



TOWN OF COLLINGWOOD

2021 Annual Wastewater Performance Report



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Acronyms

BOD	Biochemical Oxygen Demand
CBOD5	Carbonaceous Biochemical Oxygen Demand
cfu	Colony Forming Units
COD	Chemical Oxygen Demand
DO	Dissolved Oxygen
ECA	Environmental Compliance Approval
Hg	Mercury
FP	Filtered Phosphorous
HP	Horsepower
kg	Kilograms
kW	Kilowatt
MECP	Ministry of Environment, Conservation and Parks
mg/L	Milligrams per litre
ML/d	Mega litres per day
m ³ /d	Cubic metres per day
NH ₃	Ammonia
NO ₂	Nitrites
NO ₃	Nitrates
SPS	Sewage Pumping Station
SVI	Sludge Volume Index
TBOD	Total Biochemical Oxygen Demand
TKN	Total Kjeldahl Nitrogen
TP	Total Phosphorous
TS	Total Solids
TSS	Total Suspended Solids
UV	Ultraviolet
VFA	Volatile Fatty Acids
VS	Volatile Solids
WPCP	Water Pollution Control Plant



Executive Summary

This report covers the period from January 1, 2021 to December 31, 2021.

The Town of Collingwood owns and operates the Collingwood Water Pollution Control Plant and eight sewage pumping stations in accordance with Certificate of Approvals (CoA's) and Environmental Compliance Approvals (ECA's) as shown in the table below:

Table a – Executive Summary - Approvals

Name	Approval Type	Number	Date
Water Pollution Control Plant	ECA	9825-BPDH52	May 4, 2020
	ECA (air)	7583-BTALXW	Sept 4, 2020
Black Ash Creek	ECA	1908-B97UD8	Mar 5, 2019
Cranberry	CoA	5925-5EATK8	Oct 8, 2002
Minnesota	ECA	8852-AUTS83	Jan 18, 2019
Paterson Street	CoA	2905-655M6H	Oct 4, 2004
Pretty River Estates	CoA	2372-7PRP2Z	May 7, 2009
St. Clair Street	CoA	1434-622JRK	Jun 21, 2004
Silver Glen	CoA	1809-7GMQ32	July 18, 2008
Tenth Line (Public Works)	T.B.D.	T.B.D.	T.B.D.

Annual Performance Reports are required to be prepared and submitted to the Ministry of the Environment, Conservation and Parks (MECP) by March 31st.

WPCP Treatment Capacity

The WPCP has a treatment capacity rating of 24,548 m³/d based on average day sewage influent flows. The average day flow at the WPCP in 2021 was 18,063 m³/d, indicating the WPCP is operating at 74% of the rated treatment capacity.

Table b - 2021 WPCP Treatment Capacity

2021 Flows at a Glance	
Total Flow to WPCP	6,593,260 m ³
Design Average Daily Flow	24,548 m ³ /d
Average Daily Flow	18,063 m ³ /d

WPCP Effluent Quality

In addition to treatment capacity limitations, the ECA specifies final effluent quality objectives and compliance limits for the WPCP. Final effluent samples are collected throughout the year and the results are reviewed and compared to these objectives and



compliance limits to ensure the WPCP is operating properly. Adjustments to the WPCP operation are made based on the results of this sampling program.

Table c – Final Effluent Objectives

Final Effluent Objectives		
Parameter	Averaging Calculator	Limit
CBOD5	Annual Average	15 mg/L
Total Suspended Solids	Annual Average	15 mg/L
Total Phosphorous	Monthly Average	0.8 mg/L
E-Coli	Monthly Geometric Mean Density	100 cfu/100mL
pH	Single Sample Result	6.5 – 9.0

Table d – Final Effluent Concentration Limits

Final Effluent Concentration Limits		
Parameter	Averaging Calculator	Limit
CBOD5	Annual Average	25 mg/L
Total Suspended Solids	Annual Average	25 mg/L
Total Phosphorous	Monthly Average	1.0 mg/L
E-Coli	Monthly Geometric Mean Density	200 CFU/100 mL
pH	Single Sample Result	6.0 – 9.5

Table e – Final Effluent Loading Limits

Final Effluent Loading Limits		
Parameter	Averaging Calculator	Limit
CBOD5	Annual Average Daily Loading	613.7 kg/L
Total Suspended Solids	Annual Average Daily Loading	613.7 kg/L
Total Phosphorous	Monthly Average Daily Loading	24.5 kg/d

The final effluent concentration and loading compliance limits were achieved throughout 2021. There was one incident where the E.Coli final effluent objective was not achieved. In October the monthly geometric mean density was 107 cfu/100mL. Details can be found in section 4a - 11 (3) b) *Final Effluent Monitoring*.



Section 1: Introduction

This report has been prepared to address the annual performance reporting requirements for the Collingwood Water Pollution Control Plant (WPCP) as outlined in Condition 11 of the Environmental Compliance Approval (ECA).

The Reporting requirements of the ECA’s for Black Ash Creek and Minnesota Street have been compiled in Section 4b. There are no reporting requirements in the CoA’s for the remaining stations but reports have been completed for consistency and information.

Section 4 of this report has been subdivided into subsections that specifically address the reporting requirements identified in the ECA’s. Additional information may also be provided to support and substantiate the required content.

This annual report has been presented to Council. A notice has also been placed in local newspapers notifying the public and any interested authority that the Collingwood Wastewater System’s 2021 Annual Performance Report can be viewed and downloaded on the website or upon request a copy will be made available free of charge.

Section 2: Wastewater System General Information

Table 2 – Wastewater System Information

System Information	
Wastewater System Name	Collingwood Water Pollution Control Plant
Wastewater Works Number	120000550
Wastewater System Owner	Town of Collingwood
Wastewater System Category	Class III Certification
Environmental Compliance Approval	9825-BPDH52 dated May 14, 2020
Environmental Compliance Approval (Air)	7583-BTALXW dated September 23, 2020
Period Reported	January 1, 2021 – December 31, 2021

Section 3a: The Facility – Water Pollution Control Plant

The Collingwood WPCP, owned and operated by the Town of Collingwood, is a conventional activated sludge plant with alum addition for phosphorus removal. Treated effluent from the plant is discharged to Collingwood Harbour, which is situated in Georgian Bay on the south shore of Nottawasaga Bay.

The plant was first constructed in 1958 to provide primary treatment of the Town’s domestic and industrial wastewater. The primary plant was expanded in 1968. Secondary



treatment was added in 1981. The rated flow capacity is 24,548 m³ /day with a peak flow rate of 60,900 m³/day. Wastewater from the serviced area flows to the plant by gravity with the assistance of eight (8) pumping stations to boost the flow where required.

Major unit operations at the Collingwood WPCP include the following:

- Headworks - which provides the following preliminary process treatments:
 - Emergency plant bypass
 - Automated mechanical raked raw sewage screen
 - Manual raked bypass raw sewage screen
 - Raw sewage pumping station
 - Grit removal
 - Bio scrubber for headwork’s odour control
 - Septic/leachate handling

- Primary Sedimentation
- Activated Sludge with Alum addition for Phosphorus Removal
- Secondary Clarification
- Disinfection with Ultraviolet irradiation (UV)
- Effluent discharge to Collingwood Harbour
- Thickening of waste activated sludge by Dissolved Air Flotation
- Anaerobic Sludge Digestion
- Odour control
- Liquid Digested Sludge Land Utilization Disposal
- Sludge Storage Lagoon (off site)
- Standby power source (diesel driven generator)
- Co-generation System

Section 3b: The Facilities – Sewage Pumping Stations

The sewage pumping stations each contain a wet well and pumps discharging to a forcemain.

Table 3b - 2021 Station Capacity Sewage Pumping Stations

Station Capacity		
Sewage Pumping Station	Firm L/s	Maximum L/s
Black Ash Creek	212	318
Cranberry	32.8	65.6
Minnesota	210	315
Paterson Street	72	108
Pretty River Estates	29	58
Silver Glen	16	32
St. Clair Street	155	310
Tenth Line (Public Works)	T.B.D.	T.B.D.



Section 4a: Reporting: Section 11 (3) of ECA - Collingwood Water Pollution Control Plant (WPCP)

11 (3) a) Influent, Imported Sewage Monitoring Data

A summary and interpretation of all influent, imported sewage monitoring data, and a review of the historical trend of the sewage characteristics and flow rates

Monitoring data for influent, imported sewage and final effluent is provided in the tables and charts below.

There is insufficient data for influent monitoring and flows in previous years to provide historical trending. Effluent data will be used to provide trending until influent data is accumulated over time.

11 (3) b) Final Effluent Monitoring Data

A summary and interpretation of all final effluent monitoring data, including concentration, flow rates, loading and a comparison to the design objectives and compliance limits in the ECA, including an overview of the success and adequacy of the works

In summary, all objective targets and compliance requirements were achieved in 2021 with one exception. The monthly geometric mean density of e-coli in the final effluent was 107 CFU/100 mL for the month of October. The objective target is 100 CFU/100 mL.

In the month of October, only 3 samples were taken due to an issue with the courier as explained in section 11 (3) c) *Monitoring Schedule Deviation Summary*. The three samples returned results of 41, 100 and 300. A fourth result would likely have returned a lower value and may have met the objective requirements.

The final geometric mean for all months were within the compliance limits.

Monitoring data shows a very slight rise in TKN, a slight drop in CBOD5, and no change to TSS, and TP in 2021. The average annual day dropped slightly while the peak flow day rose to 65,831 in September, over the design capacity and causing an overflow and bypass event.

Table 11(3)ab1 - 2021 Monitoring Data – Collingwood WPCP

2021	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
BOD5												
Influent (mg/L)	60	150	44	35	130	60	170	18	95	90	100	190
CBOD5	<i>Effluent Average Annual: Objective 15 mg/L, Compliance Concentration Limit 25 mg/L, Compliance Loading Limit 613.7 kg/d</i>											
Effluent (mg/L)	3.25	3.00	2.88	2.63	1.60	3.50	1.28	1.00	1.58	2.43	1.93	2.26
	Average Annual Concentration:				2.3	mg/L	Annual Average Loading:			41.14	kg/d	
TSS												
<i>Effluent Average Annual: Objective 15 mg/L, Compliance Concentration Limit 25 mg/L, Compliance Loading Limit 613.7 kg/d</i>												
Influent (mg/L)	60	120	95	35	184	67	78	14	51	60	42	144
Effluent (mg/L)	4.5	4.8	3.7	4.9	5.1	13.1	7.0	4.7	6.4	9.8	8.6	7.1
% Removal	93%	96%	96%	86%	97%	80%	91%	67%	87%	84%	80%	95%
	Average Annual Concentration:				6.6	mg/L	Annual Average Loading:			119.66	kg/d	
TP												
<i>Effluent Average Monthly: Objective 0.8 mg/L, Compliance Concentration Limit 1 mg/L, Compliance Loading Limit 24.5 kg/d</i>												
Influent (mg/L)	1.31	1.72	1.88	1.19	3.94	2.58	2.95	1.65	2.71	1.53	2.38	3.96
Effluent (mg/L)	0.14	0.18	0.20	0.17	0.37	0.68	0.12	0.21	0.21	0.43	0.22	0.13
% Removal	90%	90%	89%	86%	91%	74%	96%	87%	92%	72%	91%	97%
	Average Annual Concentration:				0.26	mg/L	Annual Average Loading:			4.61	kg/d	
TKN												
Influent (mg/L)	14.1	13.2	15.4	11.3	30.2	22.2	26.1	11.1	22.8	14.5	14	28.8
Effluent (mg/L)	1.4	2.325	3.48	3.275	5.025	4.62	4.675	2.9	3.02	3	3.175	4.04
TAN												
Effluent (mg/L)	0.12	0.74	1.57	1.38	2.25	1.37	0.85	0.97	0.91	0.54	1.16	0.81
pH	<i>Effluent Single Sample: Objective 6.5 to 9.0, Compliance Limit 6.0 to 9.5</i>											
Effluent Min	6.6	6.6	6.6	6.6	6.5	6.8	6.8	6.8	7	7.1	7.2	7.1
Effluent Max	6.9	6.9	6.8	6.7	7	7.2	7	7.3	7.3	7.3	7.3	7.3
E-Coli												
<i>Effluent Monthly Geometric Mean: Objective 100 CFU/100 mL, Compliance limit 200 CFU/100 mL</i>												
Effluent (CFU/100mL)	7	6	6	30	25	43	17	5	11	107	57	22



Table 11(3)a1 - 2021 Imported Septage Monitoring mg/L

2021	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Annual average
BOD5	1270	5730	1500	4400	1500	3700	2000	1600	2400	16000	4200	1800	3,842
TSS	6050	25600	23900	3140	5200	52100	3350	7000	20000	27900	15400	2670	16,026
TP	49.5	49.2	378	104	118	1180	67.5	154	424	623	230	138	293
TKN	584	156	3470	4020	1140	2920	424	944	2380	2260	713	1030	1,670

Table 11(3)a2 - 2021 Raw Influent Flows m3– Collingwood WPCP

2021	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
Total volume	564,940	452,690	683,750	536,900	503,480	356,750	440,780	392,381	635,218	591,855	640,777	736,896
Mean day	18,224	16,168	22,056	17,897	16,241	11,892	14,219	12,657	21,174	19,092	21,359	23,771
Max day	20,720	22,230	35,630	21,340	22,820	15,930	22,670	14,460	65,831	25,841	27,392	46,099
Min day	15,170	12,530	14,780	15,270	12,110	10*note	12,530	9,895	12,630	16,680	16,940	16,049

*note: Influent flows were not measured June 8th and 9th due to replacement of VFD drives. Next minimum day was 10,140.

Table 11(3)b - 2021 Final Effluent Flows m3– Collingwood WPCP

2021	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
Total volume	555,660	426,180	713,570	547,970	502,140	409,120	484,530	419,450	599,740	583,070	621,170	730,660
Mean day	17,925	15,221	23,018	18,266	16,198	13,637	15,630	13,531	19,991	18,809	20,706	23,570
Max day	20,820	21,330	38,830	23,560	24,500	17,560	22,690	17,090	59,150	27,660	30,140	45,050
Min day	13,260	12,610	17,950	15,010	12,090	10,540	11,210	11,820	11,280	16,410	15,730	16,300

Chart 11(3) b1 - Carbonaceous Biochemical Oxygen Demand

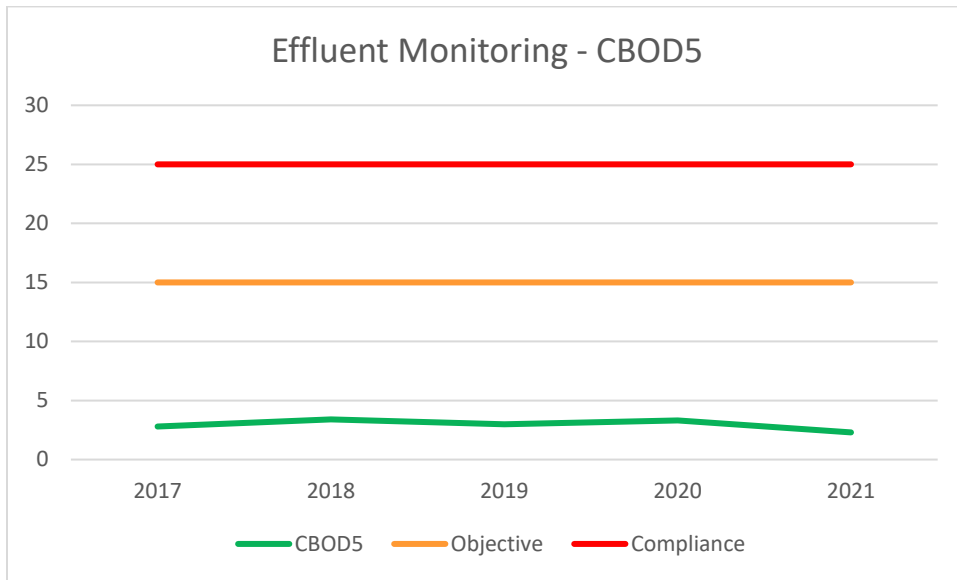


Chart 11(3) b2 - Total Suspended Solids

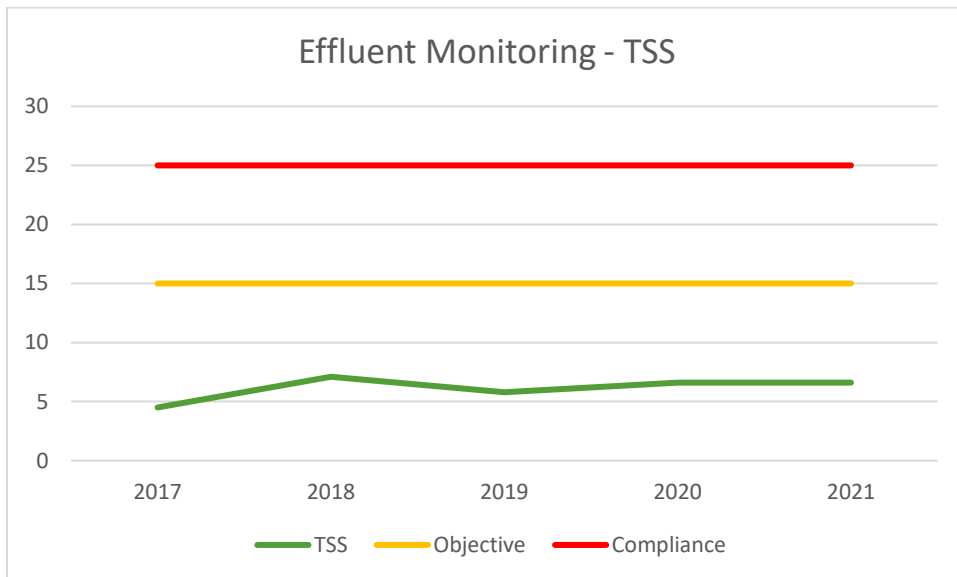




Chart 11(3) b3 - Total Phosphorous

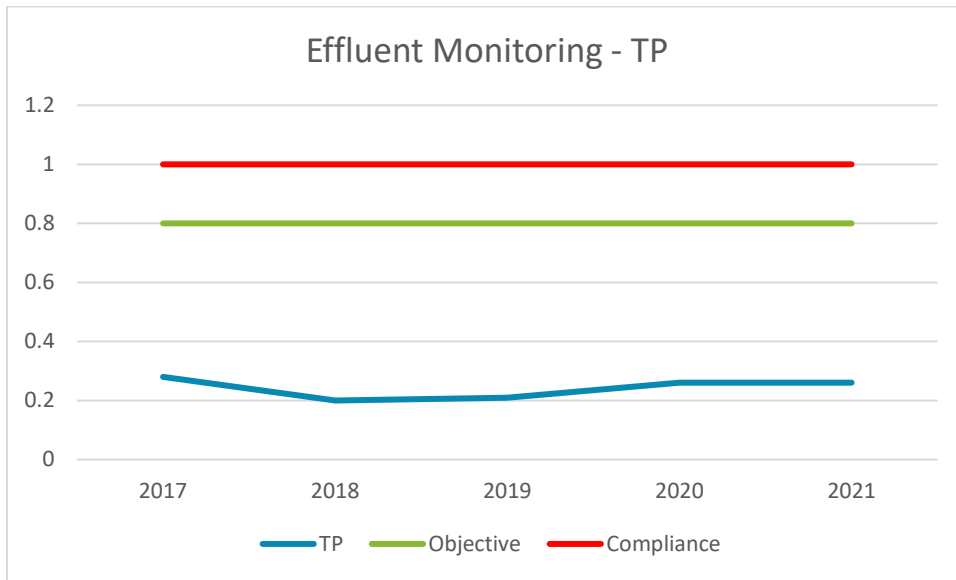
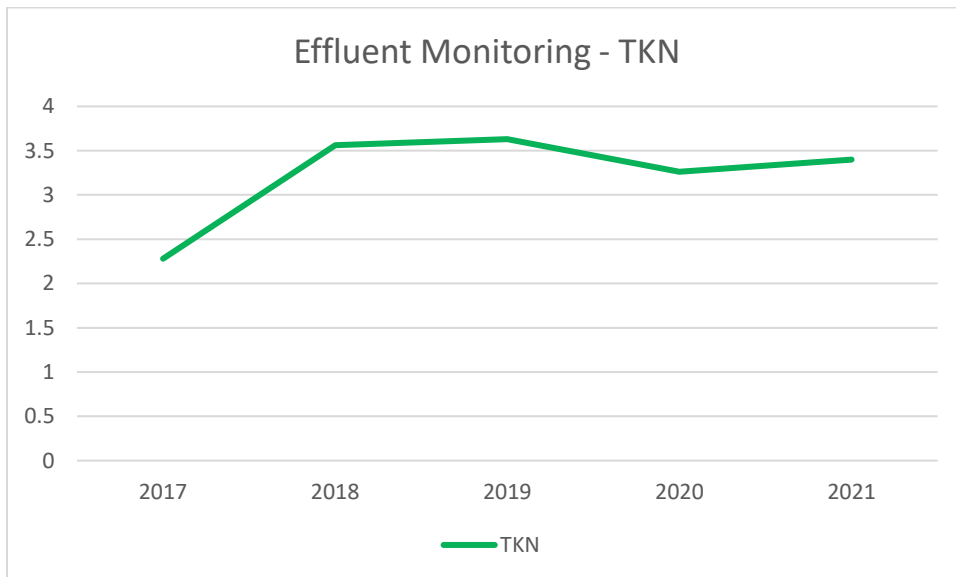


Chart 11(3) b4 - Total Kjeldahl Nitrogen



Note: There is no objective listed on the ECA for TKN



Chart 11(3) b5 – Effluent Annual Average Day Flow Volume

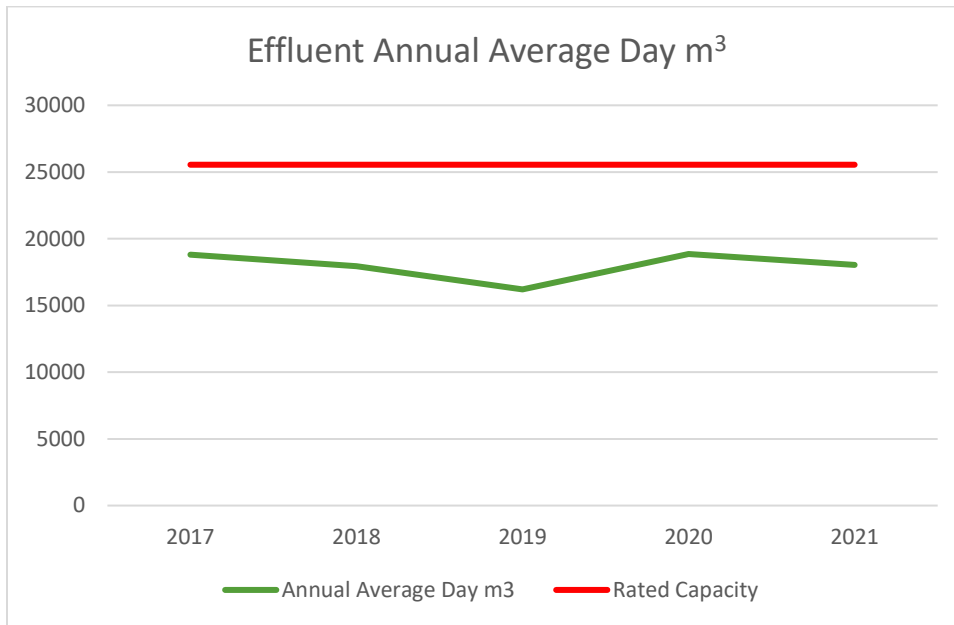
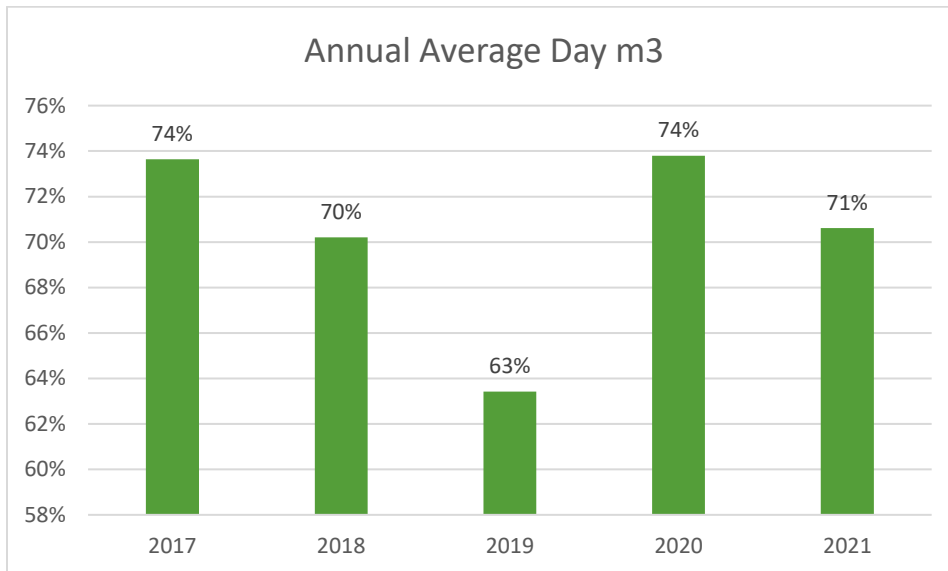


Chart 11(3) b6 – Effluent Annual Average Day as % of Capacity





11 (3) c) Monitoring Schedule Deviation Summary

A summary of any deviation from the monitoring schedule and reasons for the current reporting year and a schedule for the next reporting year.

Samples were taken on Monday June 28, 2021 rather than Wednesday June 30, 2021 due to July 1st statutory holiday being observed on Thursday of this week. The testing lab was not open to receive samples on July 1st. Monday was chosen as the alternate sample day based on staff availability.

On October 6, 2021 samples were not picked up by the courier as requested. The samples were stored in the fridge overnight and were then picked up by the courier on Oct 7, 2021. On October 8, 2021 the Town was informed that an error had occurred and the samples had not left the courier's warehouse. The samples had expired before analysis could be completed and there wasn't time to resample and test in the current work week.

Table 11(3)c - 2022 Sampling Program Schedule

Sample Location	Parameters	Sample Type	Minimum Sampling Frequency	2022 Sample Collection Schedule
Influent Sewage	BOD5 TSS TP TKN	24-hour Composite	Monthly	First Wednesday of each month
Imported Sewage	BOD5 TSS TP TKN	Grab	Monthly	First Wednesday of each month
Final Effluent	CBOD5 TSS	24-hour Composite	Monthly	Every Wednesday (weekly)
	TP TAN	24-hour Composite	Weekly	Every Wednesday
	E.coli	Grab	Weekly	Every Wednesday
	pH Temperature	Grab	3 times/week	Monday, Tuesday, Wednesday, Thursday, Friday (excluding stat holidays)
Sludge/Biosolids	TS TP TAN Nitrate as Nitrogen Metals Scan	Grab	Bi-weekly	Every second Wednesday
Leachate	Boron Cobalt Magnesium Manganese Potassium Strontium Bis (2-ethylhexyl) Phthalate	Grab	Quarterly	February May August November



11 (3) d) Operating Issues

A summary of all operating issues encountered and corrective actions taken:

Table 11(3)d – Operating Issues summary

Date	Description
Oct 6 th	Shipping issues resulting in no lab tests being completed this week. Corrective action – We called the shipping company and they apologized and said they will look into the issue and try not to let it happen again.
Oct 31 st	Ecoli monthly average out of objective range of 100cfu/100ml. Corrective action – an overview of the UV system was performed along with plant operations. Operational changes were made as necessary.
Dec 24-25 th	Digester #2 became over pressurized, and a spill occurred. Corrective action – The digester has been taken out of service. Sludge removal has been obtained when weather permits, and engineering has been obtained for structural/operational assessment thereafter. A root cause analysis will be performed once all information has been gathered.



11 (3) e) Repairs and Maintenance

A summary of all normal and emergency repairs and maintenance activities carried out on any major structure, equipment, apparatus or mechanism forming part of the works

A log is kept for each piece of equipment at the Collingwood plant. These logs are available for inspection at the plant.

Table 11(3)e1 – Scheduled Maintenance

Equipment	Description
Boiler and pressure vessel	Annual inspection.
Clarifiers	Primary and secondary clarifiers are taken out of service for annual inspection, maintenance and repairs as required.
Gas Monitoring Equipment	Annual calibration, inspection and maintenance.
Electrical systems, pumps and motors	Electrical maintenance program including thermography, voltage, load and harmonic checks, vibration analysis etc.
Standby generator	Semi-annual inspection and maintenance. Bi-weekly operations test, inspection and maintenance
Flow Meter Calibration	Annual calibration of flow meters to ensure they are accurately measuring flows
Digester #1	Inspection and clean out – completed every 5-7 years.
Digester waste gas system	Annual inspection of gas lines, flame arrestors and valving system
Influent Bar Screen	Annual inspection of all mechanical parts including bar screen conveyor and grit classifier



Table 11(3)e2 – Unscheduled Maintenance / Emergency Repairs

Equipment	Description
Bar Screen	Replace braking mechanism
Boiler	Replace vent stack and repair low level cut off sensor
Digester #1 mixer	Crane lift and clean off hair mat
Digester #2	Spill clean up, clean and inspect lines
Dissolved Air Floatation Unit	Drain, clean, inspect and repair flights and pins.
Final Clarifier (North)	Complete replacement of components – Chain, flights, pins, shoes and guide rails
Grit removal system	Replace underflow butterfly valves and repair actuators.
Polymer tanks	Drain, clean and flush feed lines
Primary clarifier #1	Replace drive chain and repair flights. Replace and install new drive motor
Re-aeration pump	Purchase and install new Goulds 3196 pump
Re-aeration Pump -DAF	Replace mechanical seal and lip seal
Supernatant pump	Gear joint replacement
South final clarifier	Drained and repair broken chain. Inspect for other deficiencies and return to service.
Influent pump VFD's	Influent variable frequency drives were replaced changing hardware and software.
Waste activated sludge pump	Replace gear joint, rotor and stator

11 (3) f) Effluent Quality Assurance or Control Measures

A summary of any effluent quality assurance or control measures undertaken

Final effluent quality assurance is provided through sampling and monitoring programs using an accredited laboratory to meet ministry requirements. An on-site laboratory provides monitoring of process steps to allow operators to perform adjustments as required to produce the desired quality effluent.

11 (3) g) Calibration and Maintenance Summary

A summary of the calibration and maintenance carried out on all influent, imported sewage and final effluent monitoring equipment to ensure that the accuracy is within the



tolerance of that equipment as required in the ECA or recommended by the manufacturer

Flows at the Collingwood WPCP are monitored using in-line flow meters, including ultrasonic meters for two of the influent sewage pumps, a magnetic flow meter for the third influent sewage pump, and a level to flow transducer at the final effluent weir. The manufacturer recommends annual calibration of these flow measuring devices.

The flow meters are calibrated annually for accuracy (must be +/- 15% of flow rate) to satisfy condition 9 (4) of the ECA.

Table 11(3)g – Calibration and Maintenance Summary

Date	Equipment Calibrated/ Maintained	Pass / Fail	Comments
17 Jun 2021	Raw Sludge Flow	Pass	
17 Jun 2021	Influent 1 and 3	Pass	Two devices wired to one transmitter
17 Jun 2021	Influent 2	Pass	
17 Jun 2021	Final Effluent	Pass	
17 Jun 2021	Thickened Waste Activated Sludge (TWAS)	Pass	
n/a	Sludge Loading	Fail	Capital project in progress to replace meter in 2022

11 (3) h) Design Objectives Summary

A summary of efforts made to achieve the design objectives in the ECA, including an assessment of the issues and recommendations for pro-active actions if any are required under the following situations:

- i. when any of the design objectives is not achieved more than 50% of the time in a year, or there is an increasing trend in deterioration of Final Effluent quality;*
- ii. when the Annual Average Daily Influent Flow reaches 80% of the Rated Capacity;*

Final effluent objectives were not achieved in the month of October 2021. The final E. Coli geometric mean was 107 CFU/100 mL, slightly above the objective geometric mean of 100 CFU/100 mL. All other final effluent objects were achieved and final effluent quality trends are stable.

The ECA specifies that the plant is rated to treat an average daily flow of 24,548 m³/day and a peak flow of 60,900 m³/day. The Annual Average Daily Influent Flow to the WPCP in 2021 was 17,896 m³/d, which is 73% of the design capacity, therefore an expansion to the WPCP is not required at this time. The peak flow for 2021 was 65,831 m³/day, 4,931 m³/day above the design capacity causing an overflow and bypass event at the plant.



Table 11(3)h – Design Objectives Summary

Measurement	Design	Current Year	% of Capacity
Average day flow m ³ /d	24,548 m ³ /d	17,896 m ³ /d	73%
Peak flow m ³ /d	60,900 m ³ /d	65,831 m ³ /d	108%

11 (3) i) Sludge Volume and Disposal

A tabulation of the volume of sludge generated, an outline of anticipated volumes to be generated in the next reporting period and a summary of the locations to where the sludge was disposed; Sludge volume is to be measured every five (5) years, but may be estimated in the interim years. A summary of disposal locations and volumes of sludge disposed of must also be provided if sludge was disposed of during the reporting period

The WPCP currently stabilizes its bio solids (sludge) through anaerobic digestion comprised of 2 primary digesters, each with a capacity of 1,223 m³, one (1) secondary digester for separation of digested sludge and collection and storage of gas, with a capacity of 1,223 m³ and one (1) sludge holding tank with continuous air supply and a capacity of 990 m³. A waste gas burner with a rated capacity of 560 m³/hr is connected to the system.

Stabilized bio solids are spread on licensed agricultural land as a nutrient and soil conditioner.

Sludge produced at the Collingwood WPCP meets the quality criteria specified in the Ontario Guidelines for Sewage Sludge Utilization on Agricultural Lands. Sludge is applied in accordance with these guidelines and the conditions set out in the site Environmental Compliance Approval.

Sludge disposal through direct utilization on land is not practical during winter months, during periods of inclement weather and when agricultural fields are inaccessible. The provincial guidelines for bio solids utilization on land recommends municipalities provide 6 months sludge storage facilities. The Town of Collingwood contracts three 6,800 m³ STF from a private contractor to achieve this guideline.

Sludge disposal operations are currently contracted to a private hauler.

A total volume of 34,971.81 m³ of biosolids was disposed of from the Collingwood facility in 2021. A total volume of 32,502.80 m³ of biosolids were land applied from the storage lagoons in 2021. It is estimated that 36,500 m³ of biosolids will be generated at the Collingwood facility in 2022.



Table 11(3)i a – Sludge Disposal Volume m³

	Sludge Hauled to Lagoon (m ³)
January	2,256.66
February	2,815.40
March	2,749.40
April	3,304.00
May	3,253.60
June	3,106.40
July	2,731.15
August	2,954.00
September	2,394.00
October	4,001.20
November	2,619.40
December	2,786.60
Total	34,971.81

Table 11(3)i b– Sludge Land Application Volume m³

NASM#	April	May	July	Aug.	Sept.	Oct.	Total
24286	2,052.40						2,052.40
24505	2,845.60						2,845.60
24527	1,827.00						1,827.00
23888		997.80					997.80
24343 F1		2,898.40					2,898.40
24466 F1		2,041.20					2,041.20
24466 F2		430.40					430.40
24506 F1		464.40					464.40
24507 F1		436.00					436.00
24652			4,973.40				4,973.40
24138 EAST				4,851.20			4,851.20
24138 WEST				473.20			473.20
24762				2,376.60			2,376.60
24138					166.60		166.60
24760						5,668.60	5,668.60
Total	6,725.00	7,268.20	4,973.40	7,701.00	166.60	5,668.60	32,502.80



11 (3) j) Complaints

A summary of any complaints received and any steps taken to address the complaints

Table 11(3)j – Complaints Summary

Date	Nature of Complaint	Corrective Action
February 8, 2021	Odour complaint	Replace cover on primary clarifier that was off due to maintenance. Cleaned out digester overflow pits.
June 14, 2021	Odour complaint	Cleaning sludge off of the bottom of the final clarifier in preparation of annual maintenance. Final clarifier Cleaning complete and vacuum trucks off site at 2:30pm.

11 (3) k) Bypasses, Overflows and Spills

A summary of all Bypasses, Overflows, other situations outside Normal Operating Conditions and spills within the meaning of Part X of EPA and abnormal discharge events

There was one combined bypass and overflow event, one spill event, and no other situations outside normal operating conditions and spills within the meaning of Part X of EPA and abnormal discharge events in 2021.

Event #1: On September 22 and 23, 2021 the Water Pollution Control Plant experienced high flows due to large amounts of rain. The hydraulic overload caused a portion of the final effluent to bypass the U.V disinfection stage and an overflow occurred at the headworks. Details of the event were sent to the Ministry of the Environment, Conservation and Parks and the Simcoe-Muskoka District Health Unit describing actions taken and authorities that had been informed. The Ministry was satisfied with the notification and no further actions were required.

Event #2: On December 24th Digester #2 became over pressurized and spilled onto the roof and then onto the ground. The overflow pipe was blocked with debris preventing the normal overflow operation into Digester #3. The material entered a ditch behind the buildings but didn't enter a waterway. The spill was cleaned and the digester will be inspected by an engineering firm before being cleaned out. A regular cleaning schedule will be created for all digesters. The spill was reported to the Spills Action Centre.

11 (3) l) Notice of Modifications to Sewage Works

A summary of all Notice of Modifications to Sewage Works completed under Paragraph 1.d. of Condition 10, including a report on status of implementation of all modification



There were no Notice of Modifications to Sewage Works completed under Paragraph 1.d. of Condition 10 of the ECA in 2021.

11 (3) m) Procedure F-5-1 Summary

A summary of efforts made to achieve conformance with Procedure F-5-1 including but not limited to projects undertaken and completed in the sanitary sewer system that result in overall bypass/overflow elimination including expenditures and proposed projects to eliminate bypass/overflows with estimated budget forecast for the year following that for which the report is submitted

There is a proposed project to complete inflow monitoring.

11 (3) n) Proposed Works Schedule Changes

Any changes or updates to the schedule for the completion of construction and commissioning operation of major process(es) / equipment groups in the Proposed Works

Not applicable.



Section 4b: Reporting: Sewage Pumping Station ECA's

The Reporting requirements of the ECA's for Black Ash Creek and Minnesota Street have been compiled below. Although there are no requirements for the remainder of the sewage pumping stations, reporting in this section includes all stations.

4.1 Operating Issues

A summary of all operating issues encountered and corrective actions taken

Table 4.1a Operating Issues Summary – All SPS

Location	Description
Black Ash Creek	n/a
Cranberry	In Aug 2021 the level sensor head detached from the wall due to the rotting of the support. The support was replaced with a stainless steel rod and the sensor head was reattached. An electrician attended the site to verify the sensor unit was reading correctly.
Minnesota Street	In September 2021, a high flow event put the pump station into "float mode" rather than using PLC controls. This requires an operator to be on site monitoring levels and pump operation.
Paterson Street	n/a
Pretty River Estates	n/a
Silver Glen	n/a
St. Clair Street	n/a
Tenth Line	In February 2021 the pump failed. The Pump required new windings. As a proactive approach a new pump was purchased and installed. The rebuilt pump was kept as a shelf ready spare. During the time the pump was out of service, a vacuum truck was hired to remove liquid once a day, 7 days a week.



4.2 Repairs and Maintenance

A summary of all normal and emergency repairs and maintenance activities carried out on any major structure, equipment, apparatus or mechanism forming part of the works

Table 4.2a Scheduled Maintenance – All SPS

Type	Description
Electrical systems, pumps and motors	Electrical maintenance program including thermography, voltage, load and harmonic checks, vibration analysis etc.
Standby generators	Semi-annual inspection and maintenance. Bi-weekly operations test, inspection and maintenance
Wet well cleaning	As needed
Grease bearings	As scheduled with preventative maintenance program

Table 4.2a Unscheduled Maintenance / Emergency Repairs

Location	Description
Black Ash Creek	n/a
Cranberry	n/a
Minnesota Street	n/a
Paterson Street	Pump lifting chains were replaced with stainless steel chain. New electrical wire installed to meet requirement for new VFD's, contractor performed a detailed inspection of pumps 1&2 and replaced electrical cable.
Pretty River Estates	n/a
Silver Glen	n/a
St. Clair Street	n/a
Tenth Line	Replace pump due to existing pump needing repair and have existing pump windings replaced

4.3 Calibration and Maintenance Summary

A summary of the calibration and maintenance carried out on all monitoring equipment.



Date	Equipment Calibrated/ Maintained	Pass / Fail	Comments
17 Jun 2021	Black Ash Creek Flow	Pass	
17 Jun 2021	Cranberry Trail Flow	Pass	
17 Jun 2021	Minnesota Street	Pass	
17 Jun 2021	Paterson Street	Pass	
18 Jun 2021	Pretty River Estates	Pass	
17 Jun 2021	Silver Glen	Pass	
17 Jun 2021	St. Clair Street (x2)	Pass	

4.4 Complaints

A summary of any complaints received and any steps taken to address the complaints

No complaints were received with regards to the sewage pumpage stations.

4.5 Overflows

A summary of Overflows, other situations outside Normal Operating Conditions and spills within the meaning of Part X of EPA and abnormal discharge events

There was one overflow and no other situations outside normal operating conditions and spills within the meaning of Part X of EPA and abnormal discharge events in 2021.

On September 23, 2021, a major high flow event due to large amounts of rain created a surcharge in the sewer system causing basement flooding in some areas. An overflow valve in the Minnesota Sewage Pumping Station was opened to relieve the system and prevent further flooding. Notifications were sent to the Ministry of the Environment, Conservation and Parks and the Simcoe-Muskoka District Health Unit as required.



4.6 Monitoring Data

A summary and interpretation of all monitoring data, including an overview of the success and adequacy of the Works; - Note: Monitoring data required only during an overflow event.

Table 4.6a - 2021 Minnesota Overflow

Parameter	23-Sep-21	Units
BOD5	16	mg/L
TSS	386	mg/L
TP	0.79	mg/L
TKN	8.8	mg/L

4.7 Notice of Modifications to Sewage Works

A summary of all Notice of Modifications to Sewage Works completed under the ECA, including a report on status of implementation of all modifications. Notifications to be attached.

There were no Notice of Modifications to Sewage Works completed under the ECA's in 2021.

4.8 Procedure F-5-1 Summary

A summary of efforts made to achieve conformance with Procedure F-5-1 including but not limited to projects undertaken and completed in the sanitary sewer system that result in overall bypass/overflow elimination including expenditures and proposed projects to eliminate bypass/overflows with estimated budget forecast for the year following that for which the report is submitted

This information was reported in section 4a, 11 (3) m) above.



Section 5: Conclusion

This report has been compiled in accordance with the reporting requirements of Condition 11 of ECA 5807-B8GM4G and Condition 10 of CofA 2639-5TLQB2. If further clarification is required please do not hesitate to contact:

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