Ontario Clean Water Agency
Agence Ontarienne Des Eaux

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March 28, 2025

Re: 2024 Annual Performance Report for the St. George Water Pollution Control Plant

Attached is the 2024 Annual Performance Report for the St. George Water Pollution Control Plant located at 43 Victor Blvd. St. George, ON in the County of Brant. This report has been completed in accordance with:

- Section 11(4)(a) through (n) cited in Environmental Compliance Approval #2214-BNBM6Z issued on April 26, 2020 and issued to the Corporation of the County of Brant.

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.
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2024 ANNUAL PERFORMANCE REPORT

ST. GEORGE WATER POLLUTION CONTROL PLANT

43 VICTOR BOULEVARD, ST. GEORGE

MECP ENVIRONMENTAL COMPLIANCE APPROVAL

#2214-BNBM6Z (DATED APRIL 26, 2020)

PREPARED BY: ONTARIO CLEAN WATER AGENCY

PREPARED FOR: MINISTRY OF THE ENVIRONMENT, CONSERVATION AND PARKS

ON BEHALF OF: THE COUNTY OF BRANT

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INTRODUCTION

The St. George Water Pollution Control Plant (WPCP) is located at 43 Victor Boulevard in St. George. The inlet works are equipped with two manually cleaned grit channels and one channel grinder. The sewage passes through the inlet works to the annular fine bubble aeration section that utilizes one screw blower and two positive displacement blowers. The screw blower remains in service with two positive displacement blowers available on standby. The wastewater then travels to the secondary clarifier which is equipped with scum collection. The sludge is pumped from the secondary clarifier to one of the two (2) aerobic digesters. Ferric chloride is added to the aeration tank to assist in phosphorus removal. Post-secondary treatment involves an automatic backwash travelling bridge and effluent sand filter. Sodium hypochlorite provides disinfection along with a dechlorination system delivering sodium bisulphite. The facility continuously discharges to a small tributary of Fairchild Creek which then outlets to Fairchild Creek and ultimately to the Grand River, approximately 18km south east of the WPCP.

PLANT FACTS

Environmental Compliance Approval:	2214-BNBM6Z (Dated April 26, 2020)
Rated Capacity:	1,300 m^3/day
Peak Flow:	3,900 m^3/day
Receiving Water:	Fairchild Creek

The St. George WPCP is operated in accordance with Environmental Compliance Approval (ECA) # 2214-BNBM6Z issued on April 26, 2020. The following report is presented such that it corresponds with ECA # 2214-BNBM6Z Section 11(4) (a) through (n).

The St. George 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 # 999.

SECTION A – INFLUENT MONITORING DATA

As specified in ECA # 2214-BNBM6Z Section 11(4)(a) the following is a summary and interpretation of all influent monitoring data and a review of the historical trends of the sewage characteristics and flow rates. Note: St. George WPCP does not have influent flow monitoring capabilities and thus, are assumed based on effluent flows. *See Section B (IV) Flow Data.*

TABLE 1 – INFLUENT SAMPLING REQUIREMENTS

Raw sewage	Sample type	Minimum frequency
$CBOD_5$	24-hr Composite	Bi-weekly
Suspended Solids	24-hr Composite	Bi-weekly
Total Phosphorus	24-hr Composite	Bi-weekly
Total Kjeldahl Nitrogen	24-hr Composite	Bi-weekly

Table 2 below summarizes and compares the 2024 to 2023 average monthly concentrations of influent parameters for $CBOD_5$, TSS, TP and TKN.

TABLE 2 – INFLUENT AVERAGE MONTHLY CONCENTRATIONS

	2023 $CBOD_5$ (mg/L)	2024 $CBOD_5$ (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	268	233	304	219	4.77	3.70	43.87	39.10
February	198	238	333	139	5.67	5.20	47.95	46.80
March	221	210	263	317	3.42	5.04	31.95	39.40
April	202	195	336.	129	3.64	5.09	41.55	52.40
May	247	120	308	212	3.86	3.19	21.90	35.50
June	284	253	296	478	3.63	7.38	38.65	57.60
July	220	130	354	238	4.88	3.99	45.95	29.80
August	299	248	373	226	6.82	6.40	48.65	52.25
September	386	187	422	255	10.6	3.98	91.60	35.15
October	280	170	310	364	5.11	6.80	46.50	59.80
November	339	278	395	233	5.24	5.27	41.20	41.10
December	195	316	226	383	4.23	7.30	42.30	65.63
Average	**261**	**215**	**327**	**266**	**5.16**	**5.28**	**45.17**	**46.21**

Table 3 summarizes a comparison of 2023 and 2024 annual average concentrations of the influent sampling parameters. $CBOD_5$ and TSS show a reduction while TP and TKN show a slight increase.

TABLE 3 – INFLUENT- HISTORICAL COMPARISON

Parameter	2023 Average Concentration (mg/L)	2024 Average Concentration (mg/L)	% difference
$CBOD_5$ (mg/L)	261	215	-17.6
Total Suspended Solids (mg/L)	327	266	-18.6
Total Phosphorus (mg/L)	5.16	5.28	+2.3
Total Kjeldahl Nitrogen (mg/L)	45.17	46.21	+2.3

SECTION B – EFFLUENT MONITORING DATA

As specified in ECA # 2214-BNBM6Z Section 11(4)(b) the following is a summary and interpretation of all effluent monitoring data including concentration, flow rates and a comparison to the design objectives and compliance limits in the approval including an overview of the success and adequacy of the Works.

TABLE 4 - FINAL EFFLUENT SAMPLING REQUIREMENTS

Final effluent	Sample type	Minimum frequency
$CBOD_5$	24-hr Composite	Bi-weekly
Suspended Solids	24-hr Composite	Bi-weekly
Total Phosphorus	24-hr Composite	Bi-weekly
Total Ammonia Nitrogen	24-hr Composite	Bi-weekly
E.coli	Grab	Bi-weekly
TRC	Grab	Weekly
pH	Grab/On-site	Bi-weekly
Temperature	Grab/On-site	Bi-weekly
Unionized Ammonia	Calculated	Bi-weekly

TABLE 5 – FAIRCHILD CREEK MONITORING (See Note[1])

Creek Sampling	Sample type	Minimum frequency
$CBOD_5$	Grab	See Note[1]
Suspended Solids	Grab	See Note[1]
Total Phosphorus	Grab	See Note[1]
Total Ammonia Nitrogen	Grab	See Note[1]
Unionized Ammonia Nitrogen	Grab	See Note[1]
E.coli	Grab	See Note[1]
Dissolved Oxygen	On-site	See Note[1]
pH	On-site	See Note[1]
Temperature	On-site	See Note[1]

Note[1]: Fairchild Creek monitoring shall be carried out from April to December, inclusive each year. Samples shall be taken twice a month during the months of June, July and August; and once a month for the remainder of the monitoring months.

(I) EFFLUENT OBJECTIVES AND LIMITS

TABLE 6 – EFFLUENT OBJECTIVES

Parameter	Objective (mg/L)
$CBOD_5$ (mg/L)	10.0
Total Suspended Solids (mg/L)	10.0
Total Phosphorus (mg/L)	0.30
Total Ammonia Nitrogen (mg/L)	1.0 (May-Oct) 3.0 (Nov-Apr)
E.coli (Monthly Geometric Mean Density)	150 MPN/100mL
pH	6.5-8.5 inclusive
Total Residual Chlorine	Non-Detectable (<0.02 mg/L)

TABLE 7 – EFFLUENT COMPLIANCE LIMITS

Final Effluent Parameter	Monthly Average Concentration (mg/L)	Monthly Average Loading (kg/d)
$CBOD_5$	15	19.5
Suspended Solids	15	19.5
Total Ammonia Nitrogen May to October November to April	 1.2 3.6	 1.6 4.7
Total Phosphorus	0.42	0.55
E-coli (Monthly Geometric Mean Density)	200 MPN/100mL	--
pH of the effluent to be maintained between 6.0 and 9.5, inclusive, at all times		
Total Residual Chlorine	0.02 mg/L (single sample event)	--

As shown in the Tables below, the St. George WPCP did not meet all monthly average effluent objective and limit concentrations, outlined in Schedule C of ECA # 2214-BNBM6Z during the 2024 reporting period. The Tables below show the monthly average effluent concentrations compared to the effluent objectives and effluent limits. The per Capita Flows and loadings for 2024 are also outlined below.

TABLE 8 – FINAL EFFLUENT AVERAGE MONTHLY CONCENTRATIONS

	$CBOD_5$ mg/L	Total Suspended Solids mg/L	Total Phosphorus mg/L	Total Ammonia Nitrogen (mg/L)	pH min-max	Temp °C	Unionized Ammonia mg/L	E.coli 200cfu/ 100ml	**TRC (mg/L) min-max
ECA Objective	**10**	**10**	**0.3**	**3.0 (Nov-Apr) 1.0 (May-Oct)**	**6.5-8.5**	**-**	**-**	**150**	**Non-detectable**
ECA Limit	**15**	**15**	**0.42**	**3.60 (Nov-Apr) 1.20 (May-Oct)**	**6.0-9.5**	**-**	**-**	**200**	**0.02**
Jan	2.33	2.33	0.09	0.27	7.03-7.83	13.07	0.003	2.0	0.00-0.02
Feb	2.00	2.50	0.05	2.00	7.14-7.68	13.65	0.009	2.0	0.00-0.02
Mar	2.50	4.00	0.09	1.05	7.02-7.80	12.65	0.012	5.6	0.00-0.02
Apr	2.00	3.00	0.08	1.30	6.91-7.76	14.60	0.008	2.0	0.00-0.02
May	2.00	2.50	0.13	0.45	7.05-7.89	16.65	0.007	55.4	0.00-0.02
June	2.00	4.00	0.08	0.25	7.12-7.96-	20.00	0.004	3.5	0.00-0.02
July	2.50	4.00	0.09	0.2	7.09-7.88	21.13	0.006	8.4	0.00-0.02
Aug	2.00	2.50	0.19	0.2	7.17-7.78	20.20	0.003	2.0	0.00-0.02
Sept	2.00	2.00	0.14	0.3	7.20-7.83	20.70	0.005	2.8	0.00-0.02
Oct	2.50	2.00	0.20	0.7	7.20-7.86	18.20	0.017	4.5	0.00-0.02
Nov	2.00	2.50	**0.33**	**6.15**	7.24-7.69	17.85	0.070	4.0	0.00-0.02
Dec	2.50	3.00	0.24	**4.90**	7.09-7.79	15.23	0.032	2.5.	0.00-0.02
Avg	**2.19**	**2.86**	**0.14**	**1.48**	**6.91-7.96**	**16.99**	**0.015**	**7.9**	**0.00-0.02**
Seasonal Avg. Nov-April				**2.61**					
Seasonal Avg. May-Oct				**0.35**					

**TRC reported as a range as samples are collected throughout the month.

TABLE 9 – FINAL EFFLUENT AVERAGE MONTHLY WASTE LOADINGS

	$CBOD_5$ (kg/d)	Total Suspended Solids (kg/d)	Total Phosphorus (kg/d)	Total Ammonia Nitrogen (kg/d)
Loading ECA Limits	**19.5**	**19.5**	**0.55**	**4.70 (Nov-Apr) 1.60 (May-Oct)**
January	1.75	1.75	0.07	0.20
February	1.25	1.56	0.03	1.25
March	1.66	2.65	0.06	0.70
April	1.34	2.00	0.05	0.87
May	1.25	1.57	0.08	0.28
June	1.19	2.39	0.04	0.15
July	1.78	2.84	0.06	0.14
August	1.12	1.40	0.11	0.11
September	1.07	1.07	0.07	0.16
October	1.30	1.04	0.10	0.36
November	1.09	1.36	0.18	3.35
December	1.54	1.85	0.15	3.06
Average	**1.36**	**1.79**	**0.08**	**0.89**
Seasonal Avg. Nov-Apr				**1.57**
Seasonal Avg. May-Oct				**0.20**

(II) INTERPRETATION OF MONITORED DATA

There were two (2) limit/objective exceedances and one (1) objective only exceedances at the St. George WPCP during the 2024 reporting period. In the month of November, there was one (1) monthly average total phosphorus objective exceedance, one (1) total ammonia nitrogen monthly average objective and limit exceedance. The total phosphorous was exceeded with a monthly average result of 0.33mg/L, which is above the 0.30mg/L ECA Objective. This exceedance was caused by dosage adjustments that were being made to optimize the chemical addition.

The monthly average total ammonia nitrogen concentration exceeded the objective and limit in November with a monthly average of 6.15mg/L. In December, the total ammonia nitrogen monthly average effluent objective and limit were also exceeded, with a monthly average of 4.90mg/L. The ECA monthly average objective and limit exceedances reported in November and December to the MECP for total ammonia nitrogen were caused by low dissolved oxygen in the aeration basin along with increased loadings which lead to the facility being unable to nitrify. Operations staff worked diligently to increase the dissolved oxygen concentration in the aeration basin to ensure an adequate supply of DO to support the nitrification process. In December, the plant was seeded with mixed liquor suspended solids from the Paris WPCP to introduce mature microorganisms to assist with the nitrification process. Additional samples were collected during the month of December to monitor the plant performance after re-seeding. No impact to the receiving streams were noted during sampling after these exceedances.

Notifications of the non-compliances to the MECP, along with the full details, can be found in *Appendix C*. Overall, the St. George WPCP performed well during the 2024 reporting period.

TABLE 10– 2024 PER CAPITA FLOWS AND LOADINGS

Parameter	Units	Value	Typical
*Per Capita Flow	L/d per person	187	350-500
Peak Day: Annual Average Flow		2.4	2.5->3.5
Per Capita BOD_5	g/d per person	40	80
Per Capita TSS	g/d per person	51	90
Per Capita TKN	g/d per person	8.6	13
Per Capita TP	g/d per person	1.0	3.3
TSS:BOD_5	--	1.3	0.80-1.2
TKN:BOD_5	--	0.21	0.1-0.2

*Population estimated to be 3,354 as per 2021 Stats Canada

(III) COMPARATIVE EFFLUENT DATA

The following tables show the percent removal from the monthly average raw influent concentrations to the monthly average final effluent concentrations for $CBOD_5$, TSS and TP respectively.

TABLE 11 – TREATMENT EFFICIENCY FOR $CBOD_5$ REMOVAL

Month	Incoming $CBOD_5$ (mg/L)	Effluent $CBOD_5$ (mg/L)	Percent Removal (%)
January	233.0	2.33	99.0
February	238.5	2.00	99.2
March	210.0	2.50	98.8
April	195.0	2.00	98.9
May	120.0	2.00	98.3
June	253.5	2.00	99.2
July	130.0	2.50	98.1
August	248.0	2.00	99.2
September	187.0	2.00	98.9
October	170.0	2.50	98.5
November	278.5	2.00	99.3
December	316.0	2.50	99.2
Average	**215.0**	**2.19**	**98.9**

TABLE 12 – TREATMENT EFFICIENCY FOR SUSPENDED SOLIDS REMOVAL

Month	Incoming SS (mg/L)	Effluent SS (mg/L)	Percent Removal (%)
January	219.0	2.33	98.9
February	139.0	2.50	98.2
March	317.0	4.00	98.7
April	129.5	3.00	97.7
May	212.5	2.50	98.8
June	478.5	4.00	99.2
July	238.5	4.00	98.3
August	226.0	2.50	98.9
September	255.0	2.00	99.2
October	264.5	2.00	99.2
November	233.5	2.50	98.9
December	383.3	3.00	99.2
Average	**258.0**	**2.86**	**98.9**

TABLE 13 – TREATMENT EFFICIENCY FOR PHOSPHORUS REMOVAL

Month	Incoming TP (mg/L)	Effluent TP (mg/L)	Percent Removal (%)
January	3.70	0.09	97.6
February	5.20	0.05	99.0
March	5.04	0.09	98.2
April	5.09	0.08	98.4
May	3.19	0.13	95.9
June	7.38	0.08	98.9
July	3.99	0.09	97.7
August	6.40	0.19	97.0
September	3.98	0.14	96.5
October	6.80	0.20	97.1
November	5.27	0.33	93.7
December	7.30	0.24	96.7
Average	**5.28**	**0.14**	**97.2**

(IV) FAIRCHILD CREEK MONITORING DATA

As required in ECA # 2214-BNBM6Z Schedule D, monitoring of Fairchild Creek shall be carried out from April to December, inclusive, each year. Samples shall be taken twice a month during the months of June, July and August, and once a month for the remainder of the monitoring months.

Tables 14 to 17 data's indicates minor elevated E.coli results typically during the summer months when flows and levels are reduced in the creek and warmer temperatures accelerates E.coli growth.

Reviewing the sample results upstream and downstream from the plant discharge pipes it appears that there is no negative impact from the St. George facility on the Fairchild and Unnamed creek. Field pH is typically lower downstream of the plant at the discharge sample point, bringing it down into the normal range. There is minimal change between: field temperature, NH3+NH4, CBOD, unionized ammonia N and dissolved oxygen at the sample points. Lastly, total suspended solids (TSS) and total phosphorus (TP) appears to be reduced after the WPCP discharge, likely due to the lower TSS and TP value of the effluent diluting the creek.

TABLE 14 –UNNAMED CREEK SAMPLING -LOWER WETLANDS (UPSTREAM OF PLANT DISCHARGE PIPE – LOCATION 43.236840, -80.241797)

	Apr	May	June		July		August		Sept	Oct	Nov	Dec
CBOD (mg/L)	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
TSS (mg/L)	119	18	47	48	74	19	130	24	17	9	17	6
Total Phosphorus (mg/L)	0.122	0.038	0.09	0.132	0.120	0.216	0.067	0.081	0.060	0.046	0.061	0.027
NH3 + NH4 (mg/L)	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia N	0.004	0.006	0.023	0.006	0.006	0.002	0.001	0.004	0.007	0.002	0.002	0.001
E.coli	40	66	134	102	420	960	320	520	88	380	380	56
Dissolved Oxygen	9.80	8.40	7.90	7.60	8.00	5.36	8.95	7.96	9.78	8.31	8.40	12.11
Field pH	8.29	8.30	8.90	8.15	8.20	7.70	7.48	8.01	8.39	8.13	7.90	8.25
Field Temperature	11.9	16.1	19.3	23.7	20.0	22.6	20.2	20.9	17.8	10.6	15.0	1.4

TABLE 15 –UNNAMED CREEK SAMPLING – ST. GEORGE WPCP DISCHARGE (DOWNSTREAM OF PLANT DISCHARGE PIPE – LOCATION 43.237445, -80.243975)

	April	May	June		July		Aug		Sept	Oct	Nov	Dec
Dissolved Oxygen	6.83	8.00	7.80	7.61	6.86	5.36	8.46	8.01	7.25	7.69	6.88	10.14
Field pH	7.39	7.90	8.27	7.05	7.40	7.79	8.17	8.10	7.74	8.03	7.40	8.18
Field Temperature	13.0	16.0	19.3	21.3	19.4	22.6	20.0	21.3	22.1	12.3	18.0	4.6

TABLE 16– FAIRCHILD CREEK SAMPLING – BURT RD BRIDGE (UPSTREAM OF CONNECTION WITH UNNAMED CREEK – LOCATION 43.248335, -80.235139)

	April	May	June		July		Aug		Sept	Oct	Nov	Dec
CBOD (mg/L)	<4	<4	<4	<4	<4	<4	<4	4	<4	4	<4	<4
TSS (mg/L)	7	15	49	92	22	50	10	51	41	12	5	5
Total Phosphorus (mg/L)	0.032	0.031	0.085	0.161	0.078	0.149	0.058	0.121	0.061	0.044	0.033	0.032
NH3 + NH4 (mg/L)	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia N	0.007	0.006	0.008	0.023	0.10	0.004	0.007	0.012	0.001	0.009	0.003	0.002
E.coli	36	340	260	460	134	960	540	780	400	118	54	46
Dissolved Oxygen	11.40	10.30	8.70	8.22	9.42	7.47	8.37	9.83	11.05	8.99	9.80	13.50
Field pH	8.58	8.30	8.40	8.43	8.46	7.95	8.29	8.40	6.65	8.68	8.00	8.36
Field Temperature	12.1	16.5	19.3	23.3	20.8	22.1	20.3	23.8	17.8	11.5	17.3	0.4

TABLE 17– FAIRCHILD CREEK SAMPLING –GERMAN SCHOOL RD BRIDGE (DOWNSTREAM OF CONNECTION WITH UNNAMED CREEK – LOCATION 43.230912, -80.242479)

	April	May	June		July		Aug		Sept	Oct	Nov	Dec
CBOD (mg/L)	5	<4	4	<4	5	<4	<4	5	<4	<4	<4	<4
TSS (mg/L)	22	24	39	41	32	38	12	15	17	8	10	4
Total Phosphorus (mg/L)	0.048	0.036	0.085	0.099	0.088	0.194	0.077	0.064	0.043	0.056	0.052	0.043
NH3 + NH4 (mg/L)	<0.1	<0.1	<0.1	0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.6
Unionized Ammonia N	0.004	0.007	0.005	0.006	0.009	0.003	0.008	0.006	0.006	0.004	0.003	0.012
E.coli	50	84	820	122	440	760	120	242	118	160	84	100
Dissolved Oxygen	9.98	8.70	8.00	7.13	7.82	6.46	9.41	7.63	8.32	10.80	8.10	12.14
Field pH	8.30	8.40	8.20	8.12	8.40	7.86	8.34	8.20	8.29	8.37	7.96	8.37
Field Temperature	11.4	15.6	18.0	22.7	20.5	22.1	20.1	21.1	17.1	10.4	16.9	1.5

(V) FLOW DATA

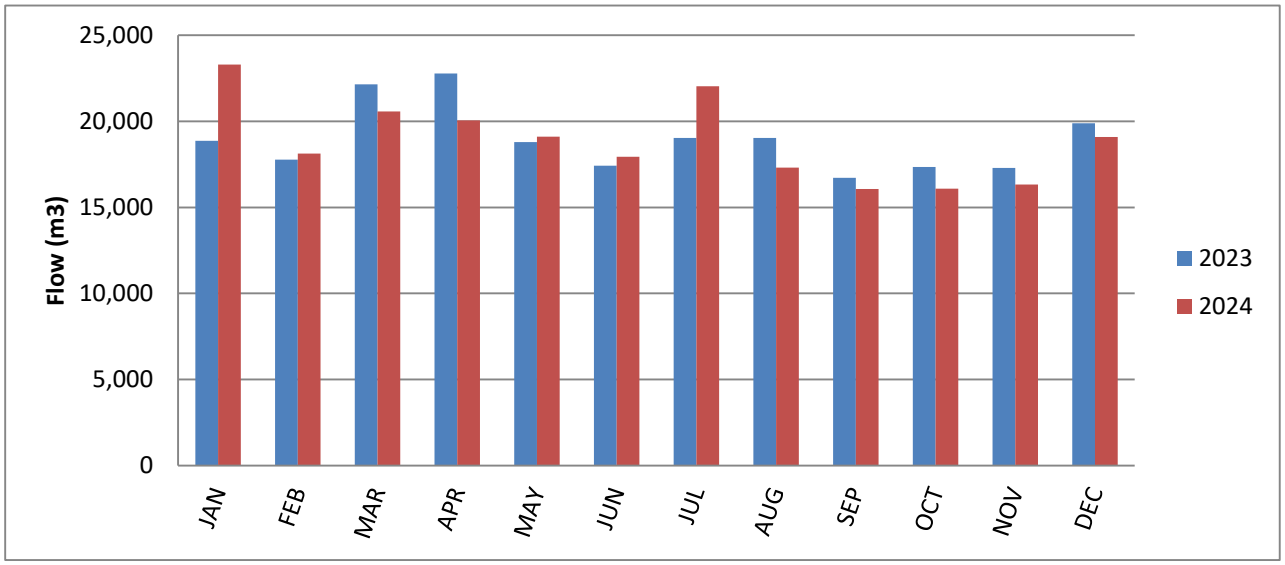
The St. George WPCP has an Annual Average Daily Influent Flow ECA rated treatment capacity of 1,300 m^3/day, but has reduced to 1,000 m^3/day based on a process capacity assessment completed in 2009. The average daily flow for 2024 was 618 m^3/day which is 61.8% of the facility's reduced capacity. The maximum daily flow recorded in 2024 was 1,469 m^3/day which is 147% of the facility's reduced capacity. The following, Table 18, shows the average daily flow, the maximum daily flow and the total flow for each month in 2024. Graph 1 shows the daily average and monthly peak flows compared to the rated capacity for 2024. Graph 2 shows a comparison of the total monthly flow for 2023 and 2024.

TABLE 18 – EFFFLUENT FLOW DATA

	Average Daily Flow (m^3/d)	Maximum Day Flow (m^3/d)	Total Month Flow (m^3)
January	751	1454	23 294
February	625	759	18 125
March	663	855	20 557
April	668	956	20 049
May	626	743	19 103
June	597	702	17 928
July	710	1469	22 025
August	558	654	17 313
September	535	617	16 063
October	519	611	16 090
November	544	633	16 321
December	616	857	19 090
Total	**--**	**--**	**225 957**
Average	**618**	**--**	**--**

GRAPH 1 – 2024 AVERAGE DAILY AND MONTHLY PEAK FLOWS

GRAPH 2 –2023 & 2024 TOTAL MONTHLY EFFLUENT FLOWS



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- OPERATING PROBLEMS ENCOUNTERED

The table below summarizes the operating problems that occurred at the St. George WPCP in 2024. In addition to the July bypass event, in November and December, the monthly average effluent concentration for total ammonia was exceeded due to low dissolve oxygen concentrations in the aeration basin. Refer to *Section B: Effluent Monitoring Data* for details.

TABLE 19– OPERATING PROBLEMS

Date	Issue/Actions Taken
July 16, 2024	Wet weather event on July 16, 2024 resulted in a post-secondary sand filter bypass Refer to ***Section J*** for Bypass details. No corrective actions required.
November, 2024	Total ammonia nitrogen monthly average concentration exceedance caused by low dissolved oxygen in the aeration basin and increase loadings to the plant. Increased air to aeration and continued to monitor. Refer to *Appendix C* for details.
December, 2024	Total ammonia nitrogen monthly average concentration exceedance caused by low dissolved oxygen in the aeration basin and increase loadings to the plant. Plant was seeded from the Paris WPCP to introduce a mature biomass to facilitate nitrification. Additional sampling was completed in December to closely monitor plant performance upon reseeding. Refer to *Appendix C* for details.

In addition to the corrective actions mentioned in Table 19, modifications have also been made to the in house sampling and testing procedures at the St. George WPCP. Revisions

have been made to the in house laboratory round sheets to better capture influent and aeration data.

SECTION D- MAINTENANCE

(I) REPAIRS AND MAINTENANCE

TABLE 20– UPGRADES/MAINTENANCE

Date	Work Performed
Jan 19	Third party contractor installed new backwash pump on the post-secondary sand filter
Feb 2	Electrician on site replacing digester #1 transfer pump disconnect
Mar 5	Electrician on site to install new generator automatic transfer switch
Apr 30	ESA Inspection
May 22	Electrician on site to replace receptacle at influent grinder as per ESA requirement
Jun 4	Unclogged digester #2 pump
Jun 14	Replaced chain in decant tube in digester #1
Oct 29	Timer installed on exterior lighting by electrician
Nov 20	Third party contractor doing inspection on generator upon further investigation noted interlock issue, interlocks bypassed to allow generator to run when required
Nov 21	RAS line cleaned
Nov 28	Replaced pressure gauge on blower #3
Dec 4	Screw blower filters and oil changed
Dec 13	Backflow preventer inspected by plumbing contractor
Dec 16	Loose asbestos tiles removed from building
Dec 18	Third party contractor looking into generator interlock issue again, replaced a timer and relay which corrected the issue

(II) ALARMS

The following Table shows the after hour alarms at the St George WPCP in 2024:

TABLE 21– AFTER HOUR ALARMS

Date	Alarm	Issue/Actions Taken
Jan 24	Blower Fault Alarm	Screw blower faulted because of high intake pressure due to foggy/moist weather condition, placed blower #2&3 in service for time being, inspected system, no issues
Feb 2	High Filter Alarm	Backwash sump pump on the post-secondary sand filter alarm was tripped, reset alarm, and throttled backwash water discharge to reduce flow.
Feb 2	Blower Fault Alarm	Screw blower faulted because of high intake pressure due to foggy/moist weather condition, placed blower #2&3 in service for time being, inspected system, no issues.

Mar 6	Blower Fault Alarm	Screw blower faulted because of high intake pressure due to foggy/moist weather condition, placed blower #2&3 in service for time being, inspected system, no issues.
Apr 7	High Filter Alarm	RAS pump plugged which increased flow to filter. Unplugged RAS pump, put back into service, monitored filter until levels came down. No other issues to note.
Apr 12	High Filter Alarm	Elevated flows for a short period of time due to rain event, filter was running well, checked system over, no issues to note.
May 12	Blower Fault Alarm	Voltage break down alarm on screw blower, cleared alarm, restarted blower, monitored parameters. Possible power dip caused the issue. No other issue to note.
May 17	Blower Fault Alarm	Checked screw blower, no alarms present, reset. Possible power dip caused alarm. No other issues to note.
May 23	Blower Fault Alarm	Checked screw blower, no alarms present at blower, alliance panel showed blower fault, reset. No other issues to note.
Jul 15	High Filter Alarm	Elevated flows for a short period of time due to rain event, filter was running well, checked system over, no issues to note.
Jul 16	High Filter Alarm	Elevated flows due to wet weather event causing bypass of the post-secondary filter
Aug 14	High Filter Alarm	Elevated flows for a short period of time due to rain event, filter was running well, checked system over, no issues to note.
Sep 13	Blower Fault Alarm	Checked screw blower, over pressure alarm, reset alarm, turned blower back on and monitored. No issues to note
Sep 21	Blower Fault Alarm	Screw blower faulted because of high intake pressure due to foggy/moist weather condition, placed blower #2&3 in service for time being, inspected system, no issues.
Sep 29	Blower Fault Alarm	Screw blower faulted because of high intake pressure due to foggy/moist weather condition, placed blower #2&3 in service for time being, inspected system, no issues.
Oct 8	Blower Fault Alarm	Screw blower faulted because of high intake pressure due to foggy/moist weather condition, placed blower #2&3 in service for time being, inspected system, no issues.
Oct 13	Blower Fault Alarm	Screw blower faulted because of high intake pressure due to foggy/moist weather condition, placed blower #2&3 in service for time being, inspected system, no issues.
Oct 18	Blower Fault Alarm	Screw blower faulted because of high intake pressure due to foggy/moist weather condition, placed blower #2&3 in service for time being, inspected system, no issues.
Nov 1	Blower Fault Alarm	Checked screw blower, intake pressure alarm, reset alarm, large temp drop, and wouldn't restart. Started up blowers #2 & 3.
Nov 21	Blower Fault Alarm	Screw blower faulted because of high intake pressure due to foggy/moist weather condition, placed blower #2&3 in service for time being, inspected system, no issues.
Nov 25	Blower Fault Alarm	Screw blower faulted because of high intake pressure due to foggy/moist weather condition, placed blower #2&3 in service for time being, inspected system, no issues.
Dec 2	Blower Fault Alarm	Screw blower faulted because of high intake pressure due to foggy/moist weather condition, placed blower #2&3 in service for time being, inspected system, no issues. OCWA is reviewing options to address this reoccurring fault with the supplier.

SECTION E - 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.

SECTION F - 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 final effluent meter. The meter is operating within the allotted +/- 15% error. Third party calibration records are included in *Appendix A.*

SECTION G- DESIGN OBJECTIVES

In 2024, there were three (3) objective exceedances at the St. George WPCP. During the month of November, there was one (1) monthly average total phosphorus objective exceedance and one (1) monthly average total ammonia nitrogen objective exceedance. During the month of December, there was one (1) monthly average total ammonia nitrogen objective exceedance. Refer to *Section B: Effluent Monitoring Data.* There were no increasing trends in the deterioration of the final effluent quality.

The Annual Average Daily Influent Flow ECA rated treatment capacity of the St. George WPCP was exceeded on two (2) occasions in 2024. In January and July the daily flow exceeded 1,300 m^3/ day due to significant rain events. Plant performance was not impacted during these high flow events. The annual average influent flow was 47.5% of the rated capacity in 2024.

Section H - Sludge Generation and Analytical

The St. George WPCP liquid biosolids are stored onsite in the digestion tank and then subsequently trucked to the Paris WPCP. The biosolids are dewatered at the Paris WPCP through a centrifuge and transferred to the biosolids storage facility located at the closed Paris landfill site. 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, Ontario Regulation 267/03. The quality, quantity, method of application and rate of application is outlined in a Non-Agricultural Source Materials (NASM) Plan which is prepared for each agricultural property that utilizes biosolids and is part of the approval.

Table 23 below is a tabulation of the sludge volumes generated in 2024.

TABLE 22– SLUDGE/BIOSOLIDS MONITORING

Final effluent	Sample type	Minimum frequency
Total Solids	Grab	Annually
Total Phosphorus	Grab	Annually
Total Ammonia Nitrogen	Grab	Annually
Nitrate as Nitrogen	Grab	Annually
Metal Scan (Arsenic, Cadmium, Cobalt, Chromium, Copper, Lead, Mercury, Molybdenum, Nickel, Potassium, Selenium, Zinc)	Grab	Annually

TABLE 23– ST. GEORGE TOTAL LIQUID BIOSOLIDS HAULAGE

Month	Amount (m^3)
January	315
February	353
March	225
April	180
May	287
June	270
July	301
August	353
September	263
October	255
November	265
December	395
Annual Total	**3462**

Anticipated volumes of sludge to be generated in 2025 are expected to be similar to the 2024 reported volumes. It is estimated that in 2025 3,500 m^3 of sludge will be generated.

The following Table 24 show the liquid aerobic biosolids for the St George WPCP. This sample is collected from the aerobic digester on a monthly basis for monitoring purposes but is only required annually in accordance with the ECA. Two samples were completed in January and April due to operator error.

TABLE 24– LIQUID AEROBIC BIOSOLIDS

	Total Phosphorus (mg/L)	Total Solids (mg/L)	Ammonia + Nitrate (mg/L)	Nitrite (mg/L)	Nitrate (mg/L)
January	610	16 300	19.1	<3	7
January	430	18 400	20.0	<3	<3
February	400	21 600	55.6	<3	<3
March	390	17 900	33.9	<3	<3
April	540	23 300	45.0	<3	<3
April	490	21 900	50.1	<3	<3
May	490	21 900	200	<3	<3
June	440	16 800	54.0	<3	<3
July	440	17 000	9.8	<3	<3
August	280	11 100	8.8	<3	<3
September	430	15 700	12.8	<3	<3

October	450	14 600	142.7	9	120
November	374	10 800	276.2	13	230
December	542	17 200	180.1	3	141
Average	**450**	**17464**	**79.2**	**4.2**	**37.7**

TABLE 25– METAL CONCENTRATIONS OF 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	0.013	0.09	2.4	7.1	0.008	130	0.16	0.69	9.2	<0.1	11
January	<0.1	0.010	0.07	1.8	5.3	0.005	80	0.11	0.52	6.6	<0.1	7
February	<0.1	0.015	0.07	2.3	5.6	0.004	71	0.20	0.66	3.4	<0.1	7
March	<0.1	0.012	0.05	2.0	4.7	0.003	64	0.15	0.51	1.9	<0.1	7
April	<0.1	0.016	0.07	2.8	7.4	0.005	92	0.21	0.72	2.3	<0.1	10
April	<0.1	0.012	0.06	2.3	5.9	0.008	78	0.18	0.59	1.7	<0.1	9
May	<0.1	0.014	0.07	2.6	6.7	0.008	72	0.18	0.66	1.4	<0.1	10
June	<0.1	0.012	0.06	2.0	5.2	0.004	64	0.15	0.54	0.8	<0.1	8
July	<0.1	0.014	0.07	2.7	5.6	0.004	64	0.29	0.60	0.5	<0.1	8
August	<0.1	0.008	0.05	1.5	4.0	0.002	50	0.09	0.41	0.2	<0.1	5
September	<0.1	0.010	0.06	1.8	5.5	0.003	57	0.13	0.53	0.2	<0.1	8
October	<0.1	0.010	0.07	1.9	5.7	0.003	63	0.14	0.57	0.2	<0.1	8
November	<0.1	0.009	0.05	1.4	4.5	0.005	63	0.11	0.46	0.2	<0.1	6
December	<0.1	0.012	0.06	1.7	6.2	0.006	84	0.13	0.55	0.3	<0.1	9
Average	**<0.1**	**0.012**	**0.06**	**2.1**	**5.7**	**0.005**	**95**	**0.16**	**0.57**	**2.1**	**<0.1**	**8**

TABLE 26 – METAL WEIGHTS AEROBIC 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**
January	6.13	0.798	5.52	147.2	435.58	0.49	7975.5	9.82	42.33	564.4	6.13	674.85
January	5.43	0.543	4.29	97.8	288.04	0.27	4907.9	5.98	28.26	358.7	5.43	380.43
February	4.63	0.694	3.24	106.5	259.26	0.19	4355.8	9.26	30.56	157.4	4.63	324.07
March	5.59	0.670	2.79	111.7	262.57	0.17	3926.4	8.38	28.49	106.2	5.59	391.06
April	4.29	0.687	3.00	120.2	317.60	0.21	5644.2	9.01	30.90	98.7	4.29	429.18
April	4.57	0.548	2.74	105.0	269.41	0.37	4785.3	8.22	26.94	77.6	4.57	410.96
May	4.57	0.639	3.20	118.7	305.94	0.37	4417.2	8.22	30.14	63.9	1.57	456.62
June	5.95	0.714	3.57	119.1	309.52	0.24	3926.4	8.93	32.14	47.6	5.95	476.19
July	5.88	0.824	4.12	158.8	329.41	0.24	3926.4	17.06	35.29	29.4	5.88	470.59
August	5.88	0.471	2.94	88.2	235.29	0.12	3067.5	5.29	24.12	11.8	5.88	294.12
Septembe r	6.37	0.637	3.82	114.7	350.32	0.19	3496.9	8.28	33.76	12.7	6.37	509.55
October	6.85	0.685	4.79	130.1	390.41	0.21	3865.0	9.59	39.04	13.7	6.85	547.95

November	6.85	0.616	3.42	95.9	308.22	0.34	3865.0	7.53	31.51	13.7	6.85	410.96
December	5.81	0.698	3.49	98.8	360.47	0.35	5153.4	7.56	31.98	17.4	5.81	523.26
Average	**5.63**	**0.659**	**3.64**	**115.2**	**315.86**	**0.27**	**3865.0**	**8.79**	**31.82**	**112.4**	**5.63**	**449.99**

NOTE: Metal Concentrations for the anaerobic sludge were converted from mg/L to mg/kg to coincide with the limits acquired from the Nutrient Management Act Reg 267/03 Section 98 and Schedule 5 Table 2 “Standards for Regulated Metals in Materials Applied to Land that are Sewage Biosolids”

SECTION I - SUMMARY OF COMPLAINTS RECEIVED

There were no community complaints received for the St. George WPCP during 2024.

SECTION J – SUMMARY OF BY-PASS, OVERFLOWS OF OTHER EVENTS

The following table below shows the bypass event which occurred at the St. George WPCP during the 2024 reporting period. All communication with the MECP can be found in *Appendix B.* The bypass event that occurred in 2024 was a post-secondary bypass. Flow was disinfected prior to entering the receiving stream.

TABLE 27 – BY-PASS EVENTS

Date	Event Details
July 16, 2024	The facility experienced excessive flows due to a rain event which caused a bypass of post-secondary sand filters. A daily flow of 1532.5 m^3 was recorded. MECP’s Spills Action Centre, downstream users and GRCA were notified. Sampling and documentation was completed, as required. To reduce the hydraulic loading on the post-secondary sand filters and minimize the bypass volume, wastewater was diverted to the digester during the event. The post-secondary bypass event lasted 8.5 hours with approximately 744 m^3 being bypassed. Composite effluent samples were collected and sent for lab analysis. The sample results were below the effluent limits as per the ECA, no exceedance of the limits occurred.

SECTION K – COPY OF NOTICE OF MODIFICATIONS SUBMITTED

There were no modifications to the St George WPCP that required a Notice of Modification form to be submitted for 2024.

SECTION L – SUMMARY OF EFFORTS MADE TO ACHIEVE CONFORMANCE WITH F-5-1 “Determination Of Treatment Requirements For Municipal And Private Sewage Treatment Works”

The St. George secondary and post-secondary treatment is provided by an aeration tank and sand filter system with final disinfection provided by sodium hypochlorite. Supplementary phosphorus removal is also achieved with the addition of ferric chloride. The treatment components are capable of producing effluent quality that exceeds the effluent design objectives specified in F-5-1. The St. George WPCP is required to achieve higher effluent quality standards than the effluent guideline criteria as specified in the ECA.

There were no bypasses or overflow events in the collections system in 2024.

In 2020, the County of Brant installed 4 SmartCovers™ liquid level manhole monitors in the St. George sanitary collection system. These smart covers are located on strategic manholes that essentially section the Town of St. George into 4 monitoring zones.

- STG01063 (North East Area)
- STG01030 (West Side)
- STG00126 (Central Corridor)
- STG01106 (Combination of the 3 above)

These Smart Covers are capable of measuring liquid levels in the collection system, trending data, and allow for further interpretation and analysis to better quantify Inflow & Infiltration (I&I) impacts after rain events along with pin pointing locations where I&I is more pronounced. The information gathered will allow for interpretation of results and applying this knowledge in the field to correct issues with manholes/address drainage inconsistencies. The initial costs for these monitors was approximately $25,000 and $2,500 annually thereafter.

CCTV flushing and camera inspections are completed annually (16.7% of the St. George Collections system per year for 6 years when the entire system has been completed) – annual cost of CCTV inspections is approximately $18,000.

SECTION M – CHANGES OR UPDATES FOR CONSTRUCTION AT PLANT

R.V Anderson and Associates has been retained to complete the detailed design for the St. George WPCP upgrade and expansion. Construction is anticipated to begin in 2025.

SECTION N – SUMMARY OF DEVIATION FROM MONITORING SCHEDULE

The following deviations to the monitoring schedule occurred in 2024:

TABLE 28 – DEVIATIONS FROM MONITORING SCHEDULE

Date	Reason
29-Feb-24	Moved compliance sampling from Wednesday February 28th to February 29th due to the composite sample malfunctioning.
06-Dec-24	Moved compliance sampling from Wednesday December 4th to Friday December 6th due to composite sampler malfunctioning.
20-Dec-24	Moved compliance sampling from Wednesday December 18th to Friday December 20th due to asbestos contamination in the building, from removal work not being done properly.
23-Dec-24	Additional effluent samples collected in December after re-seeding the aeration tank from Paris WPCP due to low DO concertation and high total ammonia nitrogen
30-Dec-24	Additional effluent samples collected in December after re-seeding the aeration tank from Paris WPCP due to low DO concertation and high total ammonia nitrogen

APPENDIX A

CALIBRATION RECORD

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: 36947-001

Certificate Of Calibration

Customer:
Ontario Clean Water Agency (Paris PCP)
43 Victor Blvd., St. George, ON N0E 1N0
Phone: (519) 448-1830
Fax:

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

Instrument Identification:

Description:	Ultrasonic Flowmeter
Manufacturer:	Milltronics
Model No:	OCM III / 7ML 1002-0 AA05
Serial No:	PBD / BD120237
Range:	0 to 125 m³/Hr
Tolerance:	± 2% FS
Tag No:	0000386800
Location:	Plant Effluent Flow - Rectangular Weir

Program Parameters

PAR	SETTING	
	Entry	Description
P0	0	English
P1	0	Centimeters
P2	0	Celsius
P3	6	3680 TPR Weir
P4	0	Absolute
P5	6	m³/hr
P7	15.1999	Height of Max Head

PAR	SETTING	
	Entry	Description
U0	92	Approach Width B
U1	30.39999	Crest Width B
U2	220	Crest Height P
P45	0	cms (Low Flow Cut-Off Head)
P46	75.5	cms (Range at Zero Head)
P47	30.48264	cms (Blanking Distance)

Test Report:

AS FOUND		
Reference	*Instrument*	*Error*
cm	cm	%FS
7.20	7.15	-0.07

AS LEFT		
Reference	*Instrument*	*Error*
cm	cm	%FS
7.20	7.15	-0.07

Standards Used:

Asset No	*Manufacturer*	*Calibration Date*	*Due Date*
RUL001	Starrett	July 8, 2024	July 8, 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: Single-point verification.
Instrument located at St.George location.

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 certifies that calibration was done using test equipment which are certified and traceable to NRC and/or NIST.
Our quality system complies with the requirements of ISO 9001:Current Version.
Industrial Technical Services owns copyright of this certificate and it may not be reproduced in full or in part except with the prior written consent of Industrial Technical Services.

APPENDIX B

2024 BYPASS COMMUNICATIONS

ONTARIO CLEAN WATER AGENCY
AGENCE ONTARIENNE DES EAUX

Paris WPCP
120 Race St.
Paris, ON N3L3X2

Ms. Ivanna Okroukh
Ministry of the Environment, Conservation and Parks
1 Stone Road West, Floor 4SW
Guelph, Ontario N1G 4Y2

July 23, 2024

Dear Ms. Okroukh,

RE: Tertiary Filter bypass on July 16, 2024 at the St. George Water Pollution Control Plant (WPCP) located at 43 Victor Blvd, St George, ON. SAC Reference #1-90IQ8C.

This is a follow up to the notification provided to the Spills Action Center on July 16, 2024 concerning an unplanned tertiary bypass event that occurred at the St. George WPCP. This was due to excessive inflow from an extreme wet weather event brought on by significant rainfall in the surrounding area. The bypass was reported to SAC and downstream users on July 16, 2024 at 21:34hrs.

On July 16, 2024 at 18:48, Operations staff were called to the St George WPCP for a high filter level alarm. Upon arrival staff confirmed that the plant was receiving excessive flows at 19:00hrs due to the extreme wet weather condition. To minimize the amount of flow bypassed, wastewater was diverted to the digester and unnecessary recirculating side streams were reduced. The bypass of the Tertiary sand filters occurred between 19:00hrs to 3:30hrs. With a total estimated volume of 744m^3 being bypassed. Samples were obtained and results will be forwarded once received. Refer to attached bypass report.

If there are any questions or concerns regarding this notice, please contact me at (226) 387-1292.

Sincerely,

Meagan Lowden
Process and Compliance Technician
Ontario Clean Water Agency

Cc// Matthew D'Hondt – Solid Waste/Wastewater Operations Manager, County of Brant Public Works – County of Brant
Maegan Garber – Safety, Process and Compliance Manager, OCWA
Sam Sianas – Regional Hub Manager, OCWA
EEDONTOnCall@ec.gc.ca – Environment Canada WSER
environmentalhealth@bchu.org – Brant Medical Officer of Health

QEMS Ontario Clean Water Agency	**Bypass, Overflow or Spill Form** **Southwest Region**	Issued: 2019-11-08 Rev.#: 1 Pages: 1 of 5
Reviewed by: Safety, Process and Compliance Manager	Approved by: Regional Hub Manager	

General Information

Facility Name: **St George WPCP** #110003415	Facility ORG #: **5792**
Date: July 16, 2024	WO #:

Type of Event

Table 3 – Environmental Discharges/Releases	
☐Spill ☒Bypass ☐Overflow	Use Flow Chart in Appendix A and definitions below to help determine what incident you have. Bypass: means diversion of sewage around one or more treatment processes, excluding Preliminary Treatment System, within the Sewage Treatment Plant with the diverted sewage flows being returned to the Sewage Treatment Plant treatment train upstream of the Final Effluent sampling point and discharge via the approved effluent disposal facilities (i.e. outfall) Overflow: means a discharge to the environment from the Works at designed location other than the approved effluent disposal facilities (i.e. outfall) or via the effluent disposal facilities downstream of the Final Effluent sampling point Spill: when used with reference to a pollutant, means a discharge into the natural environment (air, land and water), from or out of a structure, vehicle or other container, and that is abnormal in quality or quantity in light of all the circumstances of the discharge

Reason for Discharge/Release

Type	Reason	May result in if you don't bypass/overflow : (indicate all that may apply)	Comments/Details
☐Temporary reduction in capacity of a treatment process /works ☒Unforeseen flow condition that exceeds the design capacity of a treatment process/works ☐Other (i.e. Spill)	☐Structural Failure ☐Mechanical Failure ☐Electrical Failure ☒Rain Event ☐Snow Melt Event ☐Other	☐Personal Injury ☐Loss of Life ☐Health hazard ☐Basement flooding ☐Severe property damage ☐Equipment damage ☒Treatment process upset	

Other Information

Item	Information	Comments
Location	43 Victor Blvd	
Date began:	July 16, 202	
Time began:	19:00	
Date ended:	July 17, 2024	
Time ended:	3:30	
Volume Released/Discharged (m^3) *identify whether estimated or measured	744m3	Estimated
Treatment Process gone through prior to release	☒Preliminary Treatment (Screening/grit removal) ☐Primary Treatment (Primary Clarifiers, sedimentation) ☒Secondary Treatment (Aeration, biological processes, physical/chemical processes, effluent quality <15mg/L CBOD5 & TSS) ☐Secondary Equivalent (lagoons) ☐Tertiary Treatment (Membrane bioreactors, effluent quality <5mg/L CBOD5 & TSS) ☒Disinfection ☐Other	System is extended aeration plant without primary treatment tanks
Efforts made to maximize flow through downstream treatment process	Divert flow to digester; reduce recirculating side streams.	
Reason why discharge was not avoided	Excessive rain fall in short period of time	
Sampling Frequency *refer to ECA for parameter requirements	☒Daily for Bypasses ☐Beginning of Overflow event at STP ☐Every 8hrs for Overflow event at STP ☐Representative sample of Overflow event at PS or collection system	

	☐Other	

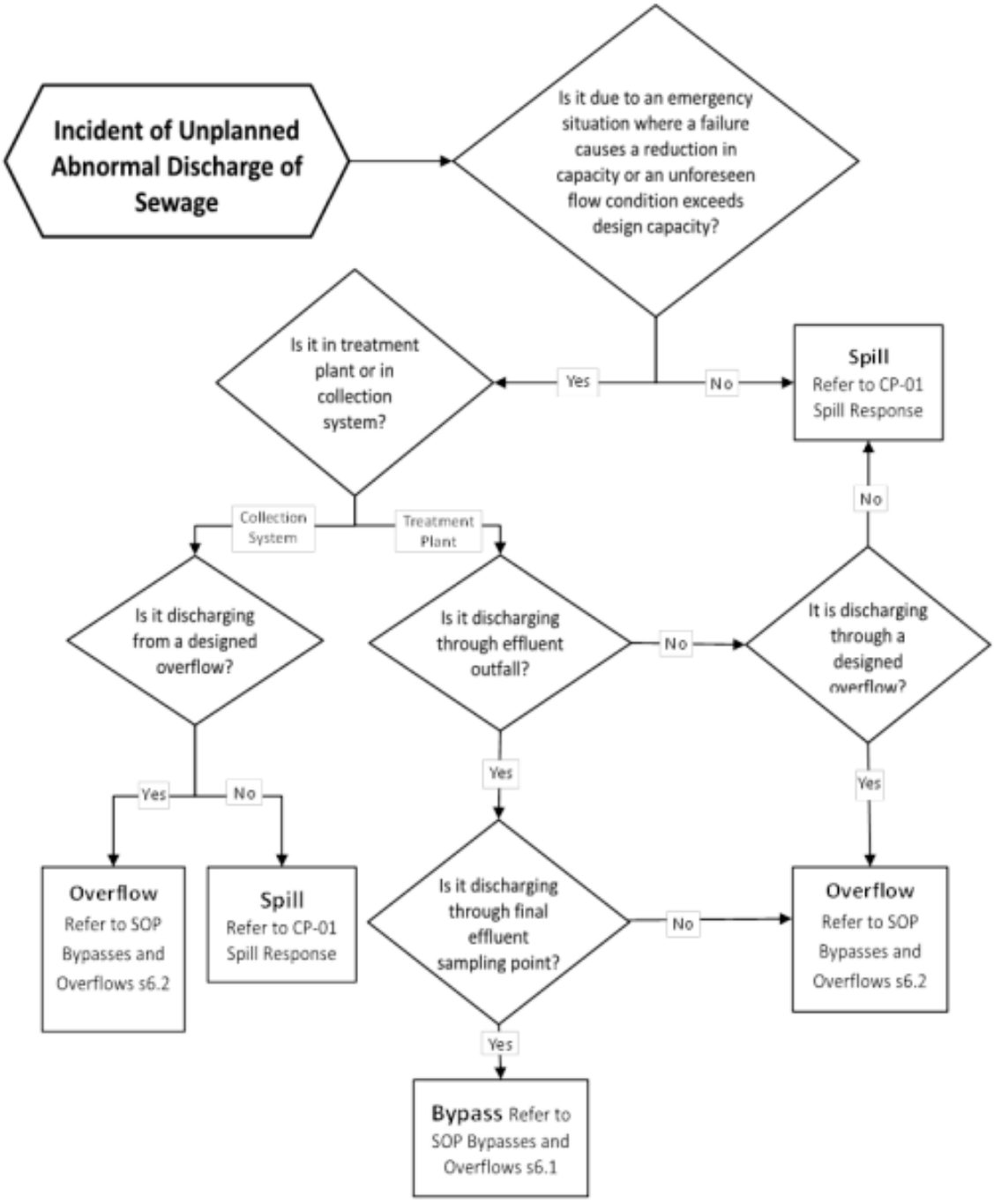
Notification

	Person Contacted	Date	Time
Immediate Notification by Responding Operator			
ORO	Al Robdrup	July 16,2024	21:00
Spills Action Center (SAC) *obtain incident reference number from SAC Officer Ref#	Jenna Diesch	July 16,2024	21:34
Local Medical Officer of Health (Public Health Unit)	Message left with Health Unit	July 16,2024	22:49
End of Event Notification (Immediately) by Responding Operator			
ORO	Al Robdrup	July 16,2024	7:00
Spills Action Center (SAC)	Zohal Akbari	July 16,2024	5:06
Local Medical Officer of Health (Public Health Unit)	Called	July 17,2024	9:15
Other Notification as per Cluster Communication Protocols			
Conservation Authority	N/A	July 16,2024	22:01
Local MECP Inspector	Via SAC report	July 16,2024	
Owner/Client	Yes	July 17, 2024	8:30
Operations Management	Yes	July 16, 2024	21:20
PCT	yes	July 17,2024	8:00
SPC Manager	yes	July 17,2024	8:28
Downstream Users (Dunnville Water Plant) (Oshweken Water Plant)	yes	July 16, 2024	20:45

Additional Reporting (PCT or designate)

1. If a discharge/release that directly impacts surface water has occurred a report under the Fisheries Act of the Unauthorized Deposit is to be made. Immediate notification through SAC satisfies this requirement. A follow up report is to be provided as soon as practicable, a template notification letter is provided in the PCT Folder.
2. The written notification of Unauthorized Deposit should be copied to the local MECP Office.
3. A follow up report of Sampling Results is to be provided to both Fisheries Act and local MECP Office.
4. For Bypasses within 7 days of receiving the last effluent sampling results at the end of the month the Monthly Average Effluent Concentration must be calculated and assessed for non-compliance. If there is an exceedance with the arithmetic mean then flow weighted arithmetic mean is to be calculated (refer to Schedule F). Follow reporting requirements for Non-compliances.
5. Quarterly (Feb 15, May 15, Aug 15 and Nov 15) a report is to be supplied to the District Manager of the MECP of the Bypasses and Overflows for the facility. A template letter is provided on the Shared Drive.

Appendix A



Revision History

Date	Revision #	Reason for Revision	Revision By
2018-08-10	0	Form Issued	Cindy Sigurdson
2019-11-08	1	Revised flow chart to match SOP; fix page numbers	Cindy Sigurdson

APPENDIX C

2024 EFFLUENT EXCEEDANCE NOTIFICATIONS TO MECP

ONTARIO CLEAN WATER AGENCY
AGENCE ONTARIENNE DES EAUX

OCWA Location: Paris Cluster
Address: 120 Race St
City: Paris, ON, Postal Code: N3L #X2
Tel: 519-442-3255 Fax: 519-442-2616

NOTIFICATION OF NON-COMPLIANCE

December 4, 2024

Ivanna Okroukh
MECP District Guelph Office
1 Stone Road West
Guelph, ON N1G 4Y2

Re: Notification of Non-compliance with ECA Effluent Limit at St. George WPCP

This is a notification of non-compliance with an effluent limit for the St. George WPCP submitted in accordance with terms and conditions of Environmental Compliance Approval #2214-BNBM6Z, and provisions of the *Ontario Water Resources Act* and *Environmental Protection Act*. This written notice confirms the verbal notification provided on December 3, 2024 at 10:15am.

The following effluent parameter(s) were exceeded:

Parameter	Date of Non-Compliance (yyyy-mm-dd)	Type of Limit	Type of Sample	Result (Specify Units)	ECA Effluent Limit
Total Ammonia Nitrogen	2024-11-20	Monthly Average	Composite	6.15 mg/L	3.6 mg/L

Comments/Actions Taken:

The monthly average total ammonia nitrogen (TAN) concentration was exceeded during the month of November with a result of 6.15mg/L, from the average of the 2 samples taken in November on the 6th and the 20th. The exceedance was caused by the sample collected on November 20th, 2024, which had a result of 12.0 mg/L. This elevated single sample result is believed to have been caused by low dissolved oxygen concentrations in the aeration basin, inhibiting the nitrification process.

The low dissolved oxygen concentration in the aeration basin is believed to have been caused by the introduction of decant from Digester #1 on November 18th and 19th causing higher influent loading concentrations. With an increase in loadings and the reduction in dissolved oxygen, the plant was unable to effectively nitrify. Operations staff have been closely monitoring the mixed liquor suspended solids and the dissolved oxygen concentration in the aeration basin and have halted decanting until conditions in the treatment plant have stabilized. Operations staff have also cleaned out Digester #1 completely to remove any septic sludge. Decanting will resume, as required to ensure effective wasting volumes and sludge storage capacity.

If you have any questions or concerns, please contact me at 226-387-1292.

Sincerely,

Meagan Lowden
Process & Compliance Technician, OCWA
Southwest Hub – Paris Cluster

cc: Sam Sianas - Regional Hub Manager, OCWA
Maegan Garber - Safety, Process & Compliance Manager, OCWA
Ben Madill - Senior Operations Manager, OCWA
Matthew D'Hondt, Solids Waste/Wastewater Manager, County of Brant

ONTARIO CLEAN WATER AGENCY
AGENCE ONTARIENNE DES EAUX

OCWA Location: Paris Cluster
Address: 120 Race St
City: Paris, ON, Postal Code: N3L 3X2
Tel: 519-442-3255 Fax: 519-442-2616

NOTIFICATION OF NON-COMPLIANCE

January 9, 2025

Ivanna Okroukh
MECP District Guelph Office
1 Stone Road West
Guelph, ON N1G 4Y2

Re: Notification of Non-compliance with ECA Effluent Limit at St. George WPCP for Total Ammonia Nitrogen in December 2024

This is a notification of non-compliance with an effluent limit for the St. George WPCP submitted in accordance with the terms and conditions of Environmental Compliance Approval #2214-BNBM6Z, and provisions of the *Ontario Water Resources Act* and *Environmental Protection Act*. This written notice confirms the verbal notification provided on January 8, 2025 at 9:19am.

The following effluent parameter(s) were exceeded:

Parameter	Date of Non-Compliance (yyyy-mm)	Type of Limit	Type of Sample	Result (Specify Units)	ECA Effluent Limit
Total Ammonia Nitrogen	2024-12	Monthly Average	Composite	4.90 mg/L	3.6 mg/L

Comments/Actions Taken:

The monthly average total ammonia nitrogen (TAN) concentration was exceeded during the month of December 2024 with a result of 4.90mg/L. This exceedance was caused by low dissolved oxygen concentrations in the aeration basin and an insufficient biomass which inhibited the nitrification process. Beginning in November, Operations Staff noted lower dissolved oxygen concentrations in the aeration basin and worked diligently to identify the cause.

The St. George WPCP utilizes one, 60 HP hybrid screw blower to supply air to the annular aeration tank, air lift pumps and the aerobic digester. The blower is controlled by a variable frequency drive. During the investigation into the low dissolved oxygen concentrations, Operations staff discovered an increase in dissolved oxygen in the aerobic digester and worked on balancing the air flow to the aeration tank.

In order to address the biomass in the aeration tank, Operations Staff increased wasting volumes and re-seeded with approximately 45m^3 of mixed liquor suspended solids from the Paris WPCP on December 11th and December 16th (total of 90m^3). By re-seeding the plant, mature microorganisms were introduced to the aeration tank to assist with the nitrification process. Additional samples were collected during the month of December to monitor the plant

ONTARIO CLEAN WATER AGENCY
AGENCE ONTARIENNE DES EAUX

performance after re-seeding. Table 1 below details the TAN sample results for the month of December and the progress that was made after increasing the dissolved oxygen concentration and introducing a healthy mixed liquor population.

Date	Total Ammonia Nitrogen (mg/L)
Dec 6th	10.70
Dec 20th	3.30
Dec 23rd	3.30
Dec 30th	2.30
Average	**4.90**

During this event, the creek sampling results from December, as required in Schedule D - Surface Water – Fairchild Creek Monitoring Stations, did not indicate any impact on the stream.

Operations staff continue to closely monitor the mixed liquor suspended solids and the dissolved oxygen concentration in the aeration basin as well as the aerobic digester to ensure adequate concentrations for both processes. Additionally, in OCWA's commitment to maintain compliance at the St. George WPCP, the daily rounds sheets and in house laboratory testing schedule have been reviewed and revised.

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If you have any questions or concerns, please contact me at 226-387-1292.

Sincerely,

Meagan Lowden
Process & Compliance Technician, OCWA
Southwest Hub – Paris Cluster

cc: Sam Sianas - Regional Hub Manager, OCWA
Maegan Garber - Safety, Process & Compliance Manager, OCWA
Ben Madill - Senior Operations Manager, OCWA
Matthew D'Hondt, Solids Waste/Wastewater Manager, County of Brant

APPENDIX D

2025 ANNUAL SAMPLING CALENDAR

QEMS Ontario Clean Water Agency	2025 St. George WPCP Sample Calendar	Issued: 2024-11-04 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 Reduced	2 **Biweekly Sample with Full Biosolids** IH Full	3	4
5	6 IH Reduced	7 IH Reduced	8 IH Full	9 IH Full	10	11
12	13 IH Reduced	14 IH Reduced	15 IH Full	16 **Biweekly Sample With Biosolids T8** IH Full	17	18
19	20 IH Reduced	21 IH Reduced	22 IH Full	23 IH Full	24	25
26	27 IH Reduced	28 IH Reduced	29 IH Full	30 **Biweekly Sample With Biosolids T8** IH Full	31	

IH (In House) Full: Grab Effluent (pH, Temp, DO, TRC)
Composite Effluent (TSS, TP, TAN)
Grab Composite Raw (pH, Temp.)
Grab Aeration (Set Test, MLSS, DO, pH, Temp.)
Grab RAS/WAS (TSS, Volume Wasted)
Grab Liquid Biosolids (%TSS)
Grab Clarifier (Blanket depth, TSS)

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

Raw Sample: 24 hr Bi-weekly Composite (BOD5, TSS, TP, TKN)

Effluent Samples: 24 hr Composite (cBOD5, TSS, TP, TAN, TKN)
Grab (E. coli, pH, temp, TRC)

Sludge Samples (Monthly): Grab: TS, TP, TAN, NO2, Metals (As, Cd, Co, Cr, Cu, Hg, K, Mo, Ni, Pb, Se, Zn)

Creek Sampling (Once per month in April, May, Sept, Oct, Nov, Dec. Twice per month in June, July, August): Grab (TP, TSS, TAN, E.coli, cBOD5, pH, Temp. DO)

Notes: Initial on date when sample was taken. Add any additional sampling completed for the facility. At the end of the month hand in to the PCT with folder.

QEMS Ontario Clean Water Agency	2025 St. George WPCP Sample Calendar	Issued: 2024-11-04 Rev.#: 0 Pages: 2 of 12
Reviewed by: Process & Compliance Technician	Approved by: Senior Operations Manager	

February 2025

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

IH (In House) Full: Grab Effluent (pH, Temp, DO, TRC)
Composite Effluent (TSS, TP, TAN)
Grab Composite Raw (pH, Temp.)
Grab Aeration (Set Test, MLSS, DO, pH, Temp.)
Grab RAS/WAS (TSS, Volume Wasted)
Grab Liquid Biosolids (%TSS)
Grab Clarifier (Blanket depth, TSS)

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

Raw Sample: 24 hr Bi-weekly Composite (BOD5, TSS, TP, TKN)

Effluent Samples: 24 hr Composite (cBOD5, TSS, TP, TAN, TKN)
Grab (E. coli, pH, temp, TRC)

Sludge Samples (Monthly): Grab: TS, TP, TAN, NO2, Metals (As, Cd, Co, Cr, Cu, Hg, K, Mo, Ni, Pb, Se, Zn)

Creek Sampling (Once per month in April, May, Sept, Oct, Nov, Dec. Twice per month in June, July, August): Grab (TP, TSS, TAN, E.coli, cBOD5, pH, Temp. DO)

Notes: Initial on date when sample was taken. Add any additional sampling completed for the facility. At the end of the month hand in to the PCT with folder.

QEMS Ontario Clean Water Agency	2025 St. George WPCP Sample Calendar	Issued: 2024-11-04 Rev.#: 0 Pages: 3 of 12
Reviewed by: Process & Compliance Technician	Approved by: Senior Operations Manager	

March 2025

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

IH (In House) Full: Grab Effluent (pH, Temp, DO, TRC)
Composite Effluent (TSS, TP, TAN)
Grab Composite Raw (pH, Temp.)
Grab Aeration (Set Test, MLSS, DO, pH, Temp.)
Grab RAS/WAS (TSS, Volume Wasted)
Grab Liquid Biosolids (%TSS)
Grab Clarifier (Blanket depth, TSS)

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

Raw Sample: 24 hr Bi-weekly Composite (BOD5, TSS, TP, TKN)

Effluent Samples: 24 hr Composite (cBOD5, TSS, TP, TAN, TKN)
Grab (E. coli, pH, temp, TRC)

Sludge Samples (Monthly): Grab: TS, TP, TAN, NO2, Metals (As, Cd, Co, Cr, Cu, Hg, K, Mo, Ni, Pb, Se, Zn)

Creek Sampling (Once per month in April, May, Sept, Oct, Nov, Dec. Twice per month in June, July, August): Grab (TP, TSS, TAN, E.coli, cBOD5, pH, Temp. DO)

Notes: Initial on date when sample was taken. Add any additional sampling completed for the facility. At the end of the month hand in to the PCT with folder.

QEMS Ontario Clean Water Agency	2025 St. George WPCP Sample Calendar	Issued: 2024-11-04 Rev.#: 0 Pages: 4 of 12
Reviewed by: Process & Compliance Technician	Approved by: Senior Operations Manager	

April 2025

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

IH (In House) Full:
Grab Effluent (pH, Temp, DO, TRC)
Composite Effluent (TSS, TP, TAN)
Grab Composite Raw (pH, Temp.)
Grab Aeration (Set Test, MLSS, DO, pH, Temp.)
Grab RAS/WAS (TSS, Volume Wasted)
Grab Liquid Biosolids (%TSS)
Grab Clarifier (Blanket depth, TSS)

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

Raw Sample: 24 hr Bi-weekly Composite (BOD5, TSS, TP, TKN)

Effluent Samples: 24 hr Composite (cBOD5, TSS, TP, TAN, TKN)
Grab (E. coli, pH, temp, TRC)

Sludge Samples (Monthly): Grab: TS, TP, TAN, NO2, Metals (As, Cd, Co, Cr, Cu, Hg, K, Mo, Ni, Pb, Se, Zn)

Creek Sampling (Once per month in April, May, Sept, Oct, Nov, Dec. Twice per month in June, July, August): Grab (TP, TSS, TAN, E.coli, cBOD5, pH, Temp. DO)

Notes: Initial on date when sample was taken. Add any additional sampling completed for the facility. At the end of the month hand in to the PCT with folder.

QEMS Ontario Clean Water Agency	2025 St. George WPCP Sample Calendar	Issued: 2024-11-04 Rev.#: 0 Pages: 5 of 12
Reviewed by: Process & Compliance Technician	Approved by: Senior Operations Manager	

May 2025

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

IH (In House) Full:	Grab Effluent (pH, Temp, DO, TRC) Composite Effluent (TSS, TP, TAN) Grab Composite Raw (pH, Temp.) Grab Aeration (Set Test, MLSS, DO, pH, Temp.) Grab RAS/WAS (TSS, Volume Wasted) Grab Liquid Biosolids (%TSS) Grab Clarifier (Blanket depth, TSS)
IH (In House) Reduced:	Grab Effluent (pH, Temp, TRC, DO) on Tuesdays add (TP, Ammonia) Grab Aeration (Set Test, DO, pH, Temp.) Grab RAS/WAS (TSS, Volume Wasted)
Raw Sample:	24 hr Bi-weekly Composite (BOD5, TSS, TP, TKN)
Effluent Samples:	24 hr Composite (cBOD5, TSS, TP, TAN, TKN) Grab (E. coli, pH, temp, TRC)
Sludge Samples (Monthly):	Grab: TS, TP, TAN, NO2, Metals (As, Cd, Co, Cr, Cu, Hg, K, Mo, Ni, Pb, Se, Zn)
Creek Sampling (Once per month in April, May, Sept, Oct, Nov, Dec. Twice per month in June, July, August):	Grab (TP, TSS, TAN, E.coli, cBOD5, pH, Temp. DO)

Notes: Initial on date when sample was taken. Add any additional sampling completed for the facility. At the end of the month hand in to the PCT with folder.

QEMS Ontario Clean Water Agency	2025 St. George WPCP Sample Calendar	Issued: 2024-11-04 Rev.#: 0 Pages: 6 of 12
Reviewed by: Process & Compliance Technician	Approved by: Senior Operations Manager	

June 2025

Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2 IH Reduced	3 IH Reduced	4 IH Full	5 **Biweekly Sample with Full Biosolids** **Creek Sampling** I IH Full	6	7
8	9 IH Reduced	10 IH Reduced	11 IH Full	12 IH Full	13	14
15	16 IH Reduced	17 IH Reduced	18 IH Full	19 **Biweekly Sample With Biosolids TS** IH Full	20	21
22	23 IH Reduced	24 IH Reduced	25 IH Full	26 IH Full	27	28
29	30 IH Reduced					

IH (In House) Full: Grab Effluent (pH, Temp, DO, TRC)
Composite Effluent (TSS, TP, TAN)
Grab Composite Raw (pH, Temp.)
Grab Aeration (Set Test, MLSS, DO, pH, Temp.)
Grab RAS/WAS (TSS, Volume Wasted)
Grab Liquid Biosolids (%TSS)
Grab Clarifier (Blanket depth, TSS)

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

Raw Sample: 24 hr Bi-weekly Composite (BOD5, TSS, TP, TKN)

Effluent Samples: 24 hr Composite (cBOD5, TSS, TP, TAN, TKN)
Grab (E. coli, pH, temp, TRC)

Sludge Samples (Monthly): Grab: TS, TP, TAN, NO2, Metals (As, Cd, Co, Cr, Cu, Hg, K, Mo, Ni, Pb, Se, Zn)

Creek Sampling (Once per month in April, May, Sept, Oct, Nov, Dec. Twice per month in June, July, August): Grab (TP, TSS, TAN, E.coli, cBOD5, pH, Temp. DO)

Notes: Initial on date when sample was taken. Add any additional sampling completed for the facility. At the end of the month hand in to the PCT with folder.

QEMS Ontario Clean Water Agency	2025 St. George WPCP Sample Calendar	Issued: 2024-11-04 Rev.#: 0 Pages: 7 of 12
Reviewed by: Process & Compliance Technician	Approved by: Senior Operations Manager	

July 2025

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

IH (In House) Full: Grab Effluent (pH, Temp, DO, TRC)
Composite Effluent (TSS, TP, TAN)
Grab Composite Raw (pH, Temp.)
Grab Aeration (Set Test, MLSS, DO, pH, Temp.)
Grab RAS/WAS (TSS, Volume Wasted)
Grab Liquid Biosolids (%TSS)
Grab Clarifier (Blanket depth, TSS)

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

Raw Sample: 24 hr Bi-weekly Composite (BOD5, TSS, TP, TKN)

Effluent Samples: 24 hr Composite (cBOD5, TSS, TP, TAN, TKN)
Grab (E. coli, pH, temp, TRC)

Sludge Samples (Monthly): Grab: TS, TP, TAN, NO2, Metals (As, Cd, Co, Cr, Cu, Hg, K, Mo, Ni, Pb, Se, Zn)

Creek Sampling (Once per month in April, May, Sept, Oct, Nov, Dec. Twice per month in June, July, August): Grab (TP, TSS, TAN, E.coli, cBOD5, pH, Temp, DO)

Notes: Initial on date when sample was taken. Add any additional sampling completed for the facility. At the end of the month hand in to the PCT with folder.

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August 2025

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

IH (In House) Full:
Grab Effluent (pH, Temp, DO, TRC)
Composite Effluent (TSS, TP, TAN)
Grab Composite Raw (pH, Temp.)
Grab Aeration (Set Test, MLSS, DO, pH, Temp.)
Grab RAS/WAS (TSS, Volume Wasted)
Grab Liquid Biosolids (%TSS)
Grab Clarifier (Blanket depth, TSS)

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

Raw Sample: 24 hr Bi-weekly Composite (BOD5, TSS, TP, TKN)

Effluent Samples: 24 hr Composite (cBOD5, TSS, TP, TAN, TKN)
Grab (E. coli, pH, temp, TRC)

Sludge Samples (Monthly): Grab: TS, TP, TAN, NO2, Metals (As, Cd, Co, Cr, Cu, Hg, K, Mo, Ni, Pb, Se, Zn)

Creek Sampling (Once per month in April, May, Sept, Oct, Nov, Dec. Twice per month in June, July, August): Grab (TP, TSS, TAN, E.coli, cBOD5, pH, Temp. DO)

Notes: Initial on date when sample was taken. Add any additional sampling completed for the facility. At the end of the month hand in to the PCT with folder.

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September 2025

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

IH (In House) Full:	Grab Effluent (pH, Temp, DO, TRC) Composite Effluent (TSS, TP, TAN) Grab Composite Raw (pH, Temp.) Grab Aeration (Set Test, MLSS, DO, pH, Temp.) Grab RAS/WAS (TSS, Volume Wasted) Grab Liquid Biosolids (%TSS) Grab Clarifier (Blanket depth, TSS)
IH (In House) Reduced:	Grab Effluent (pH, Temp, TRC, DO) on Tuesdays add (TP, Ammonia) Grab Aeration (Set Test, DO, pH, Temp.) Grab RAS/WAS (TSS, Volume Wasted)
Raw Sample:	24 hr Bi-weekly Composite (BOD5, TSS, TP, TKN)
Effluent Samples:	24 hr Composite (cBOD5, TSS, TP, TAN, TKN) Grab (E. coli, pH, temp, TRC)
Sludge Samples (Monthly):	Grab: TS, TP, TAN, NO2, Metals (As, Cd, Co, Cr, Cu, Hg, K, Mo, Ni, Pb, Se, Zn)
Creek Sampling (Once per month in April, May, Sept, Oct, Nov, Dec. Twice per month in June, July, August):	Grab (TP, TSS, TAN, E.coli, cBOD5, pH, Temp. DO)

Notes: Initial on date when sample was taken. Add any additional sampling completed for the facility. At the end of the month hand in to the PCT with folder.

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October 2025

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

IH (In House) Full:
Grab Effluent (pH, Temp, DO, TRC)
Composite Effluent (TSS, TP, TAN)
Grab Composite Raw (pH, Temp.)
Grab Aeration (Set Test, MLSS, DO, pH, Temp.)
Grab RAS/WAS (TSS, Volume Wasted)
Grab Liquid Biosolids (%TSS)
Grab Clarifier (Blanket depth, TSS)

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

Raw Sample:
24 hr Bi-weekly Composite (BOD5, TSS, TP, TKN)

Effluent Samples:
24 hr Composite (cBOD5, TSS, TP, TAN, TKN)
Grab (E. coli, pH, temp, TRC)

Sludge Samples (Monthly):
Grab: TS, TP, TAN, NO2, Metals (As, Cd, Co, Cr, Cu, Hg, K, Mo, Ni, Pb, Se, Zn)

Creek Sampling (Once per month in April, May, Sept, Oct, Nov, Dec. Twice per month in June, July, August):
Grab (TP, TSS, TAN, E.coli, cBOD5, pH, Temp. DO)

Notes: Initial on date when sample was taken. Add any additional sampling completed for the facility. At the end of the month hand in to the PCT with folder.

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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 **Biweekly Sample with Full Biosolids** Creek Sampling IH Full	7	8
9	10 IH Reduced	11 **STAT** IH Reduced	12 IH Full	13 IH Full	14	15
16	17 IH Reduced	18 IH Reduced	19 IH Full	20 **Biweekly Sample With Biosolids TS** IH Full	21	22
23	24 IH Reduced	25 IH Reduced	26 IH Full	27 IH Full	28	29
30						

IH (In House) Full:
Grab Effluent (pH, Temp, DO, TRC)
Composite Effluent (TSS, TP, TAN)
Grab Composite Raw (pH, Temp.)
Grab Aeration (Set Test, MLSS, DO, pH, Temp.)
Grab RAS/WAS (TSS, Volume Wasted)
Grab Liquid Biosolids (%TSS)
Grab Clarifier (Blanket depth, TSS)

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

Raw Sample: 24 hr Bi-weekly Composite (BOD5, TSS, TP, TKN)

Effluent Samples: 24 hr Composite (cBOD5, TSS, TP, TAN, TKN)
Grab (E. coli, pH, temp, TRC)

Sludge Samples (Monthly): Grab: TS, TP, TAN, NO2, Metals (As, Cd, Co, Cr, Cu, Hg, K, Mo, Ni, Pb, Se, Zn)

Creek Sampling (Once per month in April, May, Sept, Oct, Nov, Dec. Twice per month in June, July, August): Grab (TP, TSS, TAN, E.coli, cBOD5, pH, Temp. DO)

Notes: Initial on date when sample was taken. Add any additional sampling completed for the facility. At the end of the month hand in to the PCT with folder.

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December 2025

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

IH (In House) Full:
Grab Effluent (pH, Temp, DO, TRC)
Composite Effluent (TSS, TP, TAN)
Grab Composite Raw (pH, Temp.)
Grab Aeration (Set Test, MLSS, DO, pH, Temp.)
Grab RAS/WAS (TSS, Volume Wasted)
Grab Liquid Biosolids (%TSS)
Grab Clarifier (Blanket depth, TSS)

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

Raw Sample: 24 hr Bi-weekly Composite (BOD5, TSS, TP, TKN)

Effluent Samples: 24 hr Composite (cBOD5, TSS, TP, TAN, TKN)
Grab (E. coli, pH, temp, TRC)

Sludge Samples (Monthly): Grab: TS, TP, TAN, NO2, Metals (As, Cd, Co, Cr, Cu, Hg, K, Mo, Ni, Pb, Se, Zn)

Creek Sampling (Once per month in April, May, Sept, Oct, Nov, Dec. Twice per month in June, July, August): Grab (TP, TSS, TAN, E.coli, cBOD5, pH, Temp. DO)

Notes: Initial on date when sample was taken. Add any additional sampling completed for the facility. At the end of the month hand in to the PCT with folder.