Ontario Clean Water Agency
Agence Ontarienne Des Eaux

Aaron Todd
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March 28, 2025

Re: 2024 Annual Performance Report for the Paris Water Pollution Control Plant

Attached is the 2024 Annual Performance Report for the Paris Water Pollution Control Plant located at 120 Race Street, Paris Ontario. This report has been completed in accordance with:

- Condition No. 11(4)(a)-(n) cited in Amended Environmental Compliance Approval #5134-CN5PSC

This report was prepared by the Ontario Clean Water Agency on behalf of the County of Brant based on the information we have in our records. The report covers the period from January 1, 2024 to December 31, 2024.

Sincerely,

Meagan Lowden
Process and Compliance Technician
Ontario Clean Water Agency

Cc.
Andrea Bazzard – Director of Environmental Services, County of Brant
Matthew D'Hondt – Solid Waste/Wastewater Operations Manager, County of Brant
Lisa Williamson – Water Supervisor, MECP
Ivanna Okroukh – Water Compliance Officer, MECP
Maegan Garber – Safety, Process and Compliance Manager, OCWA
Sam Sianas – Regional Hub Manager, OCWA
Ben Madill – Senior Operations Manager, OCWA

2024 ANNUAL PERFORMANCE REPORT

PARIS WATER POLLUTION CONTROL PLANT

120 RACE STREET, PARIS

MECP ENVIRONMENTAL COMPLIANCE APPROVAL #'S

- **5134-CN5PSC (WASTEWATER – DATED OCTOBER 11, 2023)**
- **7078-D5HR3P (AIR AND NOISE – DATED NOVEMBER 15, 2024)**

PREPARED BY: ONTARIO CLEAN WATER AGENCY

PREPARED FOR: THE MINISTRY OF THE ENVIRONMENT, CONSERVATION AND PARKS

ON BEHALF OF: THE COUNTY OF BRANT

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INTRODUCTION

The Paris Water Pollution Control Plant (Paris WPCP) is an extended aeration sewage treatment plant located within the Town of Paris at 120 Race Street. The treatment plant is operated in accordance with Environmental Compliance Approval (ECA) ECA# 5134-CN5PSC (Dated October 11, 2023) and 7078-D5HR3P (Air and Noise, Dated November 15, 2024). Raw sewage enters the facility by gravity into the grit channel equipped with a grinder and an auger. Raw sewage travels into a wet well with three dry well pumps where ferrous chloride is added. The sewage is pumped through the Detroiter ,which provides grit removal, and flows by gravity into the two extended aeration basins that use fine bubble aerators. From the aeration basins, the sewage travels to the two secondary clarifiers which are equipped with scum collection. Sodium hypochlorite is provided for disinfection while calcium thiosulphate provides dechlorination at the secondary treatment level before being discharged to the Grand River.

The Paris WPCP utilizes a three stage aerobic digestion process and a dewatering centrifuge. Aerobic sludge is dewatered with the centrifuge and transferred to the biosolids storage facility located at the closed Paris landfill (40 Railway Street, Paris). The biosolids are then transported for use on agricultural land as a conditioning agent.

PLANT FACTS

Environmental Compliance Approval:

ECA 5134-CN5PSC (issued October 11, 2023)
ECA 7078-D5HR3P (issued November 15, 2024)

Rated Capacity: 7,056 m^3/day
Receiving Water: Grand River

The Paris WPCP is operated in accordance with Environmental Compliance Approval (ECA) #5134-CN5PSC and 7078-D5HR3P. The following report is presented such that it corresponds with ECA # 5134-CN5PSC Section 11(4) (a) through (n).

The Paris WPCP samples are collected using a 24-hour composite sampling procedure when required. Laboratory analysis for compliance parameters is conducted at SGS Lakefield Analytical (SGS) in Lakefield, Ontario. SGS is a member of the Canadian Association for Laboratory Accreditation Incorporated, certificate # 1999.

SECTION A - INFLUENT MONITORING DATA

As outlined in ECA#5134-CN5PSC Section 11(4)(a) the following is a summary and interpretation of all influent monitoring data and a review of the historical trend of the sewage characteristics.

TABLE 1 – INFLUENT SAMPLING REQUIREMENTS

Parameters	Sample type	Minimum frequency
BOD_5	24-hr Composite	Monthly
Total Suspended Solids	24-hr Composite	Monthly
Total Phosphorus	24-hr Composite	Monthly
Total Kjeldahl Nitrogen	24-hr Composite	Monthly

TABLE 2 – IMPORTED LEACHATE – LEACHATE RECEIVING STATION

Parameters	Sample type	Minimum frequency
BOD_5	Grab	Monthly
Total Suspended Solids	Grab	Monthly
Total Phosphorus	Grab	Monthly
Total Kjeldahl Nitrogen	Grab	Monthly

Table 3 below summarizes and compares the average monthly concentrations of influent parameters for $CBOD_5$, BOD_5, TSS, TP and TKN for 2024 versus 2023.

TABLE 3–INFLUENT AVERAGE MONTHLY CONCENTRATIONS

	2023 $CBOD_5$ (mg/L)	2024 $CBOD_5$ (mg/L)	2023 BOD_5 (mg/L)	2024 BOD_5 (mg/L)	2023 TSS (mg/L)	2024 TSS (mg/L)	2023 TP (mg/L)	2024 TP (mg/L)	2023 TKN (mg/L)	2024 TKN (mg/L)
January	277	284	381	314	408	379	6.76	5.38	53.90	34.50
February	240	308	435	334	266	516	5.8	10.60	52.03	50.80
March	255	196	431	220	293	317	4.72	4.34	38.55	32.90
April	217	223	234	429	337	362	4.06	5.64	30.75	43.30
May	235	209	282	279	215	327	3.68	3.59	34.70	34.70
June	257	207	298	269	415	298	6.61	4.64	48.08	39.15
July	177	287	292	309	220	388	3.94	5.78	35.18	43.83
August	219	175	260	250	323	255	3.95	4.05	31.80	33.88
September	227	211	243	234	255	335	4.24	4.98	39.63	42.70
October	219	192	206	284	167	322	4.42	4.52	35.80	42.42
November	280	182	317	235	326	267	6.11	4.64	45.80	44.00
December	155	220	205	296	236	324	4.60	4.90	41.60	44.48
Average	**230**	**225**	**299**	**288**	**288**	**341**	**4.91**	**5.26**	**40.65**	**40.56**

Table 4 summarizes a comparison of 2023 and 2024 annual average concentrations of the influent sampling parameters. $CBOD_5$, BOD_5 and TKN show a reduction while TSS and TP show an increase.

TABLE 4 – INFLUENT- HISTORICAL COMPARISON

Parameter	2023 Average Concentration to Date	2024 Average Concentration to Date	% difference
$CBOD_5$ (mg/L)	230	225	-2.2
BOD_5 (mg/L)	299	288	-3.7
Total Suspended Solids (mg/L)	288	341	+18.4
Total Phosphorus (mg/L)	4.91	5.26	+7.1
Total Kjeldahl Nitrogen (mg/L)	40.65	40.56	-0.2

TABLE 5– 2024 PER CAPITA FLOWS AND LOADINGS

Parameter	Units	Value	Typical Range
*Per Capita Flow	L/d per person	387	350-500
Peak Day: Annual Average Flow		2.4	2.5-3.5
Per Capita BOD_5	g/d per person	110	80
Per Capita TSS	g/d per person	131	90
Per Capita TKN	g/d per person	15.7	13
Per Capita TP	g/d per person	2.4	3.3
TSS:BOD_5	--	1.2	0.80-1.2
TKN:BOD_5	--	0.14	0.1-0.2

*Population for Paris – 14,956 as per 2021 Stats Canada

SECTION B –EFFLUENT MONITORING DATA

As outlined in ECA #5134-CN5PSC Section 11(4)(b) the following is a summary and interpretation of all effluent monitoring data including concentration and flow rates. The design objectives and the compliance limits in the approval are compared to laboratory results to interpret the success and adequacy of the Works. Analysis for the required parameters is conducted at SGS Lakefield Analytical (SGS) in Lakefield, Ontario. SGS is a member of the Canadian Association for Laboratory Accreditation Incorporated, certificate # 1999.

TABLE 6 - FINAL EFFLUENT SAMPLING REQUIREMENTS

Final effluent	Sample type	Minimum frequency
$CBOD_5$	24-hr Composite	Monthly
Total Suspended Solids	24-hr Composite	Monthly
Total Phosphorus	24-hr Composite	Weekly
Total Ammonia Nitrogen	24-hr Composite	Monthly
pH	Grab	Weekly
Temperature	Grab	Weekly
E.coli	Grab	Monthly

(I) EFFLUENT OBJECTIVES AND LIMITS

TABLE 7– EFFLUENT OBJECTIVES

Final Effluent Parameter	Averaging Calculator	Objective
$CBOD_5$	Monthly Average Effluent Concentration	15.0mg/L
Total Suspended Solids	Monthly Average Effluent Concentration	15.0mg/L
Total Phosphorus	Monthly Average Effluent Concentration	1.0mg/L
Total Ammonia Nitrogen	Monthly Average Effluent Concentration	2.4mg/L (Jan-Mar) 1.0mg/L (Apr-May) 0.8mg/L (Jun-Sept) 2.1mg/L (Oct-Dec)
E-coli	Monthly Geometric Mean Density	150 cfu/100mL
pH	Single Sample Result	6.5 - 8.5 inclusive
DO	Single Sample Result	Greater than 4.0mg/L
Total Residual Chlorine	Single Sample Result	Non-detectable

TABLE 8– EFFLUENT LIMITS

Final Effluent Parameter	Averaging Calculator	Limit
$CBOD_5$	Monthly Average Effluent Concentration	25.0mg/L
Total Suspended Solids	Monthly Average Effluent Concentration	25.0mg/L
Total Phosphorus	Monthly Average Effluent Concentration	1.0mg/L
E.coli	Monthly Geometric Mean Density	200 cfu/100mL
pH	Single Sample Result	6.0 - 9.5 inclusive
Total Residual Chlorine	Single Sample Result	0.02mg/L

TABLE 9 – FINAL EFFLUENT AVERAGE MONTHLY CONCENTRATIONS

	$CBOD_5$ mg/L	TSS mg/L	TP mg/L	TAN mg/L	Unionized Ammonia (mg/L) PWQO	pH	DO mg/L	Temp °C	E.coli cfu/100ml	TRC min-max (mg/L)
Objective	**15**	**15**	**1.0**	**seasonal**	**0.1**	**6.5-8.5**	**>4.0**	**-**	**150**	**non-detect**
Limits	**25**	**25**	**1.0**	**-**	**0.1**	**6.0-9.5**	**-**	**-**	**200**	**0.02**
Jan	3.2	5.0	0.22	0.10	0.0008	7.09-7.71	5.58	12.58	16	0.00-0.02
Feb	3.0	5.0	0.16	0.10	0.0008	7.21-7.69	5.47	14.55	4	0.00-0.02
Mar	3.0	3.0	0.21	0.10	0.0006	7.31-7.76	5.48	13.63	8	0.00-0.02
Apr	3.5	2.3	0.25	0.10	0.0005	7.10-7.60	5.87	14.08	64	0.00-0.02
May	3.6	5.0	0.43	0.16	0.0034	7.02-7.65	5.49	18.44	99	0.00-0.02
June	2.5	4.3	0.22	0.38	0.0021	7.10-7.23	5.40	20.10	52	0.00-0.02
July	3.5	6.5	0.25	0.33	0.0042	6.99-7.78	4.69	22.72	35	0.00-0.02
Aug	3.0	3.3	0.20	0.28	0.0033	7.26-7.66	4.91	22.05	46	0.00-0.02
Sept	3.5	2.3	0.22	0.15	0.0012	7.18-7.45	4.75	21.63	130	0.00-0.02
Oct	3.2	3.2	0.26	0.10	0.0010	7.01-7.68	4.94	19.52	54	0.00-0.02
Nov	3.5	2.3	0.22	0.15	0.0008	7.00-7.62	4.95	17.58	10	0.00-0.02
Dec	3.5	3.0	0.23	0.15	0.0007	6.98-7.94	5.02	14.18	126	0.00-0.02
Avg	**3.3**	**3.8**	**0.24**	**0.18**	**0.0016**	**6.98-7.94**	**5.21**	**17.59**	**54**	**0.00-0.02**

As part of the federal governments Wastewater Systems Effluent Regulations (WSER), annual Acute Toxicity sampling was completed on June 5th, 2024. The sample was not acutely lethal. Results can be found in *Appendix B.*

(II) INTERPRETATION OF MONITORED DATA

As shown in Tables 10, 11, and 12, the Paris WPCP was operated and maintained such that the average monthly concentrations for all final effluent parameters did not exceed the effluent limits or objectives outlined in Schedule B and C of ECA #5134-CN5PSC.

TABLE 10 – COMPARISON TO EFFLUENT OBJECTIVES

Parameter	Objective (mg/L)	2024 Monthly Average Concentrations (mg/L)
$CBOD_5$ (mg/L)	15.0	3.3
Total Suspended Solids (mg/L)	15.0	3.8
Total Phosphorus (mg/L)	1.0	0.24
Total Ammonia Nitrogen	2.4mg/L (Jan-Mar) 1.0mg/L (Apr-May) 0.8mg/L (Jun-Sept) 2.1mg/L (Oct-Dec)	0.10mg/L (Jan-Mar) 0.21mg/L (Apr-May) 0.25mg/L (Jun-Sept) 0.13mg/L (Oct-Dec)
E.coli (cfu/100ml)	150cfu/100mL	54 cfu/100mL
pH	6.5-8.5	min-max: 6.98-7.94
DO	Greater than 4.0	5.21
*Total Residual Chlorine	Non-detectable	min-max: 0.00-0.02

*Total Residual Chlorine shall be non-detectable as measured by a method with a sensitively of at least 0.02mg/L as per ECA#5154-CN5PSC

TABLE 11 – COMPARISON TO EFFLUENT LIMITS

Parameter	Limit (mg/L)	2024 Monthly Average Result Ranges (mg/L)
$CBOD_5$ (mg/L)	25.0	3.3
Total Suspended Solids (mg/L)	25.0	3.8
Total Phosphorus (mg/L)	1.0	0.24
E.coli (cfu/100ml)	200cfu/100mL	54 cfu/100mL
pH	6.0-9.5	min-max: 6.98-7.94
*Total Residual Chlorine	0.02	min-max: 0.00-0.02

*Total Residual Chlorine shall be non-detectable as measured by a method with a sensitively of at least 0.02mg/L as per ECA#5154-CN5PSC

(III) COMPARATIVE EFFLUENT DATA

The following tables show the percentage removal for $CBOD_5$, TSS and TP for 2024

TABLE 12 – TREATMENT EFFICIENCY FOR $CBOD_5$ REMOVAL

Month	Incoming $CBOD_5$ (mg/L)	Effluent $CBOD_5$ (mg/L)	Percent Removal (%)
January	284	3.2	98.9
February	308	3.0	99.0
March	196	3.0	98.5
April	223	3.5	98.5
May	209	3.6	98.3
June	207	2.5	98.8
July	287	3.5	98.8
August	175	3.0	98.3
September	211	3.5	98.3
October	192	3.2	98.3
November	182	3.5	98.1
December	220	3.5	98.4
Annual Average	**225**	**3.3**	**98.5**

TABLE 13 – TREATMENT EFFICIENCY FOR SUSPENDED SOLIDS REMOVAL

Month	Incoming TSS (mg/L)	Effluent TSS (mg/L)	Percent Removal (%)
January	379	5.0	98.7
February	516	5.0	99.0
March	317	3.0	99.1
April	362	2.3	99.4
May	327	5.0	98.5
June	298	4.3	98.6
July	388	6.5	98.3
August	255	3.3	98.7
September	335	2.3	99.4
October	322	3.2	99.0
November	267	2.3	99.1
December	324	3.0	99.1
Annual Average	**341**	**3.8**	**98.9**

TABLE 14 – TREATMENT EFFICIENCY FOR PHOSPHORUS REMOVAL

Month	Incoming TP (mg/L)	Effluent TP (mg/L)	Percent Removal (%)
January	5.38	0.22	95.9
February	10.60	0.16	98.5
March	4.34	0.21	95.2
April	5.64	0.25	95.6
May	3.59	0.43	88.0
June	4.64	0.22	95.3
July	5.78	0.25	95.7
August	4.05	0.20	95.1
September	4.98	0.22	95.6
October	4.52	0.26	94.2
November	4.64	0.22	95.3
December	4.90	0.23	95.3
Annual Average	**5.26**	**0.24**	**95.0**

Overall, the Paris WPCP performed well during the 2024 reporting period.

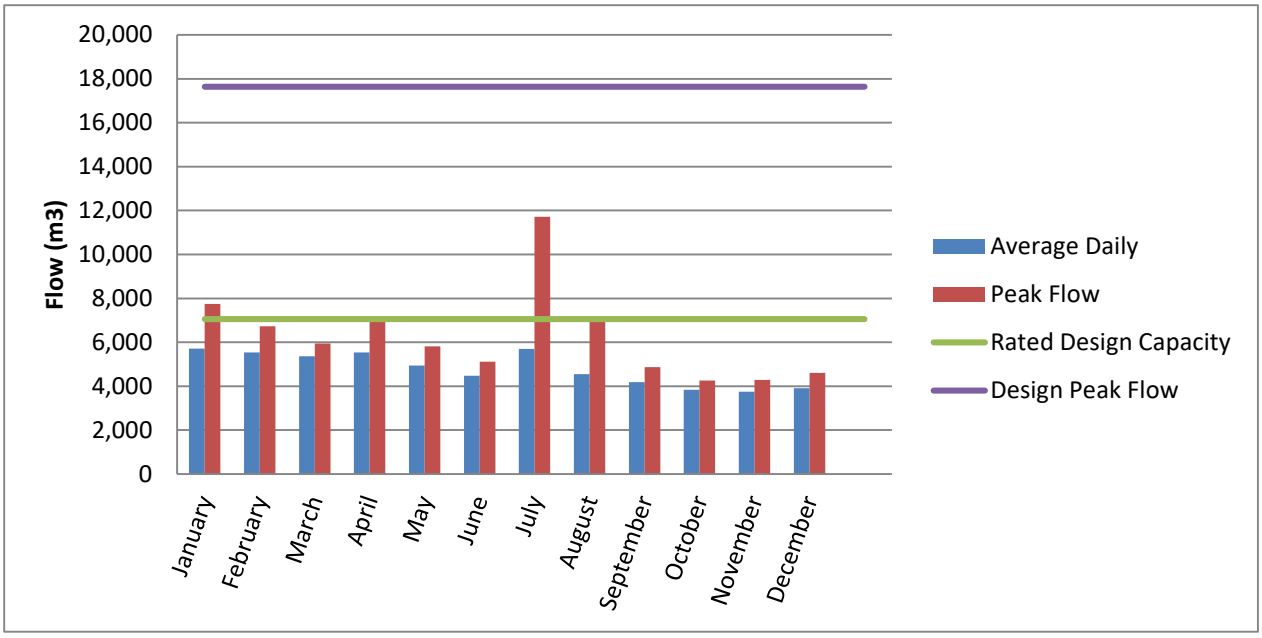
(IV) FLOW DATA

The Paris WPCP has a rated design capacity of 7,056 m^3/day. The average daily flow for 2024 was 4,791 m^3/d, which is 67.9% of the rated design capacity. Table 14 shows the average daily flow, the maximum monthly peak flow and the total monthly flow. Graph 1 shows the average daily flow and maximum daily flow for each month (Monthly Peak Flow) in comparison to the rated design capacity for 2024. Graph 2 shows the total monthly flow comparison for 2023 and 2024.

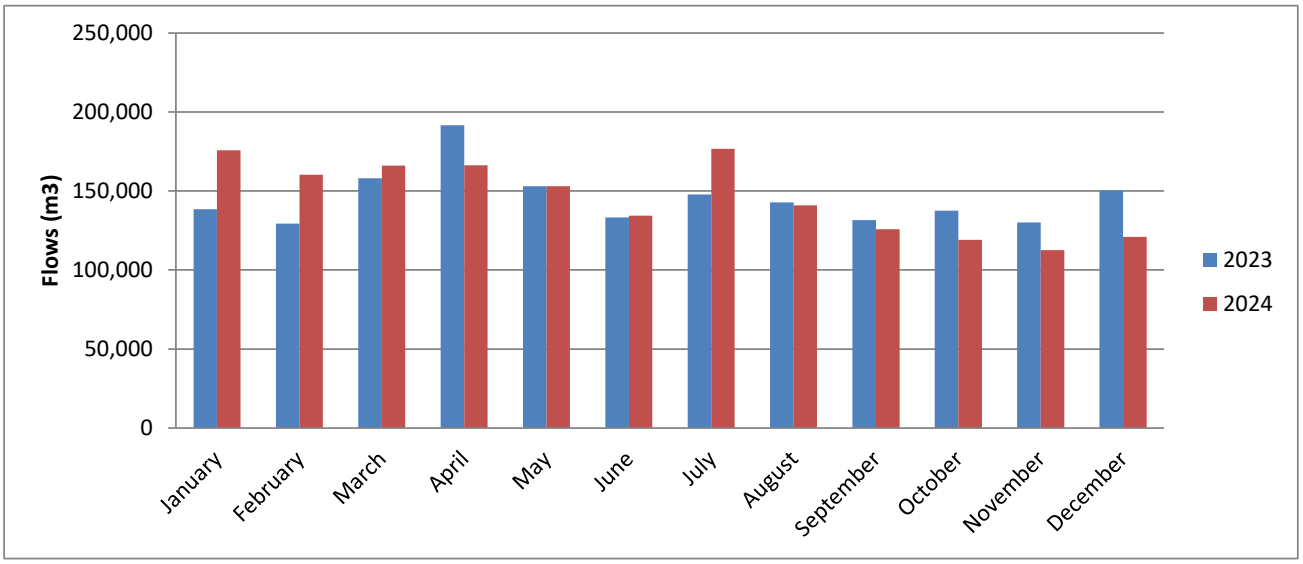
TABLE 15 – EFFLUENT FLOW DATA

	Average Daily Flow (m^3)	Maximum Peak Flow (m^3)	Total Month Flow (m^3)
January	5 705	7 749	175 651
February	5 534	6 731	160 300
March	5 359	5 951	166 115
April	5 540	7 099	166 189
May	4 938	5 820	153 072
June	4 478	5 113	134 347
July	5 702	11 708	176 765
August	4 546	7 023	140 940
September	4 192	4 867	125 778
October	3 842	4 264	119 098
November	3 752	4 286	112 560
December	3 904	4 614	121 016
TOTAL	--	--	**1 751 831**
Average	**4 791**	--	--

GRAPH 1 – 2024 MONTHLY AVERAGE DAY AND PEAK EFFLUENT FLOWS (m^3)



GRAPH 2 – 2023 AND 2024 TOTAL MONTHLY EFFLUENT FLOW(m^3)



During the 2024 reporting period, the flows were above the Annual Average Daily Influent Flow capacity in January and July. In January, the high flows were caused by above freezing temperatures, a rainfall event and subsequent snowmelt which increased inflow and infiltration into the sanitary collection system. In July, the high flow was caused by a significant rainfall event which increased inflow into the sanitary collection system. Effluent quality and plant performance was not impacted as a result of these elevated flows. The sanitary collection system is CCTV inspected on a 6 year rotation, issues observed through the inspection are repaired as deemed necessary.

SECTION C –SUMMARY OF LEACHATE VOLUMES

Table 16 below shows the volume of leachate that was discharged into the influent at the Paris WPCP in 2024:

TABLE 16– LEACHATE RECEIVED (m^3)

Month	Volume (m^3)
January	585
February	243
March	0
April	270
May	135
June	0
July	270
August	270
September	0
October	0

Month	Volume (m^3)
November	0
December	0
Total	1773

SECTION D -OPERATING ISSUES AND CORRECTIVE ACTIONS

The Paris WPCP performed well during the 2024 reporting period. There were a few operational issues that occurred, as per the below details, but none of the issues prevented the facility from achieving its compliance targets.

In early February 2024 the sludge feed to the centrifuge indicated no flow and the lack of dewatered biosolids output confirmed that. Operations spent additional time cleaning and inspecting the feed pumps and inline grinder. A third party contractor came to site to flush the lines in case there was a potential blockage and also forced air in a reverse direction through the piping. The results did not indicate a blockage. After performing these tasks, the sludge feed resumed normally but was closely monitored afterwards for anything abnormal. No compliance issues occurred from this work being performed.

A third party contactor was on site, in March, to reconfigure the controls for the centrifuge. Due to the age of the equipment the contractor had a difficult time completing this task due to lack of compatibility between the old and new equipment. The original unit had to be reinstalled due to the amount of down time that occurred for the centrifuge operation; which increased mixed liquor suspended solids in the aeration tanks and prohibited wasting at the plant while this work was taking place. Although the solids increased and no wasting took place for the duration of this work, there were no issues in achieving the compliance objectives and limits.

The communitor, located in the headworks of the facility, was removed for a full inspection in early March and at that time it was determined repairs were required. It was also noted that the equipment was near the end of its lifecycle and a new unit was required. Temporary repairs where completed and the unit was reinstalled on April 14th. While the unit was out of service for repairs; during that time the raw channel auger, manual bar screen and Detroiter were still functioning in order to capture solids and debris. While out of service the communitor did not affect compliance at the Paris WPCP. A new communitor was installed in December of 2024.

After completing the routine weekly checks on the filters of the Aeration Turbo Blower on May 25th the Blower would not restart. Third party contractor came to site to troubleshoot for electrical problems but none were found. The Blower was taken out of service. The standby aeration fine bubble blowers were put into service to ensure adequate dissolved oxygen was being provided to the aeration tanks. The core of the Turbo Blower was removed and sent out for repairs. The repaired core was installed and the Turbo Blower was put back into service on October 15th. This unit being out of service did not affect compliance at the Paris WPCP.

SECTION E- MAINTENANCE

(I) UPGRADES/MAINTENANCE

TABLE 17– UPGRADES/MAINTENANCE

Date	Work Performed
Feb 5-7	Sludge would not feed into centrifuge. Pulled pumps in digester #6 & 8- no issues found. Third party contractor on site flushing/blowing lines partial blockage. Pumped down digester #8 and visually inspected lines. Feb 8th sludge feed working normally after clearing partial blockage.
Feb 16	Backflow preventer leaking, replaced test cock valve.
Feb 27	Communitor motor was replaced.
March 4	Communitor was taken out of service for full inspection and sent out for repairs.
March 11-18	Third party contractor on site reconfiguring controls for centrifuge.
March 21	Third party contractor on site inspecting fuel tank for generator.
March 25-26	Digester #3 pump placed back into service.
April 3-5	Third party contractors bypassed inlet to clean out raw discharge lines, old wet well and raw channel. Contractors decommissioned and removed piping entering old dry well basement.
April 7	Backflow preventer leaking – shut off water supply for time being. Backflow preventer was repaired on April 27.
April 15	Communitor put back into service. Replaced belt on RAS pump #2.
April 23	Third party contractor on site cleaning digester #2 and raw channel.
April 24-26	Third party contractor on site reconfiguring controls for the centrifuge.
April 30	ESA Inspection.
May 9	Third party contractor on site completing scheduled SCADA maintenance.
May 10	Third party contractor on site cleaning out wet well.
May 17	Raw pump #1 front fan repaired by electrician.
May 23	Third party contractor on site completing ESA inspection items.
May 25	Turbo Blower faulted on start up after changing filters. Third party contractor on site, couldn't find issues. Turbo Blower taken out of service.
May 29	Third party contractor installed soft start on course bubble blower #2.
June 19	Third party contractor on site completing scheduled SCADA maintenance.
June 24	Replaced calcium thiosulphate line due to plug.
July 2	Turbo Blower core sent out for repairs.
July 3	HACH equipment calibration completed.
July 5	Media in both Mile Hill and Paris WPCP odour control units replaced.
July 8	Third party contractor on site troubleshooting centrifuge issues. VFD fuse found failed, replaced and back up and running July 11.
July 19	Third party contractor inspected high lift pump motor #2 due to annual inspection findings. There was a fault on the cord going to the motor, this was fixed and it was back in service July 22.
August 20	Third party contractor inspected raw pump #1, installed new gasket for drain plug.
August 28	Third party contractor inspecting fine bubble blower #2&3, found blower #3 needs servicing; sent out for service on August 29th.

September 11	Third party contractor inspected Turbo Blower intake to try and determine the cause of the core failure.
September 18	Third party contractor found exhaust fan #2 in blower room to be running in reverse, inside control panel failed and was replaced on September 23rd.
September 19	Middle slab on top of digester #3 shifted significantly and then fell in on October 3. Area taped off and all staff notified to avoid area. Slab was removed Oct 4.
September 23	Third party contractor installing course bubble blower #3 core. Put back into service. Course bubble blower #1 out for servicing.
October 15	Third party contractor installing Turbo Blower core.
December 10	Replaced broken diffuser head in digester #2.
December 11	Third party contractor put course bubble blower #1 back into service. Spare used motor was installed on fine bubble blower #3 due to its motor failing
December 18	Third party contractor installed new outlet by contact chamber as per ESA inspection task.

(II) ALARMS

The following after hour alarms were responded to at the Paris WPCP during the 2024 reporting period.

TABLE 18– AFTER HOUR ALARMS

Date	Alarm	Issue/Actions Taken
Jan 13	Entry Alarm	Checked over plant, no signs of illegal entry.
Feb 23	High Grit Channel Alarm	Communitor motor tripped out, was not able to restart. Communitor motor had failed, motor swapped on February 27, only one of two motor overload sensors working, put back in operation. Second motor sensor was replaced on March 1st.
Feb 29	High Grit Channel Alarm	Communitor and auger were tripped out, reset. Checked out equipment, no issues.
March 3	High Grit Channel Alarm	Communitor tripped out, could not restart, left out of service until April 15th, bar screen manually raked and auger was still in operation.
March 24	Course Bubble Blower Alarm	Course bubble blower #3 not running, fuse blown and replaced. Put back into service.
March 24	RAS Pump Fault Alarm	RAS pump #1 faulted, cleaned pump, put back into service.
March 28	RAS Pump Fault Alarm	RAS pump #1 faulted, cleaned pump, put back into service.
March 31	RAS Pump Fault Alarm	Both RAS pumps tripped out, reset breaker.
April 18	High Grit Channel Alarm	Communitor tripped out, reset breaker, running normally.
April 27	Course Bubble Blower Alarm	Course bubble blower #3 tripped out, would not reset. Left out of service and started standby Coarse blower. Fuse replaced following day and put back into service.
April 28	Course Bubble Blower Alarm	Course bubble blower #3 tripped out, would not reset. Left out of service. Fuse replaced following day and took the soft start from

		course bubble blower #1. Ordered new soft start. Put blower #3 back into service.
May 23	RAS Pump Fault Alarm	RAS pump #1 faulted, cleaned pump and put back into service.
May 24	Fine Bubble Blower Alarm	Fine bubble blower #3 faulted, reset and restarted, monitored readings.
July 11	Generator Run Alarm	Power dip, restarted equipment and checked over plant.
July 16	High Grit Channel Alarm	Wet weather event caused high levels, monitored plant until conditions returned to normal.
August 5	Multiple Alarms	Power outage caused multiple alarms, reset alarms, restarted equipment, and monitored plant until conditions returned to normal.
August 25	Fine Bubble Blower Alarm	Fine bubble blower #2 tripped out, reset breaker.
September 7	RAS Pump Fault Alarm	Pumps running fine upon arrival, checked over system, no issues to be found.
September 29	Fine Bubble Blower Alarm	Fine bubble blower #2 tripped out, reset alarm, running fine.
October 1	Flood Alarm	Checked float in channel and channel level, no issues to be found.
October 1	Flood Alarm	Checked float in channel and channel level, no issues to be found. Faulty float, replaced with new one the following day

SECTION F - EFFLUENT QUALITY ASSURANCE

Effluent quality assurance is evaluated by monitoring parameters and changes throughout the plants processes. The operators monitor the aeration basin by performing weekly tests on the mixed liquor. These tests include dissolved oxygen, pH, temperature, settling tests and Mixed Liquor Suspended Solids (MLSS). As well, monitoring of the chemical dosages. Data collected from these tests provide valuable information to the operators to make the appropriate adjustments in the treatment process and take corrective actions before the plant reaches its effluent limits. The Paris WPCP met all effluent objectives and limits during the 2024 reporting period.

SECTION G- CALIBRATIONS

In house meters for pH and dissolved oxygen are calibrated by OCWA operators as per manufacturer's instructions. Annual calibrations were performed on September 13, 2024 for the raw influent, final effluent, and sludge flow meters. The meters are operating within the allotted +/- 15% error. On July 3, 2024 HACH Canada completed calibrations on the laboratory equipment. Calibration reports are in *Appendix A*

SECTION H- EFFLUENT OBJECTIVES

The Paris WPCP achieved all effluent objectives outlined in ECA #5134-CN5PSC during the 2024 reporting period. Additionally, there was no notable deterioration of final effluent quality. Design objectives were achieved for the majority of the reporting year and there were no increasing trends in the deterioration of the final effluent quality.

SECTION I – SLUDGE GENERATION AND ANALYTICAL

The Paris WPCP utilizes a three stage aerobic digestion process and a dewatering centrifuge. Aerobic sludge (biosolids) is dewatered with the centrifuge and transferred to the biosolids storage facility located at the Paris landfill transfer station. The biosolids are then removed and utilized on agricultural land as a conditioning agent. The agricultural lands that utilize the biosolids have provincial approval through the Nutrient Management Act, O. Regulation 267/03. The provincial approval approves the quality, quantity, method of application and rate of application through a Non-Agricultural Source Materials (NASM) Plan which is prepared for each agricultural property that utilizes biosolids.

It is estimated that there will be 1,800,000 kg generated in 2025. The estimated increase seems large when comparing it to 2024 total amount hauled to storage because there were issues with the centrifuge control upgrades which caused considerable downtime, reducing the biosolids production. The decreased biosolids production did not prevented the facility from achieving its compliance targets. The centrifuge control upgrades are discussed further in *Section D*. In previous years, dewatered biosolids produced has been around 1,800,000kgs, therefore we have based the estimate for 2025 on that.

TABLE 19– QUANTITY OF DEWATERED BIOSOLIDS HAULED TO STORAGE

Month	Biosolids to Storage (kg)
January	176 880
February	142 250
March	146 550
April	150 710
May	139 750
June	92 580
July	118 730
August	104 890
September	137 030
October	132 450
November	128 220
December	115 060
Total	**1 585 100**

TABLE 20– 2024 PARIS BIOSOLIDS HAULAGE AND CONDITIONING SITES

Date	NASM Site #	NASM #	Location	Quantity Land Applied (kg)
April 24,25,26, & 29	KW1117	61219	650 Hwy 5 W, Troy ON	771 700
Oct 4	HW1040	60826	46 Sunnyridge Rd, Brant ON	178 590
Nov 1 & 2	B1056	61560	91 Powerline Rd, Brantford ON	288 010
Nov 29 & 30	HN1283	60404	2756 Haldimand Rd 5, Hagersville ON	242 960

Table 21 represents the volume of liquid biosolids transported to the Paris WPCP from the St. George Water Pollution Control Plant and the Airport Sewage Treatment System in 2024.Wessuc manages haulage and the land application under ECA# 1603-4LGJBN (dated May 12, 2011).

TABLE 21– TOTAL LIQUID BIOSOLIDS RECEIVED FROM EXTERNAL SITES

Date	St. George WPCP Amount Hauled to Paris (m^3)	Airport STS Amount Hauled to Paris (m^3)
January	315	14
February	353	0
March	225	14
April	180	14
May	287	20
June	270	0
July	301	20
August	353	0
September	263	14
October	255	14
November	265	0
December	395	0
Total	**3 462**	**110**

TABLE 22– PARIS LIQUID AEROBIC BIOSOLIDS ANALYTICAL*

	Total Phosphorus (mg/L)	Total Solids (mg/L)	Ammonia + Nitrate (mg/L)	Total Kjeldahl Nitrogen (mg/L)	Nitrite (mg/L)	Nitrate (mg/L)
January	490	17 400	53.2	606	4	48
February	490	21 900	17.0	1160	<3	<3
March	420	19 000	12.8	1080	<3	<3
April	520	19 400	52.4	1110	<3	42
May	570	20 700	82.6	862	4	63
June	360	16 200	193.1	464	4	180
July	440	16 400	175.0	648	<3	170
August	260	14 500	145.6	496	<3	140
September	410	17 800	163.6	496	<3	160
October	420	16 400	143.3	394	<3	140
November	460	15 800	111.9	429	<3	110
December	433	16 000	62.9	740	<3	58
Average	**439**	**17 625**	**101.1**	**707**	**3.25**	**93**

*There are no limits for the parameters listed in Table 21 above; there is only a requirement to complete sampling.

TABLE 23– METAL CONCENTRATIONS – LIQUID AEROBIC BIOSOLIDS

	As mg/L	Cd mg/L	Co mg/L	Cr mg/L	Cu mg/L	Hg mg/L	K mg/L	Mo mg/L	Ni mg/L	Pb mg/L	Se mg/L	Zn mg/L
Limits	**1.7**	**0.34**	**3.4**	**28**	**17**	**0.11**	**140**	**0.94**	**4.2**	**11**	**0.34**	**42**
January	<0.1	0.012	0.14	1.4	7.6	0.013	80	0.18	0.51	0.9	<0.1	10
February	<0.1	0.017	0.15	1.5	8.8	0.009	83	0.20	0.56	1.1	<0.1	11
March	<0.1	0.010	0.12	1.2	6.8	0.004	73	0.17	0.46	0.9	<0.1	8
April	<0.1	0.012	0.12	1.5	8.2	0.006	83	0.23	0.55	0.8	<0.1	11
May	<0.1	0.011	0.09	1.4	8.0	0.007	84	0.18	0.48	0.6	<0.1	15
June	<0.1	0.007	0.06	0.9	5.0	0.005	51	0.14	0.32	0.3	<0.1	7
July	<0.1	0.009	0.06	1.2	5.9	0.006	59	0.15	0.38	0.3	<0.1	8
August	<0.1	0.008	0.05	1.1	5.0	0.004	51	0.14	0.35	0.2	<0.1	8
Sept	<0.1	0.008	0.06	1.3	5.9	0.008	52	0.15	0.41	0.2	<0.1	9
October	<0.1	0.008	0.07	1.3	6.1	0.005	53	0.14	0.40	0.2	<0.1	9
November	<0.1	0.009	0.09	1.2	6.9	0.007	66	0.16	0.41	0.2	<0.1	10
December	<0.1	0.008	0.08	1.0	5.9	0.005	64	0.14	0.36	0.2	<0.1	9
Average	**<0.1**	**0.010**	**0.09**	**1.3**	**6.7**	**0.007**	**67**	**0.17**	**0.43**	**0.5**	**<0.1**	**10**

< represents a non-detect lab result

TABLE 24– PARIS DEWATERED AEROBIC BIOSOLIDS*

	Total Phosphorus (mg/L)	Total Solids (mg/L)	Ammonia + Nitrate (mg/L)	Total Kjeldahl Nitrogen (mg/L)	Nitrite (mg/L)	Nitrate (mg/L)
January	4460	178800	203.4	10000	5.6	51.4
February	4200	171000	139.3	9000	3.3	11.8
March	4466	171000	323.3	10000	3.0	6.7
April	4600	177000	279.0	9700	3.5	4.0
May	5700	202200	235.0	8700	3.0	3.0
June	6250	208000	343.0	4400	3.0	3.0
July	6400	197250	307.0	5900	3.8	6.3
August	6575	214750	333.3	4000	5.5	22.5
September	6075	194500	233.8	6400	5.0	26.0
October	5460	185200	144.0	5900	9.8	16.6
November	5825	197750	158.0	5900	3.0	33.0
December	5450	189750	266.3	5100	3.0	16.3
Average	**5455**	**190600**	**247.1**	**7083**	**4.29**	**16.7**

*There are no limits for the parameters listed in Table 21 above; there is only a requirement to complete sampling.

TABLE 25– METAL CONCENTRATIONS – DEWATERED AEROBIC BIOSOLIDS (MG/L)*

	As mg/L	Cd mg/L	Co mg/L	Cr mg/L	Cu mg/L	Hg mg/L	K mg/L	Mo mg/L	Ni mg/L	Pb mg/L	Se mg/L	Zn mg/L
January	0.6	0.10	1.6	15	82	0.10	580	1.9	5.8	11	0.7	110
February	0.5	0.11	1.4	13	75	0.07	400	1.8	5.2	10	0.6	98
March	0.5	0.10	1.2	13	71	0.85	530	1.8	4.8	9.3	0.7	85
April	0.5	0.10	1.0	12	67	0.07	480	1.8	4.5	6.5	0.7	90
May	0.8	0.15	1.2	17	100	0.12	610	2.4	6.2	6.7	0.9	120
June	0.7	0.11	1.1	17	98	0.12	430	2.8	5.8	6.4	1.1	130
July	0.5	0.14	0.97	17	100	0.06	340	2.3	5.7	5.9	0.9	130
August	0.8	0.13	1.0	21	94	0.06	360	2.5	6.2	4.4	1.0	140
September	0.5	0.12	1.1	22	100	0.10	380	2.6	6.3	3.7	1.1	150
October	1.3	0.12	0.92	18	83	0.08	300	2.2	5.1	2.8	1.0	122
November	0.5	0.13	1.2	17	91	0.06	430	2.0	5.3	2.7	0.9	130
December	0.6	0.17	1.0	14	77	0.08	510	1.9	4.8	2.3	0.9	130
Average	**0.7**	**0.12**	**1.1**	**16**	**87**	**0.15**	**446**	**2.2**	**5.5**	**6.0**	**0.9**	**120**

< represents a non-detect lab result

*Please refer to Table 25 for the Nutrient Management Act O. Reg 267/03, 'Regulated Metals Content' Limits for dry weight (mg/kg) requirements. Dewatered Biosolids do not have limits.

TABLE 26- METAL WEIGHTS AEROBIC DEWATERED BIOSOLIDS (MG/KG)

	As mg/kg	Cd mg/kg	Co mg/kg	Cr mg/kg	Cu mg/kg	Hg mg/kg	K mg/kg	Mo mg/kg	Ni mg/kg	Pb mg/kg	Se mg/kg	Zn mg/kg
Limits	**170**	**34**	**340**	**2800**	**1700**	**11**	**13 000**	**94**	**420**	**1100**	**34**	**4200**
Jan	3.36	0.56	8.95	83.89	458.6	0.56	3244	10.63	32.44	61.52	3.91	615.2
Feb	2.92	0.64	8.19	76.02	438.6	0.41	239	10.53	30.41	8.48	3.51	573.1
Mar	2.76	0.55	6.63	71.82	392.3	4.70	2928	9.94	26.52	51.38	3.87	464.1
Apr	0.28	0.56	5.65	67.80	378.5	0.40	2712	10.17	25.42	36.72	3.95	508.5
May	3.96	0.74	5.93	84.08	494.6	0.59	3017	11.87	30.66	33.14	4.45	593.5
June	3.37	0.53	5.29	81.73	471.2	0.58	2067	13.46	27.88	30.77	5.29	625.0
July	2.53	0.71	4.92	86.19	506.9	0.30	1724	11.66	28.90	29.91	4.56	659.1
Aug	3.73	0.61	4.66	97.79	437.7	0.28	1676	11.64	28.87	20.49	4.66	651.92
Sept	2.57	0.62	5.66	113.1	514.1	0.51	1953	13.37	32.39	19.02	5.66	771.2
Oct	7.02	0.65	4.97	97.19	448.2	0.43	1620	11.88	27.4	15.12	5.40	658.8
Nov	2.53	0.66	6.07	85.97	460.2	0.30	2174	10.11	26.80	13.65	4.55	657.4
Dec	3.16	0.90	5.27	73.78	405.8	0.42	2688	10.0	25.30	12.12	4.74	685.1
Avg	**3.18**	**0.64**	**6.02**	**84.95**	**450.56**	**0.79**	**2170**	**11.27**	**28.58**	**27.69**	**4.54**	**621.9**

Metal Concentrations for the aerobic sludge were converted from mg/L to mg/kg to coincide with the limits acquired from the Nutrient Management Act Ontario Regulation 267/03, Section 98 and Schedule 5 Table 2 "Regulated Metals Content of NASM".

SECTION J - SUMMARY OF COMPLAINTS RECEIVED

. In 2024, the Paris WPCP received the following complaints:

TABLE 27– COMMUNITY COMPLAINTS

Date	Complaint/Response
05-Jul-24	Resident came home from vacation and house smelled of sewage. Resident stated it seemed to come from one of the sewers in front of the house and other neighbors have noticed as well. Odour unit which is connected to the collection system along Race Street/Hillside Ave was off at the time for replacement of the media filter. No other issues were noted at the plant or with plant processes.
29-Aug-24	Resident noted intermittent sewer odours but less persistent, than prior to the upgrades on the sewer lines. Odors were most consistent in the area of the plant entrance, on Race St. and on Hillside Ave near the line that comes from Mile Hill. The latter area is definitely a sewer smell, while this week another odour seem to have occurred from the plant itself. It started on Monday and is more like compost with the most intense rotten cabbage like smell occurring on Monday evening. OCWA investigated, no abnormal plant operations at time of complaint.
11-Sep-24	Resident noted intermittent odours the past few weeks and wondering if it could be caused by the construction at the plant. Construction of Leachate Offloading Station was underway at the time. OCWA investigated, no abnormal plant operations noted recently. The construction underway consisted of topsoil stripping and would not cause odours noted.

The following odour control measures are in place to mitigate potential odours at the plant and are checked when odour control complaints are received:

- Two carbon filters units to control emissions from the trunk sewer and the leachate receiving facility. The carbon filter units are inspected weekly and their media is monitored for replacement when required.
- Inlet works equipment is visually inspected daily and cleaned out as required.
- The liquid digesters are inspected and monitored daily, and cleaned out annually.
- 4 pumping stations, located upstream of the plant, doses an additive called bioxide, which assists in hydrogen sulphide reduction.

SECTION K - SUMMARY OF BYPASS EVENTS

The Paris WPCP did not experience any bypasses, and/or overflows. There were also no spills as per Part X of EPA or abnormal discharge events in 2024.
In January the plant experienced high flows outside the Normal Operating Conditions due to above freezing temperatures, a rainfall event and subsequent snowmelt. On July 16, the plant also experience high flows outside Normal Operating Conditions as a result of a significant rainfall event. In accordance with Section 9.2. Samples were collected of the event which fell on a regular scheduled monitoring day.

SECTION L –NOTICE OF MODIFICATIONS TO SEWAGE WORKS

There were no modifications to the Paris WPCP that required a Notice of Modification form to be submitted during 2024.

SECTION M – SUMMARY OF EFFORTS MADE TO ACHIEVE CONFORMANCE WITH F-5-1

The Paris WPCP is an extended aeration facility with secondary treatment provided by aeration tanks and final disinfection provided by sodium hypochlorite. Supplementary phosphorus removal is also achieved with the addition of ferrous chloride. The treatment components are capable of producing effluent quality that exceeds the effluent design objectives specified in F-5-1. The Paris WPCP is required to achieve higher effluent quality standards than the effluent guideline criteria as specified in the ECA.

Below is a summary of the efforts made to achieve conformance with Procedure F-5-1 which includes, but is not limited to, projects completed in the sanitary sewer system that resulted in overall Bypass/Overflow elimination:
The County of Brant completes the following each year:

- CCTV flushing and camera inspections 16.7% of system completed each year, at end of 6 years entire system done – annual cost of CCTV inspections is approximately $80,000

- Manhole inspections are completed on a 6 year rotation similar to the CCTV inspections
- Flow monitoring and trending at all pump stations.

SECTION N – CHANGES OR UPDATES FOR CONSTRUCTION AT PLANT

The construction of a leachate receiving station began onsite in August 2024. The leachate receiving station is anticipated to be commissioned in April 2025.

The following are updates are planned to occur in 2025:

- Municipal Class Environmental Assessment for the additional treatment capacity. Anticipated to be completed in 2025.
- The Electrical Safety Authority (ESA) completes annual inspections of the *Works*. ESA issued an Inspection Defect Notice requiring electrical upgrades for specific hazardous areas at the plant. Upgrades are being coordinated to be completed in 2025. ESA has been kept apprised of the schedule for the work.

APPENDIX A

CALIBRATION REPORTS

Industrial Technical Services

5080 Timberlea Blvd, Unit 35,
Mississauga, ON L4W 4M2
Ph: 905-275-2717 Fax: 905-275-2724
www.itsinstruments.com

Certificate No: 36947-002

Certificate Of Calibration

Customer:
Ontario Clean Water Agency (Paris PCP)
120 Race St. Paris, ON N3L 3X2
Phone: (519) 442-3255
Fax:

Cal. Date: September 13, 2024
Due Date: September 13, 2025

Instrument Identification:

Description:	Flow Indicator / Transmitter
Manufacturer:	Milltronics
Model No:	OCM III
Serial No:	PBD/B2010043
Range:	0 to 39500 m^3/day
Tolerance:	± 2% FS
Tag No:	0000311167
Location:	Plant Effluent Flow- Paris Treatment Plant

Program Parameters

PAR	SETTING	
	Entry	Description
F0	2.71828	Program Access Code
P0	0	English
P1	0	cms Units
P2	0	Celsius °C
U0	1.522	Exponent
P3	0	Exponential
P4	1	Ratiometrix
P5	6	m^3/hr

PAR	SETTING	
	Entry	Description
P6	1645.829	m^3/hr
P7	76.199	Max Flow Head
P29	60	Fail Safe Time (Sec)
P39	2	15 min
P42	0	Head by OCM III
P45	0	Low Flow Cut Off
P46	132.699	Range at Zero Head
P47	56.5	Blanking Distance

Test Report:

AS FOUND		
Reference	*Instrument*	*Error*
cm	cm	%FS
21.0	20.15	-1.12

AS LEFT		
Reference	*Instrument*	*Error*
cm	cm	%FS
21.0	20.15	-1.12

Standards Used:

Asset No	*Manufacturer*	*Calibration Date*	*Due Date*
RUL001	Starrett	July 08, 2024	July 08, 2025

	Yes	*No*
Passed:	✓	
Failed:		
Calibration Sticker applied?	✓	
Restricted Use:		

	Yes	*No*
As found in tolerance:	✓	
As left in tolerance:	✓	
Repair performed:		✓
Adjustment performed:		✓

Comments: Verified program parameters.
Single-point verification.

Performed By: A. Shah
Technician
Issue Date: September 15, 2024

Reviewed By ITS: C. Ramnarine
Service Manager
Date: September 15, 2024

Reviewed By Customer: _____

Industrial Technical Services

5080 Timberlea Blvd, Unit 35,
Mississauga, ON L4W 4M2
Ph: 905-275-2717 Fax: 905-275-2724
www.itsinstruments.com

Certificate No: 36947-003

Certificate of Calibration

Customer:
Ontario Clean Water Agency
120 Race Street, Paris ON N3L 3X2
Phone: (519) 442-3255

Calibrated: September 13, 2024

Due Date: September 13, 2025

Instrument Identification:

Description:	Ultrasonic Flowmeter
Manufacturer:	Siemens
Model Number:	Sitran Lut 400
Serial Number:	N/Av
Range:	0.000 - 616.900 m³/H / 0.000 - 616.900 m³/Hr
Tolerance:	± 2.000% FS
Tag/Asset No:	PAPCP-INLET-IFC01-FIT-CUR
	Equip. No: 0000311160
Location:	Plant Influent Bypass-Rectangular Weir

Test Report:

In Val	In Type	Out Val	Out Type	Fnd As	Error	Lft As	Error	Pass/Fail
212	m³/Hr	212	m³/Hr	210	-0.32%	210	-0.32%	Pass

Standards Used:

Asset No	Manufacturer	Calibration Date	Due Date
RUL001	Starrett	July 08, 2024	July 08, 2025

Calibration Sticker Applied?	Yes	As Found In Tolerance:	Yes	Repair Performed:	No
Restricted Use:	No	As Left In Tolerance:	Yes	Adjustment Performed:	No

Comments: Single-point verification.
Program parameters are as follows: Low Calibration Point: 950 mm | High Calibration Point: 475 mm
Sensor Offset: 0 mm | Near Range: 300 mm
Auto Sensor Offset: 530 mm
Primary Measuring Device: Exponential Device | Transducer: XRS-5

Performed By: Atul Shah, Technician — *Issue Date:* September 15, 2024

Reviewed By ITS: Carl Ramnarine, Service Manager — *Date:* September 15, 2024

Reviewed By Customer: _____

Industrial Technical Services

5080 Timberlea Blvd, Unit 35,
Mississauga, ON L4W 4M2
Ph: 905-275-2717 Fax: 905-275-2724
www.itsinstruments.com

Certificate No: 36947-004

Certificate of Calibration

Customer:
Ontario Clean Water Agency
120 Race Street, Paris ON N3L 3X2
Phone: (519) 442-3255

Calibrated: September 13, 2024

Due Date: September 13, 2025

Instrument Identification:

Description:	Ultrasonic Flowmeter
Manufacturer:	Siemens
Model Number:	Sitran Lut 400
Serial Number:	N/Av
Range:	0 - 1,000 mm / 0 - 786 mm
Tolerance:	± 2% FS
Tag/Asset No:	PAPCP-INLET-BPC01-FIT-CUR
	Equip. No: 0000311165
Location:	Plant Influent Bypass-Rectangular Weir

Test Report:

In Val	In Type	Out Val	Out Type	Fnd As	Error	Lft As	Error	Pass/Fail
-485	mm	-485	mm	-490	-0.64%	-490	-0.64%	Pass

Standards Used:

Asset No	Manufacturer	Calibration Date	Due Date
RUL001	Starrett	July 08, 2024	July 08, 2025

Calibration Sticker Applied?	Yes	As Found In Tolerance:	Yes	Repair Performed:	No
Restricted Use:	No	As Left In Tolerance:	Yes	Adjustment Performed:	No

Comments:
m3 day Range: 0 to 10000.
Distance measured from over flow line to actual water level.
Single-point verification.
Program parameters are as follows: Low Calibration Point: 1086.000 mm | High Calibration Point: 300.000 mm
Sensor Offset: 0 mm | Flow Exponent: 1.500 mm
Maximum Head: 786 mm
Primary Measuring Device: Exponential Device | Transducer: XRS-5
Zero head offset: 0.000 mm | Low Flow cutoff: 0.000 mm.

Performed By: Atul Shah, Technician — *Issue Date:* September 15, 2024

Reviewed By ITS: Carl Ramnarine, Service Manager — *Date:* September 15, 2024

Reviewed By Customer: _____

SCG FLOWMETRIX

ABB MAGMASTER
Verification Report

AS FOUND CERTIFICATION

FORWARD FLOW DIRECTION

PASS

CLIENT DETAIL	
CUSTOMER	Ontario Clean Water Agency Southwest
CONTACT	Sam Sianas
	Senior Operations Manager
	Paris, ON
	t: 519:319:2233
	e: ssianis@ocwa.com

VER. BY - FM Daniel Kettlewell

Quality Management Standards Information - Reference equipment and instrumentation used to conduct this verification test is found in our AC-QMS document at the time this test was conducted.

EQUIPMENT DETAIL	
[MUT] MANUFACTURER	UltraMag
MODEL	UM06-03-RC
CONVERTER SERIAL NUMBER	UM20040103
FUSE	Upstairs Panel Fuse 32/34
PLANT ID	Paris WWTP
METER ID	Sludge Flow
FIT ID	NA
CLIENT TAG	NA
OTHER	NA
GPS COORDINATES	43.178881, -80.374463
VERIFICATION DATE	July 16th 2024
CAL. FREQUENCY	Annual
CAL. DUE DATE	July 2025

PROGRAMMING PARAMETERS		
DIAMETER (DN)	mm	76
F.S. FLOW - MAG	LPS	51.9
F.S. RANGE - O/P	LPS	20.000
TUBE CAL. FACTOR	1	1.14372

FORWARD TOTALIZER INFORMATION		
AS FOUND	410931	M3
AS LEFT	410933	M3
DIFFERENCE	2	M3

TEST CRITERIA	
AS FOUND CERTIFICATION TEST	Yes
FORWARD FLOW DIRECTION	Yes
ALLOWABLE [%] ERROR	5

COMPONENTS TESTED	
CONVERTER DISPLAY	yes
mA OUTPUT	yes
TOTALIZER	yes
ACCURACY BASED ON [% o.r.]	yes

ERROR DOCUMENTED IN THIS REPORT; BASED ON % o.r.

FLOW TUBE SIMULATION

				0.0	0.2	0.5	1.0	2.0	m/s
				0	2	5	10	20	% F.S. Flow
				0.0	5.2	13.0	25.9	51.9	% F.S. Range
REF. FLOW RATE				0.00	1.04	2.59	5.19	10.38	LPS
MUT [Reading]				0.00	1.04	2.63	5.19	10.45	LPS
MUT [Difference]				0.00	0.00	0.04	0.01	0.08	LPS
MUT [% Error]				n/a	0.23	1.43	0.10	0.73	%
mA OUTPUT				4.000	4.830	6.075	8.151	12.301	mA
MUT [Reading]	min.	4.000	mA	3.995	4.868	6.027	8.170	12.371	mA
MUT [Difference]	max.	20.000	mA	-0.005	0.038	-0.048	0.019	0.070	mA
MUT [% Error]				-0.12	0.78	-0.80	0.24	0.56	%
TOTALIZER - REF. FLOW RATE				ENTER Totalizer test velocity if different from above in m/s			2.0	10.377	LPS
TOTALIZER [MUT]								1	M3
TEST TIME								98.93	SECONDS
CALC. TOTALIZER								1.027	M3
ERROR								-2.66	%

COMMENTS

QUALITY MANAGEMENT STANDARDS INFO.

[QMS] INFORMATION	IDENT.	ID #
[REFERENCE] FTS	ABBMM	1
PROCESS METER	PM	0
ANALOG METER	AM	N/A
STOP WATCH	SW	N/A

RESULTS

TEST	AVG % o.r.	PASS FAIL
DISPLAY	0.62	PASS
mA OUTPUT	0.13	PASS
TOTALIZER	-2.66	PASS

This report reflects the test results of the overall accuracy for the above flow converter using the specified manufacturers flow tube simulator to within the specified tolerance as identified within this report.

1) Paris WWTP Sludge Flow

"If we don't measure it, how do you manage it?"

APPENDIX B

ACUTE LETHALITY RESULTS

NAUTILUS ENVIRONMENTAL
B-11 Nicholas Beaver Road
Puslinch. ON N08 2J0
Tel. (519) 763-4412
Fax. (519) 763-4419

TOXICITY TEST REPORT
Rainbow Trout
EPS 1/RM/13

Work Order : 254929
Sample Number : 82610

SAMPLE IDENTIFICATION

Company :	Ontario Clean Water Agency, Paris	Sampling Date :	2024-06-05
Location :	Paris ON	Sampling Time :	08:35
Substance :	PARIS WPCP EFFLUENT	Date Received :	2024-06-05
Sampling Method :	Grab	Time Received :	10:55
Sampled By :	R. Rathod	Temperature at Receipt :	21 °C
Sample Description :	Clear, pale yellow	Date Tested :	2024-06-06

Test Method(s) : Reference Method for Determining Acute Lethality of Liquid Effluents to Rainbow Trout. Environment Canada, EPS 1/RM/13 (2nd Edition, December 2000, with May 2007, February 2016, and December 2023 amendments).

96-HOUR TEST RESULTS

Substance	Effect	Value
Control	Mean Impairment	0.0 %
	Mean Mortality	0.0 %
100%	Mean Impairment	0.0 %
	Mean Mortality	0.0 %

The results reported relate only to the sample tested and as received.

TEST ORGANISM

Test Organism :	*Oncorhynchus mykiss*	Mean Fork Length :	44.9 mm
Organism Batch :	T24-10	Range of Fork Lengths :	40 - 52 mm
Control Sample Size :	10	Mean Wet Weight :	0.8 g
Cumulative stock mortality rate :	0.2% (previous 7 days)	Organism Loading Rate :	0.4 g/L
Control organisms showing stress :	0 (at test completion)		

TEST CONDITIONS

Test Type :	Single concentration	Number of Replicates :	1
Sample pH Adjustment :	None	Organisms Per Replicate :	10
Sample Pre-aeration/Aeration Rate :	6.5 ± 1 mL/min/L	Organisms Per Test Level :	10
Duration of Sample Pre-Aeration :	30 minutes	Volume of Sample :	18 L
Control Pre-aeration/Aeration Rate :	6.5 ± 1 mL/L/min	Volume of Control :	18 L
Duration of Control Pre-aeration:	30 minutes	Test Method Deviation(s) :	None

REFERENCE TOXICANT DATA

Toxicant :	Potassium Chloride		
Organism Batch :	T24-10	LC50 :	4437 mg/L
Date Tested :	2024-06-03	95% Confidence Limits :	4211 - 4675 mg/L
Analyst(s) :	NP, FM, AJS, DT, JW	Historical Mean LC50 :	4276 mg/L
Statistical Method :	Spearman-Kärber	Warning Limits (± 2SD) :	3410 - 5362 mg/L

COMMENTS

•All test validity criteria as specified in the test method were satisfied.

Approved By : Conrad Neufeld
I am approving this document
Nautilus
2024-06-14 14:50-04:00
Project Manager

Accredited to ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA)

NAUTILUS ENVIRONMENTAL

TOXICITY TEST REPORT
Rainbow Trout
EPS 1/RM/13

Work Order : 254929
Sample Number : 82610

TEST DATA

	pH	Dissolved O_2 (mg/L)	Conductivity (µmhos/cm)	Temperature (°C)	O_2 Saturation (%)[3]
Initial Water Chemistry (100%) :	7.3	5.8	2400	15	62
After 30 min pre-aeration :	7.5	7.9	2401	15	84

0 HOURS

Date & Time 2024-06-06 8:45
Analyst(s) : NP/FM (DT)

Concentration	Dead	Impaired	pH	Dissolved O_2	Conductivity	Temperature	O_2 Saturation[3]
100%	0	0	7.5	7.9	2401	15	84
Control	0	0	8.4	9.4	681	15	100

Notes:

24 HOURS

Date & Time 2024-06-07 9:10
Analyst(s) : NP (DT)

Concentration	Dead	Impaired	pH	Dissolved O_2	Conductivity	Temperature
100%	0	0	–	–	–	15
Control	0	0	–	–	–	15

Notes:

48 HOURS

Date & Time 2024-06-08 9:45
Analyst(s) : DT

Concentration	Dead	Impaired	pH	Dissolved O_2	Conductivity	Temperature
100%	0	0	–	–	–	15
Control	0	0	–	–	–	15

Notes:

72 HOURS

Date & Time 2024-06-09 8:25
Analyst(s) : DT

Concentration	Dead	Impaired	pH	Dissolved O_2	Conductivity	Temperature
100%	0	0	–	–	–	15
Control	0	0	–	–	–	15

Notes:

96 HOURS

Date & Time 2024-06-10 8:30
Analyst(s) : FM (PG)

Concentration	Dead	Impaired	pH	Dissolved O_2	Conductivity	Temperature
100%	0	0	8.2	9.6	2393	15
Control	0	0	8.3	9.2	664	15

Notes:

"–" = not measured/not required
Number impaired does not include number dead.
[3] adjusted for temperature and barometric pressure

Test Data Reviewed By : JL
Date : 2024-06-11

APPENDIX C

2025 PARIS WPCP SAMPLE CALENDAR

QEMS Ontario Clean Water Agency	2025 Paris WPCP Sample Calendar	Issued: 2024-12-23 Rev.#: 0 Pages: 1 of 12
Reviewed by: Process & Compliance Technician	Approved by: Senior Operations Manager	

January 2025

Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1 **STAT** IH Full	2 **MONTHLY Sample** IH Full	3 IH Reduced	4
5	6 IH Reduced	7 IH Reduced	8 IH Full	9 **WEEKLY Sample** IH Full	10 IH Reduced	11
12	13 IH Reduced	14 IH Reduced	15 IH Full	16 **WEEKLY Sample** IH Full	17 IH Reduced	18
19	20 IH Reduced	21 IH Reduced	22 IH Full	23 **WEEKLY Sample** IH Full	24 IH Reduced	25
26	27 IH Reduced	28 IH Reduced	29 IH Full	30 **WEEKLY Sample** IH Full	31 IH Reduced	

IH (In House) Full:
Grab Raw (pH, Temp)
Grab Effluent (pH, Temp, DO, TRC)
Composite Effluent (TSS, TP, TAN)
Grab Clarifier (Blanket depths, TSS)
Grab Aeration A&B (Set Test, MLSS, DO, Temp)
Grab RAS/WAS (TSS, Volume Wasted)
Grab Liquid Biosolids (%TS)
Grab Dewatered Biosolids (%TS)
Grab Centrate (%TS)

IH (In House) Reduced:
Grab Effluent (pH, Temp, DO, TRC)
Grab Aeration (Set Test, DO, Temp.)
Grab RAS/WAS (TSS, Volume Wasted)

Raw Monthly/Weekly Sample: 24 hr Composite (BOD5, TSS, TP, TKN)
Effluent Monthly Samples: 24 hr Composite (cBOD5, TSS, TP, TAN, TKN, Nitrite, Nitrate, Ortho-P)
Effluent Weekly Samples: 24 hr Composite (cBOD5, TSS, TP, TAN, TKN)
Effluent Monthly/Weekly Sample Grab (E. coli, pH, temp, TRC)
Biosolids Liquid/Dewatered Samples (Monthly): TS, TP, TAN, Nitrate, Metals (As, Cd, Co, Cr, Cu, Hg, K, Mo, Ni, Pb, Se, Zn), E. coli's
Centrate Monthly/Weekly Sample: Grab (TSS, TP, TAN, BOD5)
Annual Acute Toxicity Sample: Grab (Rainbow Trout, Single Concentration)
Leachate: Grab (BOD5, TSS, TP, TKN)

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February 2025

Sun	Mon	Tue	Wed	Thu	Fri	Sat
						1
2	3 IH Reduced	4 IH Reduced	5 IH Full	6 **MONTHLY Sample** IH Full	7 IH Reduced	8
9	10 IH Reduced	11 IH Reduced	12 IH Full	13 **WEEKLY Sample** IH Full	14 IH Reduced	15
16	17 **STAT** IH Reduced	18 IH Reduced	19 IH Full	20 **WEEKLY Sample** IH Full	21 IH Reduced	22
23	24 IH Reduced	25 IH Reduced	26 IH Full	27 **WEEKLY Sample** IH Full	28 IH Reduced	

March 2025

IH (In House) Full:
Grab Raw (pH, Temp)
Grab Effluent (pH, Temp, DO, TRC)
Composite Effluent (TSS, TP, TAN)
Grab Clarifier (Blanket depths, TSS)
Grab Aeration A&B (Set Test, MLSS, DO, Temp)
Grab RAS/WAS (TSS, Volume Wasted)
Grab Liquid Biosolids (%TS)
Grab Dewatered Biosolids (%TS)
Grab Centrate (%TS)

IH (In House) Reduced:
Grab Effluent (pH, Temp, DO, TRC)
Grab Aeration (Set Test, DO, Temp.)
Grab RAS/WAS (TSS, Volume Wasted)

Raw Monthly/Weekly Sample: 24 hr Composite (BOD5, TSS, TP, TKN)
Effluent Monthly Samples: 24 hr Composite (cBOD5, TSS, TP, TAN, TKN, Nitrite, Nitrate, Ortho-P)
Effluent Weekly Samples: 24 hr Composite (cBOD5, TSS, TP, TAN, TKN)
Effluent Monthly/Weekly Sample Grab (E. coli, pH, temp, TRC)
Biosolids Liquid/Dewatered Samples (Monthly): TS, TP, TAN, Nitrate, Metals (As, Cd, Co, Cr, Cu, Hg, K, Mo, Ni, Pb, Se, Zn), E. coli's
Centrate Monthly/Weekly Sample: Grab (TSS, TP, TAN, BOD5)
Annual Acute Toxicity Sample: Grab (Rainbow Trout, Single Concentration)
Leachate: Grab (BOD5, TSS, TP, TKN)

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March 2025

Sun	Mon	Tue	Wed	Thu	Fri	Sat
						1
2	3 IH Reduced	4 IH Reduced	5 IH Full	6 **MONTHLY Sample** IH Full	7 IH Reduced	8
9	10 IH Reduced	11 IH Reduced	12 IH Full	13 **WEEKLY Sample** IH Full	14 IH Reduced	15
16	17 IH Reduced	18 IH Reduced	19 IH Full	20 **WEEKLY Sample** IH Full	21 IH Reduced	22
23	24 IH Reduced	25 IH Reduced	26 IH Full	27 **WEEKLY Sample** IH Full	28 IH Reduced	29
30	31 IH Reduced					

IH (In House) Full:
Grab Raw (pH, Temp)
Grab Effluent (pH, Temp, DO, TRC)
Composite Effluent (TSS, TP, TAN)
Grab Clarifier (Blanket depths, TSS)
Grab Aeration A&B (Set Test, MLSS, DO, Temp)
Grab RAS/WAS (TSS, Volume Wasted)
Grab Liquid Biosolids (%TS)
Grab Dewatered Biosolids (%TS)
Grab Centrate (%TS)

IH (In House) Reduced:
Grab Effluent (pH, Temp, DO, TRC)
Grab Aeration (Set Test, DO, Temp.)
Grab RAS/WAS (TSS, Volume Wasted)

Raw Monthly/Weekly Sample: 24 hr Composite (BOD5, TSS, TP, TKN)
Effluent Monthly Samples: 24 hr Composite (cBOD5, TSS, TP, TAN, TKN, Nitrite, Nitrate, Ortho-P)
Effluent Weekly Samples: 24 hr Composite (cBOD5, TSS, TP, TAN, TKN)
Effluent Monthly/Weekly Sample Grab (E. coli, pH, temp, TRC)
Biosolids Liquid/Dewatered Samples (Monthly): TS, TP, TAN, Nitrate, Metals (As, Cd, Co, Cr, Cu, Hg, K, Mo, Ni, Pb, Se, Zn), E. coli's
Centrate Monthly/Weekly Sample: Grab (TSS, TP, TAN, BOD5)
Annual Acute Toxicity Sample: Grab (Rainbow Trout, Single Concentration)
Leachate: Grab (BOD5, TSS, TP, TKN)

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April 2025

Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1	2 IH Full	3 **MONTHLY Sample** IH Full	4 IH Reduced	5
6	7 IH Reduced	8 IH Reduced	9 IH Full	10 **WEEKLY Sample** IH Full	11 IH Reduced	12
13	14 IH Reduced	15 IH Reduced	16 IH Full	17 **WEEKLY Sample** IH Full	18 **STAT** IH Reduced	19
20	21 **STAT** IH Reduced	22 IH Reduced	23 IH Full	24 **WEEKLY Sample** IH Full	25 IH Reduced	26
27	28 IH Reduced	29 IH Reduced	30 IH Full			

IH (In House) Full:
Grab Raw (pH, Temp)
Grab Effluent (pH, Temp, DO, TRC)
Composite Effluent (TSS, TP, TAN)
Grab Clarifier (Blanket depths, TSS)
Grab Aeration A&B (Set Test, MLSS, DO, Temp)
Grab RAS/WAS (TSS, Volume Wasted)
Grab Liquid Biosolids (%TS)
Grab Dewatered Biosolids (%TS)
Grab Centrate (%TS)

IH (In House) Reduced:
Grab Effluent (pH, Temp, DO, TRC)
Grab Aeration (Set Test, DO, Temp.)
Grab RAS/WAS (TSS, Volume Wasted)

Raw Monthly/Weekly Sample: 24 hr Composite (BOD5, TSS, TP, TKN)
Effluent Monthly Samples: 24 hr Composite (cBOD5, TSS, TP, TAN, TKN, Nitrite, Nitrate, Ortho-P)
Effluent Weekly Samples: 24 hr Composite (cBOD5, TSS, TP, TAN, TKN)
Effluent Monthly/Weekly Sample Grab (E. coli, pH, temp, TRC)
Biosolids Liquid/Dewatered Samples (Monthly): TS, TP, TAN, Nitrate, Metals (As, Cd, Co, Cr, Cu, Hg, K, Mo, Ni, Pb, Se, Zn), E. coli's
Centrate Monthly/Weekly Sample: Grab (TSS, TP, TAN, BOD5)
Annual Acute Toxicity Sample: Grab (Rainbow Trout, Single Concentration)
Leachate: Grab (BOD5, TSS, TP, TKN)

QEMS Ontario Clean Water Agency	2025 Paris WPCP Sample Calendar	Issued: 2024-12-23 Rev.#: 0 Pages: 5 of 12
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May 2025

Sun	Mon	Tue	Wed	Thu	Fri	Sat
				1 **MONTHLY Sample** IH Full	2 IH Reduced	3
4	5 IH Reduced	6 IH Reduced	7 I IH Full	8 **WEEKLY Sample** I IH Full	9 IH Reduced	10
11	12 IH Reduced	13 IH Reduced	14 IH Full	15 **WEEKLY Sample** IH Full	16 IH Reduced	17
18	19 **STAT** IH Reduced	20 IH Reduced	21 IH Full	22 **WEEKLY Sample** IH Full	23 IH Reduced	24
25	26 IH Reduced	27 IH Reduced	28 IH Full	29 **WEEKLY Sample** IH Full	30 IH Reduced	31

IH (In House) Full:
Grab Raw (pH, Temp)
Grab Effluent (pH, Temp, DO, TRC)
Composite Effluent (TSS, TP, TAN)
Grab Clarifier (Blanket depths, TSS)
Grab Aeration A&B (Set Test, MLSS, DO, Temp)
Grab RAS/WAS (TSS, Volume Wasted)
Grab Liquid Biosolids (%TS)
Grab Dewatered Biosolids (%TS)
Grab Centrate (%TS)

IH (In House) Reduced:
Grab Effluent (pH, Temp, DO, TRC)
Grab Aeration (Set Test, DO, Temp.)
Grab RAS/WAS (TSS, Volume Wasted)

Raw Monthly/Weekly Sample: 24 hr Composite (BOD5, TSS, TP, TKN)
Effluent Monthly Samples: 24 hr Composite (cBOD5, TSS, TP, TAN, TKN, Nitrite, Nitrate, Ortho-P)
Effluent Weekly Samples: 24 hr Composite (cBOD5, TSS, TP, TAN, TKN)
Effluent Monthly/Weekly Sample Grab (E. coli, pH, temp, TRC)
Biosolids Liquid/Dewatered Samples (Monthly): TS, TP, TAN, Nitrate, Metals (As, Cd, Co, Cr, Cu, Hg, K, Mo, Ni, Pb, Se, Zn), E. coli's
Centrate Monthly/Weekly Sample: Grab (TSS, TP, TAN, BOD5)
Annual Acute Toxicity Sample: Grab (Rainbow Trout, Single Concentration)
Leachate: Grab (BOD5, TSS, TP, TKN)

QEMS Ontario Clean Water Agency	2025 Paris WPCP Sample Calendar	Issued: 2024-12-23 Rev.#: 0 Pages: 6 of 12
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June 2025

Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2 IH Reduced	3	4 IH Full	5 **MONTHLY Sample** **ACUTE TOXICITY SAMPLING** IH Full	6 IH Reduced	7
8	9 IH Reduced	10 IH Reduced	11 IH Full	12 **WEEKLY Sample** IH Full	13 IH Reduced	14
15	16 IH Reduced	17 IH Reduced	18 IH Full	19 **WEEKLY Sample** IH Full	20 IH Reduced	21
22	23 IH Reduced	24 IH Reduced	25 IH Full	26 **WEEKLY Sample** IH Full	27 IH Reduced	28
29	30 IH Reduced					

IH (In House) Full:
Grab Raw (pH, Temp)
Grab Effluent (pH, Temp, DO, TRC)
Composite Effluent (TSS, TP, TAN)
Grab Clarifier (Blanket depths, TSS)
Grab Aeration A&B (Set Test, MLSS, DO, Temp)
Grab RAS/WAS (TSS, Volume Wasted)
Grab Liquid Biosolids (%TS)
Grab Dewatered Biosolids (%TS)
Grab Centrate (%TS)

IH (In House) Reduced:
Grab Effluent (pH, Temp, DO, TRC)
Grab Aeration (Set Test, DO, Temp.)
Grab RAS/WAS (TSS, Volume Wasted)

Raw Monthly/Weekly Sample: 24 hr Composite (BOD5, TSS, TP, TKN)
Effluent Monthly Samples: 24 hr Composite (cBOD5, TSS, TP, TAN, TKN, Nitrite, Nitrate, Ortho-P)
Effluent Weekly Samples: 24 hr Composite (cBOD5, TSS, TP, TAN, TKN)
Effluent Monthly/Weekly Sample Grab (E. coli, pH, temp, TRC)
Biosolids Liquid/Dewatered Samples (Monthly): TS, TP, TAN, Nitrate, Metals (As, Cd, Co, Cr, Cu, Hg, K, Mo, Ni, Pb, Se, Zn), E. coli's
Centrate Monthly/Weekly Sample: Grab (TSS, TP, TAN, BOD5)
Annual Acute Toxicity Sample: Grab (Rainbow Trout, Single Concentration)
Leachate: Grab (BOD5, TSS, TP, TKN)

QEMS Ontario Clean Water Agency	2025 Paris WPCP Sample Calendar	Issued: 2024-12-23 Rev.#: 0 Pages: 7 of 12
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July 2025

Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1 **STAT**	2 IH Full	3 **MONTHLY Samples** IH Full	4 IH Reduced	5
6	7 IH Reduced	8 IH Reduced	9 IH Full	10 **WEEKLY Sample** IH Full	11 IH Reduced	12
13	14 IH Reduced	15 IH Reduced	16 IH Full	17 **WEEKLY Sample** IH Full	18 IH Reduced	19
20	21 IH Reduced	22 IH Reduced	23 IH Full	24 **WEEKLY Sample** IH Full	25 IH Reduced	26
27	28 IH Reduced	29 IH Reduced	30 IH Full	31 **WEEKLY Sample** IH Full		

IH (In House) Full:
Grab Raw (pH, Temp)
Grab Effluent (pH, Temp, DO, TRC)
Composite Effluent (TSS, TP, TAN)
Grab Clarifier (Blanket depths, TSS)
Grab Aeration A&B (Set Test, MLSS, DO, Temp)
Grab RAS/WAS (TSS, Volume Wasted)
Grab Liquid Biosolids (%TS)
Grab Dewatered Biosolids (%TS)
Grab Centrate (%TS)

IH (In House) Reduced:
Grab Effluent (pH, Temp, DO, TRC)
Grab Aeration (Set Test, DO, Temp.)
Grab RAS/WAS (TSS, Volume Wasted)

Raw Monthly/Weekly Sample: 24 hr Composite (BOD5, TSS, TP, TKN)
Effluent Monthly Samples: 24 hr Composite (cBOD5, TSS, TP, TAN, TKN, Nitrite, Nitrate, Ortho-P)
Effluent Weekly Samples: 24 hr Composite (cBOD5, TSS, TP, TAN, TKN)
Effluent Monthly/Weekly Sample Grab (E. coli, pH, temp, TRC)
Biosolids Liquid/Dewatered Samples (Monthly): TS, TP, TAN, Nitrate, Metals (As, Cd, Co, Cr, Cu, Hg, K, Mo, Ni, Pb, Se, Zn), E. coli's
Centrate Monthly/Weekly Sample: Grab (TSS, TP, TAN, BOD5)
Annual Acute Toxicity Sample: Grab (Rainbow Trout, Single Concentration)
Leachate: Grab (BOD5, TSS, TP, TKN)

QEMS Ontario Clean Water Agency	2025 Paris WPCP Sample Calendar	Issued: 2024-12-23 Rev.#: 0 Pages: 8 of 12
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August 2025

Sun	Mon	Tue	Wed	Thu	Fri	Sat
					1 IH Reduced	2
3	4 **STAT** IH Reduced	5 IH Reduced	6 IH Full	7 **MONTHLY Sample** IH Full	8 IH Reduced	9
10	11 IH Reduced	12 IH Reduced	13 IH Full	14 **WEEKLY Sample** IH Full	15 IH Reduced	16
17	18 IH Reduced	19 IH Reduced	20 IH Full	21 **WEEKLY Sample** IH Full	22 IH Reduced	23
24	25 IH Reduced	26 IH Reduced	27 IH Full	28 **WEEKLY Sample** IH Full	29 IH Reduced	30
31						

IH (In House) Full:
Grab Raw (pH, Temp)
Grab Effluent (pH, Temp, DO, TRC)
Composite Effluent (TSS, TP, TAN)
Grab Clarifier (Blanket depths, TSS)
Grab Aeration A&B (Set Test, MLSS, DO, Temp)
Grab RAS/WAS (TSS, Volume Wasted)
Grab Liquid Biosolids (%TS)
Grab Dewatered Biosolids (%TS)
Grab Centrate (%TS)

IH (In House) Reduced:
Grab Effluent (pH, Temp, DO, TRC)
Grab Aeration (Set Test, DO, Temp.)
Grab RAS/WAS (TSS, Volume Wasted)

Raw Monthly/Weekly Sample: 24 hr Composite (BOD5, TSS, TP, TKN)
Effluent Monthly Samples: 24 hr Composite (cBOD5, TSS, TP, TAN, TKN, Nitrite, Nitrate, Ortho-P)
Effluent Weekly Samples: 24 hr Composite (cBOD5, TSS, TP, TAN, TKN)
Effluent Monthly/Weekly Sample Grab (E. coli, pH, temp, TRC)
Biosolids Liquid/Dewatered Samples (Monthly): TS, TP, TAN, Nitrate, Metals (As, Cd, Co, Cr, Cu, Hg, K, Mo, Ni, Pb, Se, Zn), E. coli's
Centrate Monthly/Weekly Sample: Grab (TSS, TP, TAN, BOD5)
Annual Acute Toxicity Sample: Grab (Rainbow Trout, Single Concentration)
Leachate: Grab (BOD5, TSS, TP, TKN)

QEMS Ontario Clean Water Agency	2025 Paris WPCP Sample Calendar	Issued: 2024-12-23 Rev.#: 0 Pages: 9 of 12
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September 2025

Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1 **STAT** IH Reduced	2 IH Reduced	3 IH Full	4 **MONTHLY Sample** IH Full	5 IH Reduced	6
7	8 IH Reduced	9 IH Reduced	10 IH Full	11 **WEEKLY Sample** IH Full	12 IH Reduced	13
14	15 IH Reduced	16 IH Reduced	17 IH Full	18 **WEEKLY Sample** IH Full	19 IH Reduced	20
21	22 IH Reduced	23 IH Reduced	24 IH Full	25 **WEEKLY Sample** IH Full	26 IH Reduced	27
28	29 IH Reduced	30 **STAT** IH Reduced				

IH (In House) Full:
Grab Raw (pH, Temp)
Grab Effluent (pH, Temp, DO, TRC)
Composite Effluent (TSS, TP, TAN)
Grab Clarifier (Blanket depths, TSS)
Grab Aeration A&B (Set Test, MLSS, DO, Temp)
Grab RAS/WAS (TSS, Volume Wasted)
Grab Liquid Biosolids (%TS)
Grab Dewatered Biosolids (%TS)
Grab Centrate (%TS)

IH (In House) Reduced:
Grab Effluent (pH, Temp, DO, TRC)
Grab Aeration (Set Test, DO, Temp.)
Grab RAS/WAS (TSS, Volume Wasted)

Raw Monthly/Weekly Sample: 24 hr Composite (BOD5, TSS, TP, TKN)
Effluent Monthly Samples: 24 hr Composite (cBOD5, TSS, TP, TAN, TKN, Nitrite, Nitrate, Ortho-P)
Effluent Weekly Samples: 24 hr Composite (cBOD5, TSS, TP, TAN, TKN)
Effluent Monthly/Weekly Sample Grab (E. coli, pH, temp, TRC)
Biosolids Liquid/Dewatered Samples (Monthly): TS, TP, TAN, Nitrate, Metals (As, Cd, Co, Cr, Cu, Hg, K, Mo, Ni, Pb, Se, Zn), E. coli's
Centrate Monthly/Weekly Sample: Grab (TSS, TP, TAN, BOD5)
Annual Acute Toxicity Sample: Grab (Rainbow Trout, Single Concentration)
Leachate: Grab (BOD5, TSS, TP, TKN)

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October 2025

Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1 IH Full	2 **MONTHLY Sample** IH Full	3 IH Reduced	4
5	6 IH Reduced	7 IH Reduced	8 IH Full	9 **WEEKLY Sample** IH Full	10 IH Reduced	11
12	13 **STAT** IH Reduced	14 IH Reduced	15 IH Full	16 **WEEKLY Sample** IH Full	17 IH Reduced	18
19	20 IH Reduced	21 IH Reduced	22 IH Full	23 **WEEKLY Sample** IH Full	24 IH Reduced	25
26	27 IH Reduced	28 IH Reduced	29 IH Full	30 **WEEKLY Sample** IH Full	31 IH Reduced	

IH (In House) Full:
Grab Raw (pH, Temp)
Grab Effluent (pH, Temp, DO, TRC)
Composite Effluent (TSS, TP, TAN)
Grab Clarifier (Blanket depths, TSS)
Grab Aeration A&B (Set Test, MLSS, DO, Temp)
Grab RAS/WAS (TSS, Volume Wasted)
Grab Liquid Biosolids (%TS)
Grab Dewatered Biosolids (%TS)
Grab Centrate (%TS)

IH (In House) Reduced:
Grab Effluent (pH, Temp, DO, TRC)
Grab Aeration (Set Test, DO, Temp.)
Grab RAS/WAS (TSS, Volume Wasted)

Raw Monthly/Weekly Sample: 24 hr Composite (BOD5, TSS, TP, TKN)
Effluent Monthly Samples: 24 hr Composite (cBOD5, TSS, TP, TAN, TKN, Nitrite, Nitrate, Ortho-P)
Effluent Weekly Samples: 24 hr Composite (cBOD5, TSS, TP, TAN, TKN)
Effluent Monthly/Weekly Sample Grab (E. coli, pH, temp, TRC)
Biosolids Liquid/Dewatered Samples (Monthly): TS, TP, TAN, Nitrate, Metals (As, Cd, Co, Cr, Cu, Hg, K, Mo, Ni, Pb, Se, Zn), E. coli's
Centrate Monthly/Weekly Sample: Grab (TSS, TP, TAN, BOD5)
Annual Acute Toxicity Sample: Grab (Rainbow Trout, Single Concentration)
Leachate: Grab (BOD5, TSS, TP, TKN)

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November 2025

Sun	Mon	Tue	Wed	Thu	Fri	Sat
						1
2	3 IH Reduced	4 IH Reduced	5 IH Full	6 **MONTHLY Sample** IH Full	7 IH Reduced	8
9	10 IH Reduced	11 **STAT** IH Reduced	12 IH Full	13 **WEEKLY Sample** IH Full	14 IH Reduced	15
16	17 IH Reduced	18 IH Reduced	19 IH Full	20 **WEEKLY Sample** IH Full	21 IH Reduced	22
23	24 IH Reduced	25 IH Reduced	26 IH Full	27 **WEEKLY Sample** IH Full	28 IH Reduced	29
30						

IH (In House) Full:
Grab Raw (pH, Temp)
Grab Effluent (pH, Temp, DO, TRC)
Composite Effluent (TSS, TP, TAN)
Grab Clarifier (Blanket depths, TSS)
Grab Aeration A&B (Set Test, MLSS, DO, Temp)
Grab RAS/WAS (TSS, Volume Wasted)
Grab Liquid Biosolids (%TS)
Grab Dewatered Biosolids (%TS)
Grab Centrate (%TS)

IH (In House) Reduced:
Grab Effluent (pH, Temp, DO, TRC)
Grab Aeration (Set Test, DO, Temp.)
Grab RAS/WAS (TSS, Volume Wasted)

Raw Monthly/Weekly Sample: 24 hr Composite (BOD5, TSS, TP, TKN)
Effluent Monthly Samples: 24 hr Composite (cBOD5, TSS, TP, TAN, TKN, Nitrite, Nitrate, Ortho-P)
Effluent Weekly Samples: 24 hr Composite (cBOD5, TSS, TP, TAN, TKN)
Effluent Monthly/Weekly Sample Grab (E. coli, pH, temp, TRC)
Biosolids Liquid/Dewatered Samples (Monthly): TS, TP, TAN, Nitrate, Metals (As, Cd, Co, Cr, Cu, Hg, K, Mo, Ni, Pb, Se, Zn), E. coli's
Centrate Monthly/Weekly Sample: Grab (TSS, TP, TAN, BOD5)
Annual Acute Toxicity Sample: Grab (Rainbow Trout, Single Concentration)
Leachate: Grab (BOD5, TSS, TP, TKN)

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December 2025

Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1 IH Reduced	2 IH Reduced	3 IH Full	4 **MONTHLY Sample** IH Full	5 IH Reduced	6
7	8 IH Reduced	9 IH Reduced	10 IH Full	11 **WEEKLY Sample** IH Full	12 IH Reduced	13
14	15 IH Reduced	16 IH Reduced	17 IH Full	18 **WEEKLY Sample** IH Full	19 IH Reduced	20
21	22 IH Reduced	23 **WEEKLY Sample** IH Full	24 IH Full	25 **STAT** IH Reduced	26 **STAT** IH Reduced	27
28	29 IH Reduced	30 IH Reduced	31 IH Full			

IH (In House) Full:
Grab Raw (pH, Temp)
Grab Effluent (pH, Temp, DO, TRC)
Composite Effluent (TSS, TP, TAN)
Grab Clarifier (Blanket depths, TSS)
Grab Aeration A&B (Set Test, MLSS, DO, Temp)
Grab RAS/WAS (TSS, Volume Wasted)
Grab Liquid Biosolids (%TS)
Grab Dewatered Biosolids (%TS)
Grab Centrate (%TS)

IH (In House) Reduced:
Grab Effluent (pH, Temp, DO, TRC)
Grab Aeration (Set Test, DO, Temp.)
Grab RAS/WAS (TSS, Volume Wasted)

Raw Monthly/Weekly Sample: 24 hr Composite (BOD5, TSS, TP, TKN)
Effluent Monthly Samples: 24 hr Composite (cBOD5, TSS, TP, TAN, TKN, Nitrite, Nitrate, Ortho-P)
Effluent Weekly Samples: 24 hr Composite (cBOD5, TSS, TP, TAN, TKN)
Effluent Monthly/Weekly Sample Grab (E. coli, pH, temp, TRC)
Biosolids Liquid/Dewatered Samples (Monthly): TS, TP, TAN, Nitrate, Metals (As, Cd, Co, Cr, Cu, Hg, K, Mo, Ni, Pb, Se, Zn), E. coli's
Centrate Monthly/Weekly Sample: Grab (TSS, TP, TAN, BOD5)
Annual Acute Toxicity Sample: Grab (Rainbow Trout, Single Concentration)
Leachate: Grab (BOD5, TSS, TP, TKN)