMSUB01-A	3/1/23	4/20/23	3/1/23
3258946	Pump Subm 01 Insp/Service Everett PS02 (1y) 5322	5322-SP02	PM	CLOSE	3 - PM			SSIM-EM	0000092500		PUMSUB01-A	3/1/23	5/26/23	3/1/23
3258955	Pump Subm 02 Insp/Service Everett PS02 (1y) 5322	5322-SP02	PM	CLOSE	3 - PM			SSIM-EM	0000092501		PUMSUB01-A	3/1/23	4/20/23	3/1/23
3271474	Pump Subm 01 Filter Feed Insp/Service Everett (1y) 5322	5322-WWEV-P-TT	PM	CLOSE	3 - PM			SSIM-EM	0000326752		PUMSUB01-A	3/1/23	4/20/23	3/1/23
3271691	Everett WWTP Weekly Facility & Security Inspections (1m) 5322	5322-WWEV-F	PM	CLOSE	3 - PM			5322-OPS			1240FACSEC	3/1/23	4/3/23	3/1/23
3300966	Panel Alarm Dialer Testing Everett WWTP (1m) 5322	5322-WWEV-F	PM	CLOSE	3 - PM			5322-OPS	0000092469		PANALA03	4/1/23	5/1/23	4/1/23
3300973	Diesel Genset Test (1m) EVERETT WWTP 5322	5322-WWEV-F-PG	PM	CLOSE	3 - PM			5322-OPS	0000092463		ENGDIE02-M	4/1/23	5/1/23	4/1/23
3301926	Sampling Everett WWTP (1m) 5322	5322-WWEV	PM	CLOSE	3 - PM			5322-OPS			FACOG11GB	4/1/23	5/1/23	4/1/23

Work Management System (WMS)

Work Order List

Site: OCWASITE

Work Order	Description	Location	Type	Status	Criticality	Lead	Crew	Work Group	Asset	Route	Job Plan	Scheduled Start	Actual Start	Reported Date
3302216	Facility Health & Safety Inspection Everett PS01 (1m) 5322	5322-SP01	OPER	CLOSE	3 - PM			5322-OPS			HSCWI-MR01	4/1/23	5/1/23	4/1/23
3302231	Facility Health & Safety Inspection Everett WWTP (1m) 5322	5322-WWEV	OPER	CLOSE	3 - PM			5322-OPS			HSCWI-MR01	4/1/23	5/1/23	4/1/23
3302670	Daily O&M Activities Everett PS01 Collections (1y) 5322	5322-SP01	OPER	CLOSE	3 - PM			5322-OPS			FACINS01-W	4/1/23	12/27/23	4/1/23
3302675	Daily O&M Activities Everett WWTP (1y) 5322	5322-WWEV	OPER	CLOSE	3 - PM			5322-OPS			FACINS01-W	4/1/23	12/27/23	4/1/23
3304051	Valve Backflow Device Insp/Test Everett WWTP (1y) 5322	5322-WWEV-P-PI	PM	CLOSE	3 - PM			SSIM-OPS	0000095799		VALBAC02	4/1/23	5/5/23	4/1/23
3304962	Sewer System Flushing Everett WWTP Collections (2m) 5322	5322-WWEV	PM	CLOSE	3 - PM			5322-OPS			DISFLU02-S	4/1/23	5/1/23	4/1/23
3304968	Sampling and Testing Everett WWTP (3m) 5322	5322-WWEV	PM	CLOSE	3 - PM			5322-OPS			SAMPLE01-Q	4/1/23	5/1/23	4/1/23
3318523	Everett WWTP Weekly Facility & Security Inspections (1m) 5322	5322-WWEV-F	PM	CLOSE	3 - PM			5322-OPS			1240FACSEC	4/1/23	5/1/23	4/1/23
3318989	Grease RBC Bearings - Everett WWTP (3m) 5322	5322-WWEV-P	PM	CLOSE	4 - High			SSIM-MEC	0000310011		PUMGRE01	4/1/23	8/28/23	4/1/23
3327800	Backflow Device Insp/Test (1y) Portable Everett WWTP (5322)	5322-WWEV	PM	CLOSE	3 - PM			5322-OPS	0000326846		VALBAC02	4/1/23	7/27/23	4/1/23
3328358	Analyzer pH Portable Monthly Maintenance/ Calibration (1m) 5322	5322-WWEV	PM	CLOSE	3 - PM			5322-OPS	0003098246		ANALPH07-M	4/1/23	5/1/23	4/1/23
3339979	Tile Bed Visual Inspection Everett WWTP (1y) 5322	5322-WWEV	PM	CLOSE	3 - PM			5322-OPS			FAC05GB01	4/15/23	8/8/23	4/15/23
3340679	Everett WWTP Clarifier Decant Pump Repair (5322)	5322	CORR	CLOSE	4 - High			SSIM-EM	0000348523				12/4/23	4/19/23
3350357	Panel Alarm Dialer Testing Everett WWTP (1m) 5322	5322-WWEV-F	PM	CLOSE	3 - PM			5322-OPS	0000092469		PANALA03	5/1/23	6/5/23	5/1/23
3350364	Diesel Genset Test (1m) EVERETT WWTP 5322	5322-WWEV-F-PG	PM	CLOSE	3 - PM			5322-OPS	0000092463		ENGDI02-M	5/1/23	6/5/23	5/1/23
3351847	Sampling Everett WWTP (1m) 5322	5322-WWEV	PM	CLOSE	3 - PM			5322-OPS			FACOG11GB	5/1/23	6/5/23	5/1/23
3352171	Facility Health & Safety Inspection Everett PS01 (1m) 5322	5322-SP01	OPER	CLOSE	3 - PM			5322-OPS			HSCWI-MR01	5/1/23	6/5/23	5/1/23
3352186	Facility Health & Safety Inspection Everett WWTP (1m) 5322	5322-WWEV	OPER	CLOSE	3 - PM			5322-OPS			HSCWI-MR01	5/1/23	6/5/23	5/1/23
3365864	Heater Electric Insp/Srv Route Everett WWTP (5m) 5322	5322-WWEV	PM	CLOSE	3 - PM			5322-OPS		5322HTR	HEATER01-S	5/1/23	8/28/23	5/1/23
3366126	Everett WWTP Weekly Facility & Security Inspections (1m) 5322	5322-WWEV-F	PM	CLOSE	3 - PM			5322-OPS			1240FACSEC	5/1/23	6/5/23	5/1/23

Work Management System (WMS)

Work Order List

Site: OCWASITE

Work Order	Description	Location	Type	Status	Criticality	Lead	Crew	Work Group	Asset	Route	Job Plan	Scheduled Start	Actual Start	Reported Date
3374122	Analyzer pH Portable Monthly Maintenance/ Calibration (1m) 5322	5322-WWEV	PM	CLOSE	3 - PM			5322-OPS	0003098246		ANALPH07-M	5/1/23	6/5/23	5/1/23
3385812	Everett WWTP Additives to help to achieve objectives (5322)	5322	CAP	CLOSE	3 - PM	Johnathan Purkis		5322-OPS					11/16/23	5/18/23
3385813	Everett WWTP Filter Media Replacement (5322)	5322	CAP	CLOSE	3 - PM	Johnathan Purkis		5322-OPS					11/16/23	5/18/23
3385814	Everett WWTP Extra Sludge haulage (5322)	5322	CAP	CLOSE	3 - PM	Johnathan Purkis		5322-OPS					12/27/23	5/18/23
3385815	Everett WWTP Arc Flash Rating, to comply with Z462 to minimize PPE (Every 3 Years) (5322)	5322	CAP	CLOSE	3 - PM	Johnathan Purkis		SSIM-EM					12/27/23	5/18/23
3385816	Everett WWTP Extra well monitoring/storm water sampling (5322)	5322	CAP	CLOSE	3 - PM	Johnathan Purkis		5322-OPS					12/27/23	5/18/23
3395875	Panel Alarm Dialer Testing Everett WWTP (1m) 5322	5322-WWEV-F	PM	CLOSE	3 - PM			5322-OPS	0000092469		PANALA03	6/1/23	6/29/23	6/1/23
3395882	Diesel Genset Test (1m) EVERETT WWTP 5322	5322-WWEV-F-PG	PM	CLOSE	3 - PM			5322-OPS	0000092463		ENGDIE02-M	6/1/23	6/29/23	6/1/23
3396819	Sampling Everett WWTP (1m) 5322	5322-WWEV	PM	CLOSE	3 - PM			5322-OPS			FACOG11GB	6/1/23	6/29/23	6/1/23
3397124	Facility Health & Safety Inspection Everett PS01 (1m) 5322	5322-SP01	OPER	CLOSE	3 - PM			5322-OPS			HSCWI-MR01	6/1/23	6/29/23	6/1/23
3397139	Facility Health & Safety Inspection Everett WWTP (1m) 5322	5322-WWEV	OPER	CLOSE	3 - PM			5322-OPS			HSCWI-MR01	6/1/23	6/29/23	6/1/23
3398190	FEP Contact List Review Everett WWTP (6m) 5322	5322-WWEV	PM	CLOSE	3 - PM			SSIM-PCT			FACOG35CL	12/31/23	6/1/23	6/1/23
3398192	WHMIS/MSDS/NSF Review & Update Everett (1y) 5322	5322-WWEV	PM	CLOSE	3 - PM			SSIM-H&S			MSDSREV01	12/31/23	6/1/23	12/31/23
3399443	Sewer System Flushing Everett WWTP Collections (2m) 5322	5322-WWEV	PM	CLOSE	3 - PM			5322-OPS			DISFLU02-S	6/1/23	6/26/23	6/1/23
3413397	Everett WWTP Weekly Facility & Security Inspections (1m) 5322	5322-WWEV-F	PM	CLOSE	3 - PM			5322-OPS			1240FACSEC	6/1/23	6/29/23	6/1/23
3421657	Analyzer pH Portable Monthly Maintenance/ Calibration (1m) 5322	5322-WWEV	PM	CLOSE	3 - PM			5322-OPS	0003098246		ANALPH07-M	6/1/23	6/29/23	6/1/23
3432166	Facility Health & Safety Inspection Everett PS01 (1m) 5322	5322-SP01	OPER	CLOSE	3 - PM			5322-OPS			HSCWI-MR01	6/9/23	6/29/23	6/9/23
3432181	Facility Health & Safety Inspection Everett WWTP (1m) 5322	5322-WWEV	OPER	CLOSE	3 - PM			5322-OPS			HSCWI-MR01	6/9/23	6/29/23	6/9/23
3444652	Panel Alarm Dialer Testing Everett WWTP (1m) 5322	5322-WWEV-F	PM	CLOSE	3 - PM			5322-OPS	0000092469		PANALA03	7/1/23	7/27/23	7/1/23
3444659	Diesel Genset Test (1m) EVERETT WWTP 5322	5322-WWEV-F-PG	PM	CLOSE	3 - PM			5322-OPS	0000092463		ENGDIE02-M	7/1/23	7/31/23	7/1/23

Work Management System (WMS)

Work Order List

Site: OCWASITE

Work Order	Description	Location	Type	Status	Criticality	Lead	Crew	Work Group	Asset	Route	Job Plan	Scheduled Start	Actual Start	Reported Date
3445592	Sampling Everett WWTP (1m) 5322	5322-WWEV	PM	CLOSE	3 - PM			5322-OPS			FACOG11GB	7/1/23	7/31/23	7/1/23
3447617	Engine Diesel 01 Insp/Service Everett (1y) 5322	5322-WWEV-F-PG	PM	CLOSE	3 - PM			SSIM-MEC	0000092463		ENGDI02-A	7/1/23	11/16/23	7/1/23
3448046	Sampling and Testing Everett WWTP (3m) 5322	5322-WWEV	PM	CLOSE	3 - PM			5322-OPS			SAMPLE01-Q	7/1/23	7/31/23	7/1/23
3460915	Everett WWTP Weekly Facility & Security Inspections (1m) 5322	5322-WWEV-F	PM	CLOSE	3 - PM			5322-OPS			1240FACSEC	7/1/23	7/31/23	7/1/23
3461332	Grease RBC Bearings - Everett WWTP (3m) 5322	5322-WWEV-P	PM	CLOSE	4 - High			SSIM-MEC	0000310011		PUMGRE01	7/1/23	11/16/23	7/1/23
3469779	Analyzer pH Portable Monthly Maintenance/ Calibration (1m) 5322	5322-WWEV	PM	CLOSE	3 - PM			5322-OPS	0003098246		ANALPH07-M	7/1/23	7/31/23	7/1/23
3479310	Check Expiry Dates of Lab Items Everett WWTP (6m) 5322	5322-WWEV-P	PM	CLOSE	3 - PM			5322-OPS			EXPREG01-A	7/4/23	8/8/23	7/4/23
3480385	Facility Health & Safety Inspection Everett PS01 (1m) 5322	5322-SP01	OPER	CLOSE	3 - PM			5322-OPS			HSCWI-MR01	7/9/23	7/31/23	7/9/23
3480400	Facility Health & Safety Inspection Everett WWTP (1m) 5322	5322-WWEV	OPER	CLOSE	3 - PM			5322-OPS			HSCWI-MR01	7/9/23	7/31/23	7/9/23
3491873	Panel Alarm Dialer Testing Everett WWTP (1m) 5322	5322-WWEV-F	PM	CLOSE	3 - PM			5322-OPS	0000092469		PANALA03	8/1/23	9/5/23	8/1/23

Work Management System (WMS)

Work Order List

Site: OCWASITE

Work Order	Description	Location	Type	Status	Criticality	Lead	Crew	Work Group	Asset	Route	Job Plan	Scheduled Start	Actual Start	Reported Date
3491880	Diesel Genset Test (1m) EVERETT WWTP 5322	5322-WWEV-F-PG	PM	CLOSE	3 - PM			5322-OPS	0000092463		ENGDIE02-M	8/1/23	9/5/23	8/1/23
3492832	Sampling Everett WWTP (1m) 5322	5322-WWEV	PM	CLOSE	3 - PM			5322-OPS			FACOG11GB	8/1/23	9/5/23	8/1/23
3494067	Lifting Equipment Hoist/Davit Route Insp Everett (1y) 5322	5322-WWEV	PM	CLOSE	3 - PM			SSIM-MEC		5322LIFT	LIFDEV01-A	8/1/23	11/16/23	8/1/23
3494090	Confined Space Gas Detectors {Qty-7} Calibra (6m) 5105	124000	PM	CLOSE	3 - PM			5105NSOP		5105GASM	ANAGASCL-S	8/1/23	10/6/23	8/1/23
3494925	Process Area Fixed Gas Monitors (LELx2 O2 H2S) Insp/Service (6m) 5322	5322-WWEV-P	PM	CLOSE	3 - PM			5322-OPS	0000092470		ANAGAS04-S	8/1/23	11/16/23	8/1/23
3495035	Sewer System Flushing Everett WWTP Collections (2m) 5322	5322-WWEV	PM	CLOSE	3 - PM			5322-OPS			DISFLU02-S	8/1/23	9/5/23	8/1/23
3506500	Everett WWTP Weekly Facility & Security Inspections (1m) 5322	5322-WWEV-F	PM	CLOSE	3 - PM			5322-OPS			1240FACSEC	8/1/23	9/5/23	8/1/23
3513970	Analyzer pH Portable Monthly Maintenance/Calibration (1m) 5322	5322-WWEV	PM	CLOSE	3 - PM			5322-OPS	0003098246		ANALPH07-M	8/1/23	9/5/23	8/1/23
3523847	Facility Health & Safety Inspection Everett PS01 (1m) 5322	5322-SP01	OPER	CLOSE	3 - PM			5322-OPS			HSCWI-MR01	8/9/23	9/5/23	8/9/23
3523862	Facility Health & Safety Inspection Everett WWTP (1m) 5322	5322-WWEV	OPER	CLOSE	3 - PM			5322-OPS			HSCWI-MR01	8/9/23	9/5/23	8/9/23
3536351	Panel Alarm Dialer Testing Everett WWTP (1m) 5322	5322-WWEV-F	PM	CLOSE	3 - PM			5322-OPS	0000092469		PANALA03	9/1/23	9/25/23	9/1/23
3536358	Diesel Genset Test (1m) EVERETT WWTP 5322	5322-WWEV-F-PG	PM	CLOSE	3 - PM			5322-OPS	0000092463		ENGDIE02-M	9/1/23	10/3/23	9/1/23
3537299	Sampling Everett WWTP (1m) 5322	5322-WWEV	PM	CLOSE	3 - PM			5322-OPS			FACOG11GB	9/1/23	10/3/23	9/1/23
3539144	Sewer System Flushing Everett WWTP Collections (3m) 5322	5322-WWEV	PM	CLOSE	3 - PM			5322-OPS			DISFLU02-S	9/1/23	10/27/23	9/1/23
3552284	Everett WWTP Weekly Facility & Security Inspections (1m) 5322	5322-WWEV-F	PM	CLOSE	3 - PM			5322-OPS			1240FACSEC	9/1/23	10/17/23	9/1/23
3560619	Analyzer pH Portable Monthly Maintenance/Calibration (1m) 5322	5322-WWEV	PM	CLOSE	3 - PM			5322-OPS	0003098246		ANALPH07-M	9/1/23	10/17/23	9/1/23
3562666	Heater Electric Insp/Srv Hoe Doe Sewage (6m) 1715	1715	PM	CLOSE	3 - PM			1715-OPS		5322HTR	HEATER01-S	9/1/23	11/16/23	9/1/23
3571907	Facility Health & Safety Inspection Everett PS01 (1m) 5322	5322-SP01	OPER	CLOSE	3 - PM			5322-OPS			HSCWI-MR01	9/9/23	10/17/23	9/9/23
3571922	Facility Health & Safety Inspection Everett WWTP (1m) 5322	5322-WWEV	OPER	CLOSE	3 - PM			5322-OPS			HSCWI-MR01	9/9/23	10/17/23	9/9/23

Work Management System (WMS)

Work Order List

Site: OCWASITE

Work Order	Description	Location	Type	Status	Criticality	Lead	Crew	Work Group	Asset	Route	Job Plan	Scheduled Start	Actual Start	Reported Date
3585060	Panel Alarm Dialer Testing Everett WWTP (1m) 5322	5322-WWEV-F	PM	CLOSE	3 - PM			5322-OPS	0000092469		PANALA03	10/1/23	10/26/23	10/1/23
3585067	Diesel Genset Test (1m) EVERETT WWTP 5322	5322-WWEV-F-PG	PM	CLOSE	3 - PM			5322-OPS	0000092463		ENGDIE02-M	10/1/23	10/26/23	10/1/23
3586020	Sampling Everett WWTP (1m) 5322	5322-WWEV	PM	CLOSE	3 - PM			5322-OPS			FACOG11GB	10/1/23	10/26/23	10/1/23
3587838	Sampling and Testing Everett WWTP (3m) 5322	5322-WWEV	PM	CLOSE	3 - PM			5322-OPS			SAMPLE01-Q	10/1/23	10/25/23	10/1/23
3601138	Heater Electric Insp/Srv Route Everett WWTP (5m) 5322	5322-WWEV	PM	CLOSE	3 - PM			5322-OPS		5322HTR	HEATER01-S	10/1/23	11/3/23	10/1/23
3601198	Tank Storage Fuel 01 Insp/Srv Everett WWTP (1y) 5322	5322-WWEV-F-PG	PM	CLOSE	3 - PM			SSIM-MEC	0000092475		TANKFUEL	10/1/23	11/16/23	10/1/23
3601203	Actuator Electric 1-3 Insp/Service Route Everett (1y) 5322	5322-WWEV	PM	CLOSE	3 - PM			SSIM-ELE		5322ACTU	ACTELE01-A	10/1/23	11/16/23	10/1/23
3601495	Everett WWTP Weekly Facility & Security Inspections (1m) 5322	5322-WWEV-F	PM	CLOSE	3 - PM			5322-OPS			1240FACSEC	10/1/23	10/27/23	10/1/23
3601994	Grease RBC Bearings - Everett WWTP (3m) 5322	5322-WWEV-P	PM	CLOSE	4 - High			SSIM-MEC	0000310011		PUMGRE01	10/1/23	11/16/23	10/1/23
3610299	Analyzer pH Portable Monthly Maintenance/Calibration (1m) 5322	5322-WWEV	PM	CLOSE	3 - PM			5322-OPS	0003098246		ANALPH07-M	10/1/23	10/27/23	10/1/23
3621554	Facility Health & Safety Inspection Everett PS01 (1m) 5322	5322-SP01	OPER	CLOSE	3 - PM			5322-OPS			HSCWI-MR01	10/9/23	10/27/23	10/9/23
3621569	Facility Health & Safety Inspection Everett WWTP (1m) 5322	5322-WWEV	OPER	CLOSE	3 - PM			5322-OPS			HSCWI-MR01	10/9/23	10/27/23	10/9/23
3632988	Panel Alarm Dialer Testing Everett WWTP (1m) 5322	5322-WWEV-F	PM	CLOSE	3 - PM			5322-OPS	0000092469		PANALA03	11/1/23	11/20/23	11/1/23
3632995	Diesel Genset Test (1m) EVERETT WWTP 5322	5322-WWEV-F-PG	PM	CLOSE	3 - PM			5322-OPS	0000092463		ENGDIE02-M	11/1/23	12/4/23	11/1/23
3633947	Sampling Everett WWTP (1m) 5322	5322-WWEV	PM	CLOSE	3 - PM			5322-OPS			FACOG11GB	11/1/23	11/27/23	11/1/23
3635334	MCC Inspection/Service Everett WWTP (3y) 5322	5322-WWEV-F	PM	CLOSE	3 - PM			SSIM-UPI	0000092468		MCC01-T	11/1/23	11/23/23	11/1/23
3635337	Panel Control Chem Pumps Insp/Srv Everett (3y) 5322	5322-WWEV-F	PM	CLOSE	3 - PM			SSIM-UPI	0000092467		PANCON04-T	11/1/23	11/3/23	11/1/23
3635341	Panel Transfer 01 Insp/Service Everett WWTP (3y) 5322	5322-WWEV-F-PG	PM	CLOSE	3 - PM			SSIM-UPI	0000092476		PANTRA01-T	11/1/23	12/27/23	11/1/23
3646572	Everett WWTP Weekly Facility & Security Inspections (1m) 5322	5322-WWEV-F	PM	CLOSE	3 - PM			5322-OPS			1240FACSEC	11/1/23	12/4/23	11/1/23
3653702	Analyzer pH Portable Monthly Maintenance/Calibration (1m) 5322	5322-WWEV	PM	CLOSE	3 - PM			5322-OPS	0003098246		ANALPH07-M	11/1/23	12/4/23	11/1/23

Work Management System (WMS)

Work Order List

Site: OCWASITE

Work Order	Description	Location	Type	Status	Criticality	Lead	Crew	Work Group	Asset	Route	Job Plan	Scheduled Start	Actual Start	Reported Date
3663226	Facility Health & Safety Inspection Everett PS01 (1m) 5322	5322-SP01	OPER	CLOSE	3 - PM			5322-OPS			HSCWI-MR01	11/9/23	12/4/23	11/9/23
3663241	Facility Health & Safety Inspection Everett WWTP (1m) 5322	5322-WWEV	OPER	CLOSE	3 - PM			5322-OPS			HSCWI-MR01	11/9/23	12/4/23	11/9/23
3674103	Panel Alarm Dialer Testing Everett WWTP (1m) 5322	5322-WWEV-F	PM	CLOSE	3 - PM			5322-OPS	0000092469		PANALA03	12/1/23	12/11/23	12/1/23
3674110	Diesel Genset Test (1m) EVERETT WWTP 5322	5322-WWEV-F-PG	PM	CLOSE	3 - PM			5322-OPS	0000092463		ENGDIE02-M	12/1/23	12/18/23	12/1/23
3675047	Sampling Everett WWTP (1m) 5322	5322-WWEV	PM	CLOSE	3 - PM			5322-OPS			FACOG11GB	12/1/23	12/13/23	12/1/23
3676333	Pump Diaphragm 1+2 Chemical Route Insp/ Srv(1y) 5322	5322-WWEV	PM	CLOSE	3 - PM			5322-OPS		5322DIPH	PUMDIA01-A	12/1/23	12/27/23	12/1/23
3677365	Sewer System Flushing Everett WWTP Collections (3m) 5322	5322-WWEV	PM	CLOSE	3 - PM			5322-OPS			DISFLU02-S	12/1/23	12/27/23	12/1/23
3688035	Everett WWTP Weekly Facility & Security Inspections (1m) 5322	5322-WWEV-F	PM	CLOSE	3 - PM			5322-OPS			1240FACSEC	12/1/23	12/18/23	12/1/23
3695078	Analyzer pH Portable Monthly Maintenance/ Calibration (1m) 5322	5322-WWEV	PM	CLOSE	3 - PM			5322-OPS	0003098246		ANALPH07-M	12/1/23	12/20/23	12/1/23
3704144	Objective Exced- ECA 8860-9N8NCX - November 22, 2023 Total Nitrogen Limit Exceed - New Horizon WWTP	5322-WWEV	OPER	CLOSE	5 - Urgent	Angela Pauze		SSIM-PCT					12/12/23	12/8/23
3704254	Facility Health & Safety Inspection Everett PS01 (1m) 5322	5322-SP01	OPER	CLOSE	3 - PM			5322-OPS			HSCWI-MR01	12/9/23	12/20/23	12/9/23

Work Management System (WMS)

Work Order List

Site: OCWASITE

Work Order	Description	Location	Type	Status	Criticality	Lead	Crew	Work Group	Asset	Route	Job Plan	Scheduled Start	Actual Start	Reported Date
3704269	Facility Health & Safety Inspection Everett WWTP (1m) 5322	5322-WWEV	OPER	CLOSE	3 - PM			5322-OPS			HSCWI-MR01	12/9/23	12/20/23	12/9/23
Number of Records:		151												

2023 Annual Performance Report

Appendix E

Effluent Flow Meter Calibration Records



Induscontrol Inc
3170 Ridgeway Drive, Unit #11
Mississauga, ON L5L 5R4

VERIFICATION REPORT - OCM III
OPEN CHANNEL FLOW MEASUREMENT

Customer Name: OCWA-Gerogian Bay
Plant Name: 5322-Everett WWTP

Site/Plant Address: 27 Dekker St
Everett, ON

Device Information
Make: Milltronics
Model: OCM III
SR Number: 0317031202XV
Tag: N/A
Job Location: Effluent
Asset ID: 92466

Service Information
Date: September 7, 2023
Report No: CO1476-2308-01
Job No: CO1476-2308

Inst. Reading	AS FOUND	AS LEFT
TOTALIZER (m3)	62389769	62391285
FLOW (l/sec)	0.555	0.7519

Flow Details
Unit: l/sec
Flow Range: 0- 7.53 l/sec
Current Output: 4-20 mA
4 mA Set Point 0 l/sec
20 mA Set Point 7.53 l/sec

Maintenance Checklist		Remarks
Visual Inspection:	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOT OK	
Electrical Inspection:	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOT OK	

Programming Parameter of Instrument					
Parameter	Discription	Value	Parameter	Discription	Value
F0	Access Code	0	P7	Height of Max. Head	15.50
P1	Dimension Unit (cm)	0	P32	Totalizer Multiplier	1
P3	Exponential Device	0	P42	Head by OCM III	0
P4	Cal. Method -Ratiometric	1	P45	Low Flow Cut-off	0
P5	Flow Unit - m3/Hr	0	P46	Range at Zero Head	64.59078
P6	Max Flow rate	7.53	P47	Blanking Distance	30.4826

Test Point Report						
Reference Distance (cm)	Measured Distance (cm)	Calculated Flow (l/sec)	UUT Flow Display (l/sec)	Calculated (mA)	Measured (mA)	Deviaiton (l/s)
4.23	4.18	0.293	0.284	15.23	15.15	-0.01
5.38	5.30	0.534	0.515	18.29	18.19	-0.02

Calculations

Flow Calculations
 $Q = q_{cal} (h/h_{cal})^{Exp}$ Where, Q= Discharge Flow, qcal = max flow, h = head, hcal = max head
 Exp = 2.5 , Hence,
 $Q = 7.53 (4.23/15.50)^{2.5}$
 $Q = 0.293$

Instrument Test Information and Results					
Input (%)	Calculated Flow(l/sec)	Calculated Input (mA)	Flow on UUT (l/sec)	UUT Measured Output (mA)	Deviation (l/s)
0	0.00	4.00	0.03	3.99	0.03
25	1.88	8.00	1.85	7.98	-0.03
50	3.77	12.00	3.79	12.01	0.02
75	5.65	16.00	5.68	16.01	0.03
100	7.53	20.00	7.50	19.98	-0.03

Information of Tools used for Verification of the Instruments		
Device Description:	Manufacturer	Model
Electrical Multimeter	Fluke	179

* Refer Calibration Tools Certificates submittal for more Information

Verification Test Result: Passed Fail Not Verified

Overall Remarks: Program parameters verified
Single/Two Point Verification Done

Service Technician : Sanket Trada
Printed Date: September 7, 2023

Stamp/Signature

End of Report

2023 Annual Performance Report

Appendix F

Notice of Modification to Sewage Works: LOF from 2015 (still in-effect)



Ministry of the Environment

Notice of Modification to Sewage Works

RETAIN COPY OF COMPLETED FORM AS PART OF THE ECA AND SEND A COPY TO THE WATER SUPERVISOR (FOR MUNICIPAL PLANTS) OR DISTRICT MANAGER (FOR INDUSTRIAL PLANTS)

Part 1 – Environmental Compliance Approval (ECA) with Limited Operational Flexibility

(Insert the ECA's owner, number and issuance date and notice number, which should start with "01" and consecutive numbers thereafter)

ECA Owner	ECA number	Issuance Date (mm/dd/yy)	Notice number
Township of Adjala-Tosorontio	8860-9N8NCX	08/11/15	4

Part 2 – Description of the modifications as part of the Limited Operational Flexibility

(Attach a detailed description of the sewage works)

TRIAL WITH STERNPAC – INSTEAD OF ALUM as an aid to flocculation

Reason for dosing:

1. Has less effect on pH
2. Reduced sludge production and
3. Improved treatment in cold-water treatment applications

Description shall include: 1. A detail description above of the modifications and/or operations to the sewage works (e.g. sewage work component, location, size, equipment type/model, material, process name, etc.)

2. An assessment of the anticipated environmental effects
3. Updated versions of, or amendments to, all relevant technical documents required by this ECA that are affected by the modifications as applicable, e.g. site plan, design brief, drawings, emergency and spill prevention plan, etc.

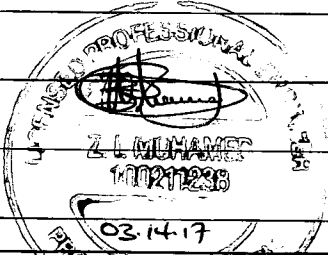
Part 3 – Declaration by Professional Engineer

I hereby declare that I have verified the scope and technical aspects of this modification and confirm that the design:

1. Has been prepared or reviewed by a Professional Engineer who is licensed to practice in the Province of Ontario;
2. Has been designed in accordance with the Limited Operational Flexibility as described in the ECA;
3. Has been designed consistent with Ministry's Design Guidelines, adhering to engineering standards, industry's best management practices, and demonstrating ongoing compliance with s.53 of the Ontario Water Resources Act; and other appropriate regulations.

I hereby declare that to the best of my knowledge, information and belief the information contained in this form is complete and accurate

Name (Print) Zaheer Mohamed	PEO License Number 100211238
Signature 	Date (mm/dd/yy) 03/14/17
Name of Employer Ontario Clean Water Agency	



Part 4 – Declaration by Owner

I hereby declare that:

1. I am authorized by the Owner to complete this Declaration;
2. The Owner consents to the modification; and
3. This modifications to the sewage works are proposed in accordance with the Limited Operational Flexibility as described in the ECA.
4. The Owner has fulfilled all applicable requirements of the Environmental Assessment Act.

I hereby declare that to the best of my knowledge, information and belief the information contained in this form is complete and accurate

Name of Owner Representative (Print) Jim Moss	Owner representative's title (Print) Public Works Superintendent
Owner Representative's Signature 	Date (mm/dd/yy) 03/14/2017

2023 Annual Performance Report

Appendix G

Environmental Incident Reports

Ontario Clean Water Agency Environmental Incident Report

Facility ID: 5322 EIncidentReport
Facility Name: Everett WWTP
Address: 27 Dekker Street
City: Everett
Province: Ontario
Postal Code: L0M 1J0
Date of Occurrence: 04/19/2023
Time of Occurrence: 09:30:00 AM

Nature of the Incident

Level 1 Contingency Level 2 Contingency Level 3 Contingency [Click here To Show the Definitions](#)

Incident affected: Air Water Land Nothing

What was discharged or emitted?

- | | |
|--|--|
| <input type="checkbox"/> Chlorine | <input type="checkbox"/> Oil/Diesel/Gas |
| <input type="checkbox"/> Sodium Hypochlorite | <input checked="" type="checkbox"/> Untreated or partly treated sewage |
| <input type="checkbox"/> Calcium Chloride | <input type="checkbox"/> Odours |
| <input type="checkbox"/> Aluminum Compounds (Specify in Other) | <input type="checkbox"/> Water |
| <input type="checkbox"/> Arsenic | <input type="checkbox"/> Iron Coagulants |
| <input type="checkbox"/> Fluoride | |

Other: _____

If this was a discharge, spill or emission...

If a liquid, approximately what quantity was released?: 110000 Litres

If a gas, approximately what quantity was released?: _____

If a solid, approximately what quantity was released?: _____ Kg

What was the source of release?:

On April 19, 2023 the operator on duty attended the plant and found the clarifier in high level with barely any flow coming out of the sand filters. The operator pulled the backwash pumps for the sand filters and found a hole in one of the discharge lines. The operator tried to manually flush the sand filters but they were plugged. The operator had to put the sand filters in bypass at 930am in attempt to get the sand filters working again. It was very likely due to the lack of backwashing, caused by the hole in the pump discharge line, that it caused the sand filters to foul.

Where did the release go?: _____

Subsurface Tile Beds- Land adjacent to the facility

If it entered a watercourse: Yes No

If it went off site: Yes No

Duration of the release?: 24 hours and 30 minutes

Is the release now stopped?: Yes No

Was there any damage? (i.e. property and/or environmental): Yes No N/A

If "Yes", describe below and fill out "Insurance Claim" report

Action(s) Taken

What actions were taken to control the incident?

The operator inspected the backwash pumps, lines and sand filters. Operator tried to manually backwash, but the filters were too plugged and need replacement. Replacement to occur on April 20, 2023. Plant to remain in bypass overnight until replacement.

What actions have been taken to remediate the incident?

Bypass incident reported to SAC, MOH and the MECP- Barrie District Office. Samples taken, although not required under the ECA, near the beginning of the bypass incident and at the end of the bypass incident. Sand filters were replaced on April 20, 2023. Once replaced, bypass was ended. Further repairs are required to the backwash pumps/discharge line, awaiting parts and delivery which is approximately two weeks out. However, the system is able to run under normal operations until the repairs are made with the replacement of the filters.

Was this a reportable spill or discharge?: Yes No

If "Yes", at what time was it first reported to the MOE?

MECP- Barrie District Office on April 19, 2023 at 1129 hrs

Was it reported to the MOE district office?: Yes No

If "Yes", which office/location and who was the contact?: Barrie District Office- Phil Sauer

Was it reported to MOE SAC?: Yes No

If "Yes", at what time was it reported to MOE SAC?:

April 19, 2023 at 1225 hrs: PCT verbally notified the Spills Action Centre of the bypass incident. Spoke with E.I. Brenda, Incident Report 1-3F0490 was generated. Advised to call back when bypass incident

was resolved.

Was it reported to Municipality?: Yes No

If "Yes", at what time was it reported to Municipality?:

Notified via email at time of written notification- April 21, 2023

External Assistance/Involvement

Was corporate or area office assistance requested?: Yes No

If "Yes", was it received?: Yes No

Was external emergency assistance requested?: Yes No

If "Yes", from who?: Fire Department Equipment Suppliers Canutec
 Ambulance or Hospital MOE Coast Guard
 Police Municipality

Other: _____

Was there any media involvement?: Yes No

If "Yes", who?: _____

Was the public affected?: Yes No

If "Yes", how?: _____

Updated By: Kristen Tilotta 04/21/2023 10:19:54 AM

Comments:

SAC Reference Number: 1-3F0490
Facility: New Horizon (Everett) WWTP
Works Number: 110003629
Bypass Location: Sand Filters
Bypass Date & Time: April 19 at 0930 hrs to April 20, 2023 at 1000 hrs
Duration: 24 hours and 30 minutes
Bypass Contents: Partially Treated Secondary Effluent
Approximate Volume: 110 m3

Incident Description

On April 19, 2023 the operator on duty attended the plant and found the clarifier in high level with barely any flow coming out of the sand filters. The operator pulled the backwash pumps for the sand filters and found a hole in one of the discharge lines. The operator tried to manually flush the sand filters but they were plugged. The operator had to put the sand filters in bypass at 930am in attempt to get the sand filters working again. It was very likely due to the lack of backwashing, caused by the hole in the pump discharge line, that it caused the sand filters to foul.

Actions Taken to Control Incident

The operator inspected the backwash pumps, lines and sand filters. Operator tried to manually backwash, but the filters were too plugged and need replacement. Replacement to occur on April 20, 2023. Plant to remain in bypass overnight until replacement.

Corrective Actions

Bypass incident reported to SAC, MOH and the MECP- Barrie District Office. Samples taken, although not required under the ECA, near the beginning of the bypass incident and at the end of the bypass incident. Sand filters were replaced on April 20, 2023. Once replaced, bypass was ended. Further repairs are required to the backwash pumps/discharge line, awaiting parts and delivery which is approximately two weeks out. However, the system is able to run under normal operations until the repairs are made with the replacement of the filters.

Reporting

- April 19, 2023 at 1129 hrs: PCT Kristen Tilotta verbally notified local MECP- Barrie District Office Inspector Phil Sauer. Discussed ECA bypass sampling requirements. While there are no sampling requirements, both parties agreed as a best practice that samples should be taken at the beginning and end of the bypass event. Advised to call back when bypass incident was resolved.
- April 19, 2023 at 1225 hrs: PCT Kristen Tilotta verbally notified the Spills Action Centre of the bypass incident. Spoke with E.I. Brenda, Incident Report 1-3F0490 was generated. Advised to call back when bypass incident was resolved.
- April 19, 2023 at 1240 hrs: PCT Kristen Tilotta verbally notified the Ministry of Health- Simcoe Muskoka District Health Unit of Bypass incident. Spoke with PHI Maegan McCabe. Advised that the information would be passed on to the local MOH inspector for water Steve Borgh.
- April 19, 2023 at 1453 hrs- Steve Borgh from the MOH called back PCT Kristen Tilotta for more information. Advised that because the system discharges to subsurface tile beds, that it would be passed onto the area local MOH land inspector.
- April 19, 2023 at 1525 hrs- MOH-SMDHU Land PHI called back PCT Kristen Tilotta back for more information. Information provided. Advised to call back to the general environmental incident line once bypass incident has ended.
- April 20, 2023 at 1530 hrs: PCT Kristen Tilotta verbally notified the Spills Action Centre of the end of the bypass incident. Spoke to EO Mark Harris. No further actions advised.
- April 20, 2023 at 1540 hrs: PCT Kristen Tilotta verbally notified the MOH-SMDHU of the end of the bypass incident. Left voicemail for on duty officer.