

Collingwood Wastewater Treatment Plant

2018 Annual Compliance Report



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Definitions

BOD	Biochemical Oxygen Demand
CBOD ₅	Carbonaceous Biochemical Oxygen Demand
Cfu	Colony Forming Units
COD	Chemical Oxygen Demand
DO	Dissolved Oxygen
ECA	Environmental Compliance Approval
Hg	Mercury
FP	Filtered Phosphorous
GEOMEAN	Average of a set of Products
HP	Horsepower
kg	Kilograms
kW	Kilowatt
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
OEM	Original Equipment Manufacturer
STF	Sewage Treatment Facility
SVI	Sludge Volume Index
TBOD	Total Biochemical Oxygen Demand
TAN	Total Ammonia Nitrogen
TKN	Total Kjeldahl Nitrogen
TP	Total Phosphorous
TS	Total Solids
TSS	Total Suspended Solids
UV	Ultraviolet
VFA	Volatile Fatty Acids
VS	Volatile Solids
WWTP	Wastewater Treatment Plant

Wastewater System General Information

This annual report has been presented to Council and a notice has been placed in local newspapers notifying the public and any interested authority that the Collingwood Wastewater System's 2018 Annual Compliance Report can be viewed on the website shown below or upon request a copy will be made available free of charge.

The Wastewater System 2018 Annual Report can also be viewed and downloaded in PDF format from the following websites: <http://www.collingwood.ca/water/docs>

Wastewater System Name	Collingwood Wastewater Treatment Plant
Wastewater Works Number	120000550
Wastewater System Owner	Town of Collingwood
Wastewater System Category	Class III Certification
Period being Reported	January 1, 2018 to December 31, 2018

Plant Certificate of Approval & Amendments:

The Plant operates under the Certificate of Approval Number 2639-5TLQB2 dated the 17th day of December 2003.

Executive Summary

This report has been compiled in accordance with the reporting requirements of the Certificate of Approval (C of A).

The report is broken down into sections. There is additional information contained in each section over and above what is required to support and substantiate the required content.

2018 at a Glance															
Total Flow to WWTP		MI/d													
Design average daily Flow	24548 m ³ /d	24.548 MI/d													
Average Daily Flow	m ³ /d	MI/d													
Bypass events	0	0													
Compliance Parameters			Actual	Number of times criteria exceeded											
				Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Annual average CBOD ₅	Objective	15 mg/l		0	0	0	0	0	0	0	0	0	0	0	0
Annual average CBOD ₅	Limit	25 mg/l		0	0	0	0	0	0	0	0	0	0	0	0
Annual average CBOD ₅	Loading	613.7kg/l		0	0	0	0	0	0	0	0	0	0	0	0
Annual average TSS	Objective	15mg/l		0	0	0	0	0	0	0	0	0	0	0	0
Annual average TSS	Limit	25mg/l		0	0	0	0	0	0	0	0	0	0	0	0
Annual average TSS	Loading	613.7kg/d		0	0	0	0	0	0	0	0	0	0	0	0
Monthly average TP	Objective	0.8mg/l		0	0	0	0	0	0	0	0	0	0	0	0
Monthly average TP	Limit	1.0mg/l		0	0	0	0	0	0	0	0	0	0	0	0
Monthly average TP	Loading	24.5kg/d		0	0	0	0	0	0	0	0	0	0	0	0
Monthly <u>geomean</u> E-Coli	Objective	100cfu/100 ml		0	0	0	0	0	0	0	0	0	0	0	1
Monthly <u>geomean</u> E-Coli	Limit	200cfu/100 ml		0	0	0	0	0	0	0	0	0	0	0	1
.pH range	Objective	6.5 to 9.0		0	0	0	0	0	0	0	0	0	0	0	0
.pH range	Limit	6.0 to 9.0		0	0	0	0	0	0	0	0	0	0	0	0

Section 1.0 The Facility

The Collingwood WWTP, 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, although seven (7) pumping stations at Minnesota Street, St. Clair St., Paterson Street, Cranberry Trail and Black Ash Creek, Pretty River Estates and Silver Glen boost the flow throughout the area.

Major unit operations at the Collingwood WWTP include the following:

- Headwork's - 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 UV
- Effluent discharge to Collingwood Harbour
- Thickening of waste activated sludge by Dissolved Air Flotation
- Anaerobic Sludge Digestion
- Liquid Digested Sludge Land Utilization Disposal
- Sludge Storage Lagoon (off site)
- Standby power source (diesel driven generator)

Section 2.0 Annual Average Performance Evaluation

2.1.1 Effluent Quality Assessment

1. Effluent Objectives - See Condition 6 subsection (1) of Certificate of Approval (CofA). The effluent objectives concentration is summarized below in Table 1.

Table 1: Effluent Objectives	
Effluent Parameter	Concentration Objectives (milligrams per litre unless otherwise indicated)
CBOD ₅	15.0
Total Suspended Solids	15.0
Total Phosphorous	0.8
E. Coli	Monthly Geometric Mean Density 100 organisms per 100ml
<i>pH of the effluent maintained between 6.5 to 9.5, inclusive, at all times</i>	

Table 2: Effluent Limits		
Effluent Parameter	Average Concentration (milligrams per litre unless otherwise indicated)	Average Waste Loading (kilograms per day unless otherwise indicated)
CBOD ₅	25.0	613.7
Total Suspended Solids	25.0	613.7
Total Phosphorous	1.0	24.5
<i>pH of the effluent maintained between 6.5 to 9.5, inclusive, at all times</i>		

2. For the purposes of determining compliance with and enforcing concentrations and readings in Table 2 see Condition 7 (subsection 2) of CofA.
 - a. The Annual Average Concentration of Carbonaceous Biochemical Oxygen Demand (CBOD₅) and Total Suspended Solids named in Column 1 of subsection 1 shall not exceed the corresponding maximum concentration set out in Column 2 of subsection (1).
 - b. The Monthly Average Concentration of Total Phosphorus named in Column 1 of subsection (1) shall not exceed the corresponding maximum concentration set out in Column 2 of subsection (1).
 - c. The Annual Average Loading of a parameter named in Column 1 of subsection (1) shall not exceed the corresponding maximum waste loading set out in Column 3 of subsection (1).
 - d. The pH of the effluent shall be maintained within the limits outlined in subsection (1) at all times.
3. Notwithstanding subsection (1), the Owner shall operate and maintain the Works such that the effluent is continuously disinfected so that the monthly Geometric Mean Density of E.coli does not exceed 200 organisms per 100 millilitres of effluent discharged from the works.

4. Only those monitoring results collected during the corresponding time period shall be used in calculating the Annual Average Concentration/Monthly Average Concentration/Annual Average Loading for this Certificate.
 - The annual average effluent concentrations for CBOD₅, and TP fell within the applicable objectives.
 - The monthly average effluent concentrations for TP fell within the applicable objective.
 - The annual average effluent concentrations for CBOD₅, and SS fell within the applicable compliance limit.
 - The monthly average effluent concentration for TP fell within the applicable compliance limit.
 - The annual average effluent loadings for CBOD₅, SS, and TP, all fell within the applicable compliance limits.
 - The pH values have fallen within the 6.0 to 9.5 range permitted under the certificate.
 - The monthly geometric mean densities of E-Coli bacteria in the final effluent met the compliance criteria for all months except November.
 - The monthly geometric mean densities of E-Coli bacteria in the final effluent met the objective criteria for all months except November.

2.1.2 Effluent Sampling Requirements Monitoring & Reporting

Compliance Testing & Analysis

Monitoring requirements are specified under condition #9 (3) of the Certificate of Approval. Twenty-four (24) hour composite samples of raw sewage are required to be collected quarterly and analyzed for CBOD₅, total SS, TP and TKN. Twenty-four (24) hour composite samples of final effluent are required to be collected monthly and analyzed for CBOD₅, total SS. Twenty-four (24) hour composite samples of final effluent are required to be collected weekly for analysis for total phosphorus and total ammonia nitrogen. Grab samples of final effluent are required to be collected weekly for analysis for E-Coli bacteria. Lastly, the temperature and pH of the final effluent is required to be tested three times each week.

The plant's current regular monitoring program exceeds these minimum requirements.

Compliance sampling and analysis of raw sewage is carried out quarterly. Twenty-four (24) hour composite samples are collected using an automatic sampler for analysis of CBOD₅, total suspended solids, total phosphorus, and total Kjeldahl nitrogen.

Compliance sampling and analysis of final effluent is carried out weekly. Twenty-four (24) hour composite samples are collected using a refrigerated automatic sampler for analysis of CBOD₅, total suspended solids, total phosphorus, and total Kjeldahl nitrogen, total

ammonia nitrogen, nitrite and nitrate. Grab samples of final effluent are also collected weekly for analysis of E-Coli bacteria. Lastly, grab samples are collected daily (Monday to Friday) and tested for pH and temperature.

With the exception of the samples collected for pH and temperature testing, analysis for all compliance samples is carried out by our external contract laboratory, ALS Environmental Laboratory, in Waterloo.

The plant also complies with Guideline F-10-1 concerning sampling and analysis requirements which satisfies condition 9 (4) (a).

The temperature and pH of the final effluent is taken in the field at the time of sampling for Total Ammonia Nitrogen so as we can calculate the concentration of un-ionized ammonia as set out in condition 9 (5).

All external laboratory analysis results are reported in the R1 and R2 Municipal Utility Monitoring forms which are submitted electronically to the Barrie District Office and are used in generating the annual plant performance report.

In House Testing & Analysis for Process Control

Twenty-four (24) hour composite samples are collected Monday thru Friday on influent, primary effluent & final effluent. Grab samples are also obtained for other process streams as required for process control purposes. All samples are analysed on-site using techniques in standard methods or using approved methods for HACH DR/2010 Spectrophotometer.

Flow Measurement

Flows at the Collingwood WWTP are continuously measured at the raw sewage pumps and at the final effluent weir. Raw sewage flows are monitored by ultrasonic flow measuring devices on pumps 1 and 3 and an electromagnetic device (magmeter) on pump 2. All devices are installed on the discharge side of the pumps.

Final effluent flows are continuously monitored by means of rectangular weir with an ultrasonic flow monitor.

A 24-hour chart recorder records the final effluent flow.

Both the influent and final effluent flows are trended through the SCADA system.

The meters are calibrated annually for accuracy (must be +/- 15% of flow rate) to satisfy condition 9 (7) of the C of A.

Date	Equipment calibrated	Company performing calibration/maintenance
June 26, 2018	Influent X 3, Raw Sludge Flow, Sludge Loading, TWAS and Final Effluent	V. Nowik Instrumentation and Controls

2.1.3 Capacity Assessment

The Certificate of Approval specifies that the plant is rated to treat an average daily flow of 24,548 cubic meters/day and a peak flow of 60,900 cubic meters/day.

	Design	Current year
ADF in m ³ /d	24,548	17936
Maximum Daily Flow in m ³ /d	60,900	47550

The annual average daily flow has fallen within these limits for this reporting period.

The peak single day max daily design flow has fallen within these limits for this reporting period.

The annual average performance data is summarized in Appendix B.

Section 3.0 Bio Solids Management

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

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 currently owns & operates a 5,000 m³ STF located on Part Lot 48, Concession 12 in the Town of Collingwood and contracts two 6,800 m³ STF from Region of Huronia Environmental Services Ltd. to achieve this guideline.

Sludge disposal operations are currently contracted to a private hauler, Region of Huronia Environmental Services Limited, R. R. #1, New Lowell, Ontario, L0M 1N0

A total volume of 28,309.8m³ of bio solids was disposed of from the Collingwood facility in 2018.

Samples of anaerobic sludge are collected twice monthly and sent for metals, E.coli, and nutrient analysis to ALS Environmental, Waterloo, Ontario, N2V 2C5. Appendix C provides a detailed summary report of sites utilized for sludge disposal in 2018. Original reporting analysis is available at the plant for viewing.

Section 4.0 Bypass Occurrences

There were no bypass occurrences.

Section 5.0 Maintenance

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

In 2018 we continued with the Continuous Service Program with Ainsworth Electric Co. Limited being the source provider. This program utilizes such tools as thermography, voltage, load and harmonic checks, vibrations analysis etc. and has been designed using predictive and preventative maintenance to increase safety, reduce down time, reduce maintenance costs, protect asset value and extend equipment life.

Regarding electrical inspections, the WWTP and seven pumping stations are being reviewed under the Electrical Safety Authority. The associated logbook at the site is available for review.

All boiler and pressure vessels were inspected by personnel from the Boiler Inspection and Insurance Company of Canada - no concerns were reported.

All primary and secondary clarifiers were taken out of service for inspection and repairs implemented as required (e.g. damaged flights replaced, drive chains changed, etc.).

UV lamps on the disinfection system were changed out before the 5000 hour limit.

Yearly inspection/maintenance was performed by Toromont CAT on standby power equipment at the main plant and pumping stations

Gas monitoring equipment was calibrated and serviced as OEM recommendation.

Section 6.0 Complaints

There were no complaints in 2018.

Section 7.0 Undertaking Next Reporting Period

Conestoga Rovers and Associates (CRA) (now operating as GHD Canada) have completed a Class Environmental Assessment (EA) related to the next expansion phase for the Collingwood Wastewater Treatment Plant.

Appendices

Appendix A

Monthly Flow and Process Quality Data

TOWN of COLLINGWOOD WATER POLLUTION CONTROL PLANT

2018 PERFORMANCE EVALUATION

Plant Municipality	Collingwood WWTP Town of Collingwood 120000550	Region District	Central Simcoe	Operating Authority	Collingwood Municipal										
Treatment	Conventional Activated Sludge Phosphorus Removal 24,548 (1000 m3/d)	Watercourse	Huron	Minor Basin	Collingwood Harbour										
Design Capacity	24,548 (1000 m3/d)	Major Basin	Great Lakes	Population Served	19951										
Effluent Objectives CBOD5 15mg/L TSS 15mg/L TP 0.8 mg/L E-Coli 100 organisms/ 100mL pH 6.5 to 9.0															
2018															
Flows (m3/d)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Annual average concentration	Annual average loading	Average daily flow
Monthly ADF	20620	21125	17001	28312	17686	13084	14497	13207	11896	14575	19966	23163			17936
Month Total	639220	591490	527040	849360	548280	392530	449410	409430	356880	451840	612950	718060			
Max day	45480	47550	24250	41390	23620	16560	20670	19710	14020	28000	36090	43000			
Min day	12090	13950	13990	16380	14050	10660	11490	11440	9540	11590	13680	17470			
CBOD5 (mg/L)			138										146		
Effluent	2.16	4.15	2.00	4.3	2.7	2.0	2.0	2.5	2.1	4.2	8.2	4.6	25 mg/L	613.7 kg/d	
Final Effluent Objective concentration	is 15 mg/L														
SS (mg/L)													222.00		
Influent	251.00		109.00										222.00	613.7 kg/d	
Effluent	3.0	11.6	2.2	8.5	5.9	2.3	4.1	3.3	2.5	12.1	21.9	8.3	7.1	127.95	
Final Effluent Objective concentration	is 15 mg/L														
TP (mg/L)													2.93		
Influent			3.01										2.93	24.5 kg/d	
Effluent	0.14	0.08	0.09	0.20	0.29	0.11	0.10	0.23	0.12	0.35	0.56	0.16	0.20	3.63	
Monthly average concentration:	objective is 0.8mg/L, compliance limit is 1.0mg/L and an annual average loading of 24.5 kg/d														
TKN (mg/L)															
Influent			35.4										20		
Effluent	2.3	4.3	8.4	6.6	5.8	1.4	1.2	2.1	1.3	2.3	2.9	4.1			
TAN (mg/L)															
Influent															
Effluent	0.68	2.04	6.24	4.42	3.92	0.03	0.05	0.46	0.07	0.11	0.33	2.08			
pH of Final Effluent															
Min (6.0)	7.2	7.2	7.3	7.3	7.37	7.54	7.1	7.4	7.4	7.23	6.8	7.3			
Max (9.5)	7.8	7.7	7.8	7.9	7.8	7.7	7.8	7.7	7.71	7.6	7.8	7.82			
Compliance means maintaining the pH of the final effluent within the limits 6.0 to 9.5 (objective is 6.5 to 9.0)															
E-Coli															
Final effluent	5	74	0	37	0	7	11	70	0	34	505	32			
Monthly geometric mean density of E-Coli:	objective is 100organisms/100mL, compliance is 200 organisms/100mL														

**TOWN of COLLINGWOOD WWTP
2018 Monthly Average
Final Effluent Flow**

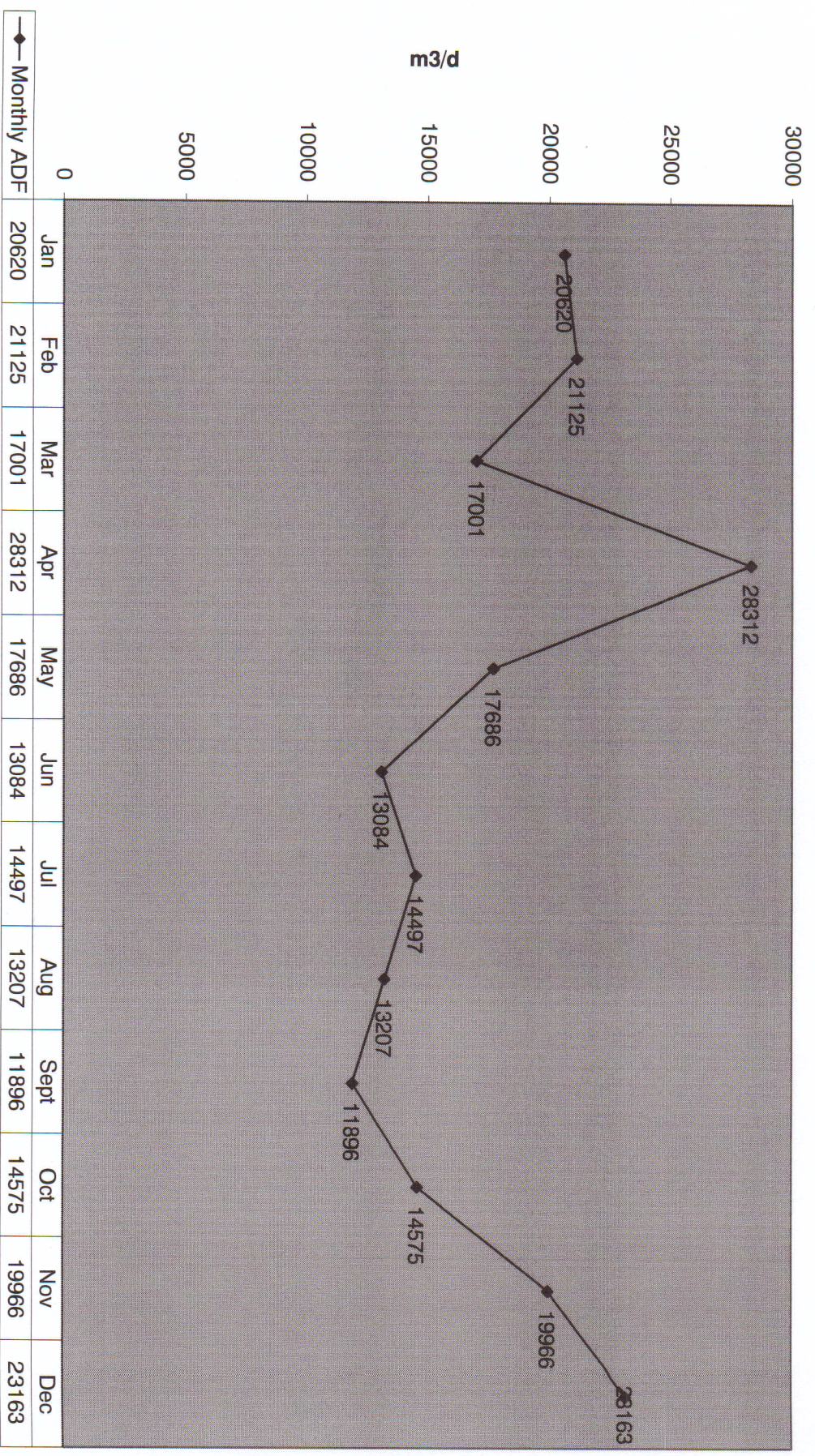


Figure 1

**TOWN of COLLINGWOOD WWTP
2018 Monthly Average Concentration
Final Effluent CBOD5**

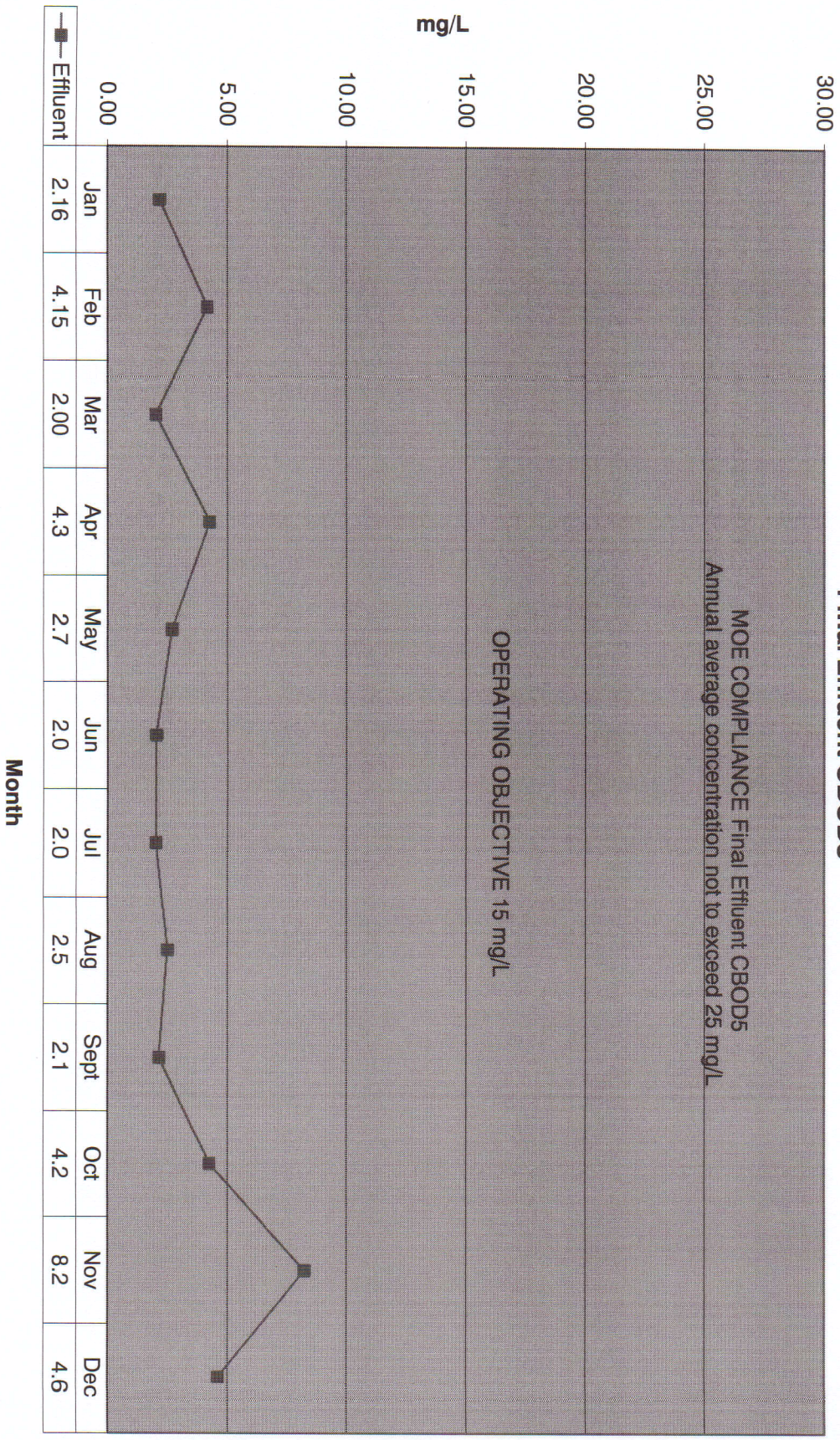


Figure 2

**TOWN of COLLINGWOOD WWTP
2018 Monthly Average Concentration
Final Effluent TSS**

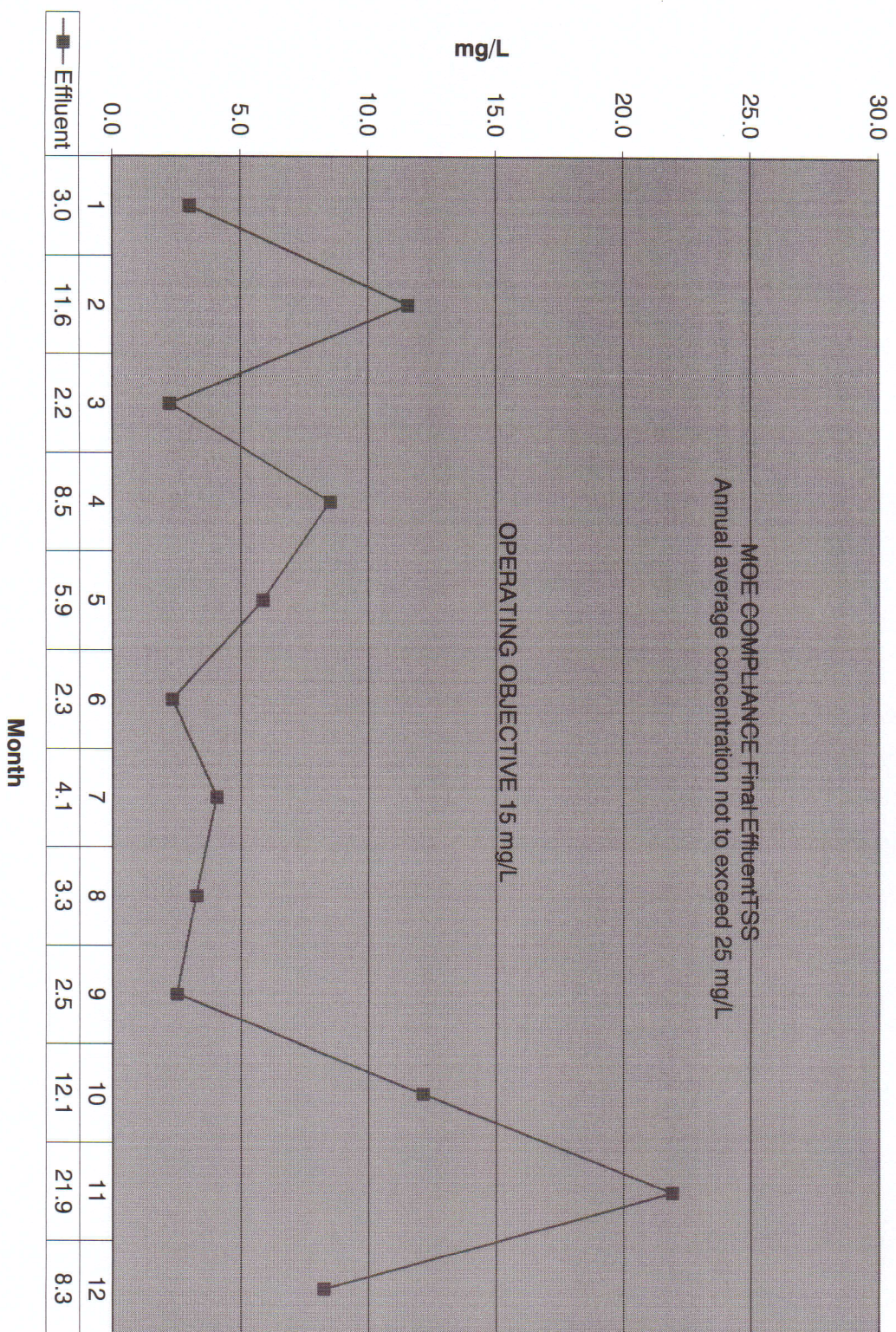


Figure 3

**TOWN of COLLINGWOOD WWTP
2018 Monthly Average Concentration
Final Effluent TP**

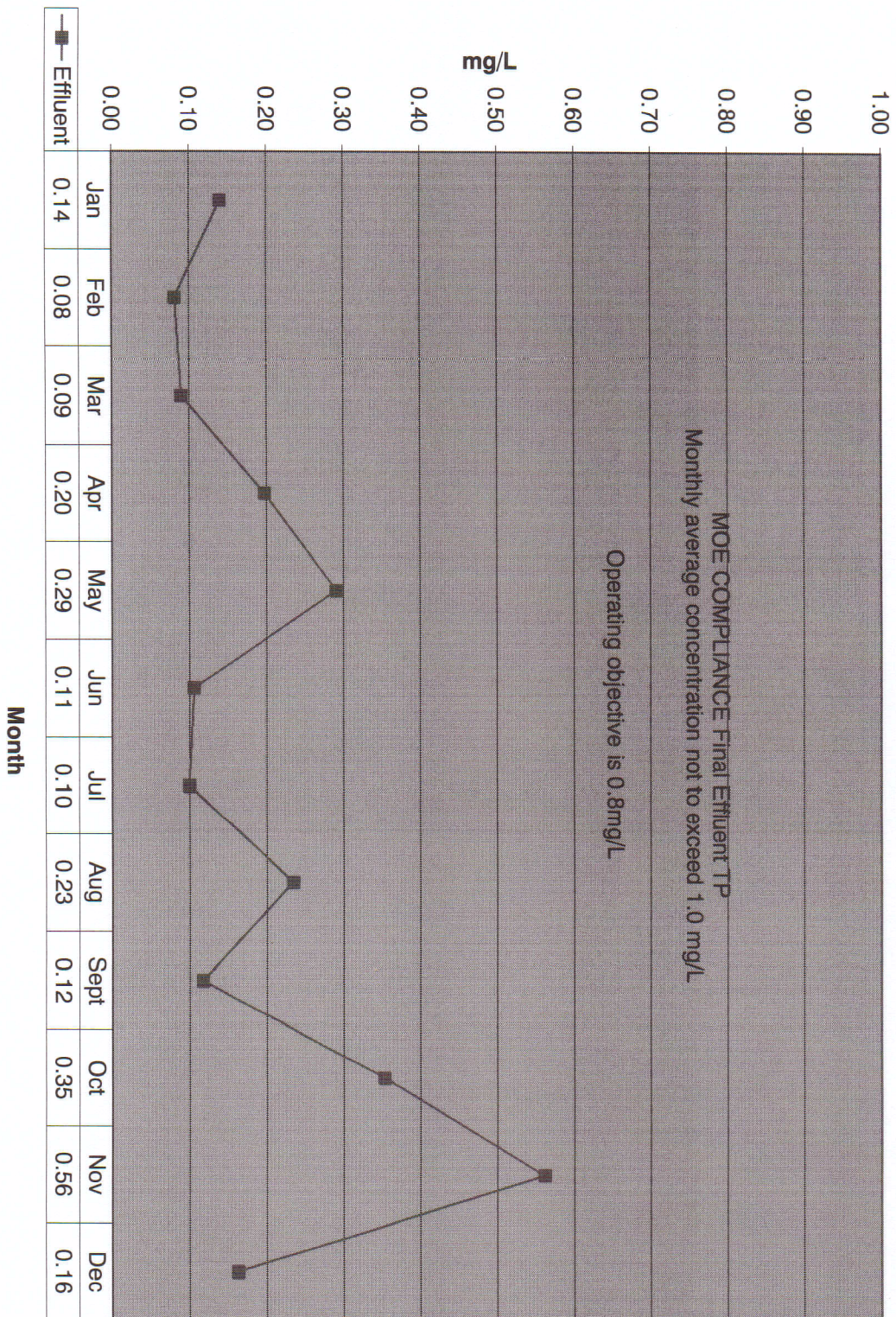


Figure 4

Project Name WWTP			
Mailing Address			
Unit No.	Street No.	Street Name	PO Box
	3	Birch St	Box157
Municipality/City/Town Collingwood		Province Ontario	Postal Code L9Y 2T8
Operating Authority Town of Collingwood			
Mailing Address			
Unit No.	Street No.	Street Name	PO Box
	97	Hurontario St	Box157
Municipality/City/Town Collingwood		Province Ontario	Postal Code L9Y 3Z5

File No.	Works Number	Data Period	Days	Discharge Type	Update Code
4 6	1 2 0 0 0 0 5 5 0	Month Year 0 1 18	3 1	2	R
1 2	3 11	16 19	20 21	22	80

C.P.	0 1	FLOWS							
12 13		Total Flow	(10 ³ m ³)	5 0 0 1 0	3	6 3 9 . 2 2 0			
		Average Daily Flow	(10 ³ m ³ /d)	5 0 0 1 5	3	2 0 . 6 2 0			
		Maximum Daily Flow	(10 ³ m ³ /d)	5 0 0 2 0	3	4 5 . 4 8 0			
				30 34	35	38 46			

2 6	BYPASS								
12 13	Plant Bypass Volume	(10 ³ m ³)	5 0 0 2 6	3					No. of Occurrences
	Duration	(hrs)	8 0 5 6 3	1					
	Secondary Bypass Volume	(10 ³ m ³)	5 0 0 4 0	3					
	Duration	(hrs)	8 0 5 6 5	1					
			30 34	35	38				48 51

0 3	RAW SEWAGE								
12 13	BOD ₅	(mg/L)	0 0 0 0 1	0					No. of Samples
	Suspended Solids	(mg/L)	0 0 0 0 6	0					
	TKN	(mg/L)	0 0 0 2 0	2					
	Total Phosphorous	(mg/L)	0 0 0 3 3	1					
			30 34	35	38				48 51

0 4	FINAL EFFLUENT								
12 13	BOD ₅	(mg/L)	0 0 0 0 1	1					No. of Samples
	Suspended Solids	(mg/L)	0 0 0 0 6	1					
	Ammonia + Ammonium	(mg/L)	0 0 0 1 9	2		3 . 3			5
	TKN	(mg/L)	0 0 0 2 0	2		0 . 6 8			5
	Total Phosphorous	(mg/L)	0 0 0 2 0	2		2 . 3 0			5
	(Representative of Final Discharge)		0 0 0 3 3	2		0 . 1 4			5
			30 34	35	38				48 51

0 7	DISINFECTION								
12 13	Chlorine Used	(kg as Cl ₂)	5 0 3 2 0	1					No. of Occurrences
	Chlorine Dosage	(mg/L as Cl ₂)	8 0 4 1 0	1					
	Chlorine Residual	(mg/L as Cl ₂)	8 0 4 2 0	1					
	(Representative of Final Discharge)								
			30 34	35	38				48 51

Operator Telephone Number 705-445-1581	Email Address gprice@collingwood.ca
-------------------------------------------	----------------------------------------

Comments

Return completed form to:

- Environmental Monitoring and Reporting Branch, MOE, at WasteWaterReporting@Ontario.ca AND
- Your Environmental Officer at your local District/Area MOE Office. (Find your local MOE office: <http://www.ene.gov.on.ca/environment>)

Project Name
WWTP

 Mailing Address
 Unit No. | Street No. | Street Name | PO Box
 | 3 | Birch St |

 Municipality/City/Town | Province | Postal Code
 Collingwood | Ontario | L9Y 2T8

 Operating Authority
 Town of Collingwood

 Mailing Address
 Unit No. | Street No. | Street Name | PO Box
 | 97 | Hurontario St | Box157

 Municipality/City/Town | Province | Postal Code
 Collingwood | Ontario | L9Y 2Z5

File No. 4 6	Works Number 1 2 0 0 0 0 5 5 0	Data Period Month Year 0 1 18	Days 3 1	Discharge Type 2	Update Code R
1 2	3 11	16 19	20 21	22	80

C.P.		RAW SEWAGE						Dec	Monthly Average Results						No. of Samples			
3	6	Parameter	Unit	Parameter Code			38											
12	13																	

C.P.		FINAL EFFLUENT						Dec	Monthly Average Results						No. of Samples				
0	4	Parameter	Unit	Parameter Code			38												
12	13	CBOD	mg/l	0	0	0	0	2	1				2	.	2				5

Operator Telephone Number 705-445-1581	Email Address gprice@collingwood.ca
Comments	

- Return completed form to:**
- Environmental Monitoring and Reporting Branch, MOE, at WasteWaterReporting@Ontario.ca AND
 - Your Environmental Officer at your local District/Area MOE Office. (Find your local MOE office: <http://www.ene.gov.on.ca/environment>)

Project Name WWTP			
Mailing Address			
Unit No.	Street No.	Street Name	PO Box
	3	Birch St	Box157
Municipality/City/Town		Province	Postal Code
Collingwood		Ontario	L9Y 2T8
Operating Authority			
Town of Collingwood			
Mailing Address			
Unit No.	Street No.	Street Name	PO Box
	97	Hurontario St	Box157
Municipality/City/Town		Province	Postal Code
Collingwood		Ontario	L9Y 3Z5

File No.	Works Number	Data Period	Days	Discharge Type	Update Code
4 6	1 2 0 0 0 0 5 5 0	Month Year 0 2 18	2 8	2	R
1 2	3 11	16 19	20 21	22	80

C.P.	0 1	FLOWS							
12 13		Total Flow	(10 ³ m ³)	5 0 0 1 0	3	5 9 1 . 4 9 0			
		Average Daily Flow	(10 ³ m ³ /d)	5 0 0 1 5	3	2 1 . 1 2 5			
		Maximum Daily Flow	(10 ³ m ³ /d)	5 0 0 2 0	3	4 7 . 5 5 0			
				30 34	35	38 46			

2 6	BYPASS								
12 13	Plant Bypass Volume	(10 ³ m ³)	5 0 0 2 6	3					No. of Occurrences
	Duration	(hrs)	8 0 5 6 3	1					0
	Secondary Bypass Volume	(10 ³ m ³)	5 0 0 4 0	3					0
	Duration	(hrs)	8 0 5 6 5	1					
			30 34	35	38				

0 3	RAW SEWAGE								
12 13	BOD ₅	(mg/L)	0 0 0 0 1	0					No. of Samples
	Suspended Solids	(mg/L)	0 0 0 0 6	0					
	TKN	(mg/L)	0 0 0 2 0	2					
	Total Phosphorous	(mg/L)	0 0 0 3 3	1					
			30 34	35	38				

0 4	FINAL EFFLUENT								
12 13	BOD ₅	(mg/L)	0 0 0 0 1	1					
	Suspended Solids	(mg/L)	0 0 0 0 6	1		1 1 . 6			4
	Ammonia + Ammonium	(mg/L)	0 0 0 1 9	2		2 . 0 4			4
	TKN	(mg/L)	0 0 0 2 0	2		4 . 3 0			4
	Total Phosphorous	(mg/L)	0 0 0 3 3	2		0 . 0 8			4
	(Representative of Final Discharge)		30 34	35	38				

0 7	DISINFECTION								
12 13	Chlorine Used	(kg as Cl ₂)	5 0 3 2 0	1					
	Chlorine Dosage	(mg/L as Cl ₂)	8 0 4 1 0	1					
	Chlorine Residual	(mg/L as Cl ₂)	8 0 4 2 0	1					
	(Representative of Final Discharge)		30 34	35	38				48 51

Operator Telephone Number 705-445-1581	Email Address gprice@collingwood.ca
Comments	

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Project Name WWTP			
Mailing Address			
Unit No.	Street No.	Street Name	PO Box
	3	Birch St	Box157
Municipality/City/Town		Province	Postal Code
Collingwood		Ontario	L9Y 2T8
Operating Authority Town of Collingwood			
Mailing Address			
Unit No.	Street No.	Street Name	PO Box
	97	Hurontario St	Box157
Municipality/City/Town		Province	Postal Code
Collingwood		Ontario	L9Y 2Z5

File No.	Works Number	Data Period	Days	Discharge Type	Update Code
4 6	1 2 0 0 0 0 5 5 0	Month Year 0 3 18	3 1	2	R
1 2	3 11	16 19	20 21	22	80

C.P.	0 1	FLOWS							
12 13		Total Flow	(10 ³ m ³)	5 0 0 1 0	3	5 2 7 . 0 4 0			
		Average Daily Flow	(10 ³ m ³ /d)	5 0 0 1 5	3	1 7 . 0 0 1			
		Maximum Daily Flow	(10 ³ m ³ /d)	5 0 0 2 0	3	2 3 . 3 8 0			
				30 34	35	38 46			

2 6	BYPASS								
12 13	Plant Bypass Volume	(10 ³ m ³)	5 0 0 2 6	3					No. of Occurrences
	Duration	(hrs)	8 0 5 6 3	1					0
	Secondary Bypass Volume	(10 ³ m ³)	5 0 0 4 0	3					0
	Duration	(hrs)	8 0 5 6 5	1					
			30 34	35	38				

0 3	RAW SEWAGE								
12 13	BOD ₅	(mg/L)	0 0 0 0 1	0					No. of Samples
	Suspended Solids	(mg/L)	0 0 0 0 6	0					
	TKN	(mg/L)	0 0 0 2 0	2					
	Total Phosphorous	(mg/L)	0 0 0 3 3	1					
			30 34	35	38				

0 4	FINAL EFFLUENT								
12 13	BOD ₅	(mg/L)	0 0 0 0 1	1					
	Suspended Solids	(mg/L)	0 0 0 0 6	1			2 . 2		4
	Ammonia + Ammonium	(mg/L)	0 0 0 1 9	2			6 . 2 4		4
	TKN	(mg/L)	0 0 0 2 0	2			8 . 4 0		4
	Total Phosphorous	(mg/L)	0 0 0 3 3	2			0 . 0 9		4
	(Representative of Final Discharge)		30 34	35	38				

0 7	DISINFECTION								
12 13	Chlorine Used	(kg as Cl ₂)	5 0 3 2 0	1					
	Chlorine Dosage	(mg/L as Cl ₂)	8 0 4 1 0	1					
	Chlorine Residual	(mg/L as Cl ₂)	8 0 4 2 0	1					
	(Representative of Final Discharge)		30 34	35	38				48 51

Operator Telephone Number 705-445-1581	Email Address gprice@collingwood.ca
Comments	

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Project Name
WWTP

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Municipality/City/Town Collingwood	Province Ontario	Postal Code L9Y 2T8
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 Operating Authority
Town of Collingwood

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	97	Hurontario St	Box157

Municipality/City/Town Collingwood	Province Ontario	Postal Code L9Y 3Z5
---------------------------------------	---------------------	------------------------

File No.	Works Number								Data Period		Days		Discharge Type		Update Code	
4 6	1	2	0	0	0	0	5	5	0	0	3	18	3	1	2	R
1 2	3								11	16	19	20	21	22	80	

C.P.		RAW SEWAGE						Dec	Monthly Average Results						No. of Samples			
3	6	Parameter	Unit	Parameter Code			30		34	35	38							
12	13																	

C.P.		FINAL EFFLUENT						Dec	Monthly Average Results						No. of Samples			
0	4	Parameter	Unit	Parameter Code			30		34	35	38							
12	13	CBOD	mg/l	0	0	0	0	2	1			2	.	0				4

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Collingwood | Ontario | L9Y 3Z5

File No. 4 6 1 2	Works Number 1 2 0 0 0 0 5 5 0 3 11	Data Period Month Year 0 4 18 16 19	Days 3 0 20 21	Discharge Type 2 22	Update Code R 80
------------------------	-------------------------------------------	----------------------------------------------	----------------------	---------------------------	------------------------

C.P.
0 1
12 13

FLOWS

Total Flow
Average Daily Flow
Maximum Daily Flow

Parameter Code	Dec
(10 ³ m ³) 5 0 0 1 0 30 34	3 35
(10 ³ m ³ /d) 5 0 0 1 5 30 34	3 35
(10 ³ m ³ /d) 5 0 0 2 0 30 34	3 35

Monthly Results
8 4 9 . 3 6 0
2 8 . 3 1 2
4 1 . 3 9 0

2 6
12 13

BYPASS

Plant Bypass Volume
Duration
Secondary Bypass Volume
Duration

(10 ³ m ³) 5 0 0 2 6 30 34	3 35
(hrs) 8 0 5 6 3 30 34	1 35
(10 ³ m ³) 5 0 0 4 0 30 34	3 35
(hrs) 8 0 5 6 5 30 34	1 35

No. of Occurrences				
				0
				0

0 3
12 13

RAW SEWAGE

BOD₅
Suspended Solids
TKN
Total Phosphorous

(mg/L) 0 0 0 0 1 30 34	0 35
(mg/L) 0 0 0 0 6 30 34	0 35
(mg/L) 0 0 0 2 0 30 34	2 35
(mg/L) 0 0 0 3 3 30 34	1 35

No. of Samples				

0 4
12 13

FINAL EFFLUENT

BOD₅
Suspended Solids
Ammonia + Ammonium
TKN
Total Phosphorous
(Representative of Final Discharge)

(mg/L) 0 0 0 0 1 30 34	1 35
(mg/L) 0 0 0 0 6 30 34	1 35
(mg/L) 0 0 0 1 9 30 34	2 35
(mg/L) 0 0 0 2 0 30 34	2 35
(mg/L) 0 0 0 3 3 30 34	2 35

0 7
12 13

DISINFECTION

Chlorine Used
Chlorine Dosage
Chlorine Residual
(Representative of Final Discharge)

(kg as Cl ₂) 5 0 3 2 0 30 34	1 35
(mg/L as Cl ₂) 8 0 4 1 0 30 34	1 35
(mg/L as Cl ₂) 8 0 4 2 0 30 34	1 35

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File No. 4 6 1 2	Works Number 1 2 0 0 0 0 5 5 0 3 11	Data Period Month Year 0 5 18 16 19	Days 3 1 20 21	Discharge Type 2 22	Update Code R 80
------------------------	-------------------------------------------	----------------------------------------------	----------------------	---------------------------	------------------------

C.P.
0 1
12 13

FLOWS

Total Flow (10³m³)
Average Daily Flow (10³m³/d)
Maximum Daily Flow (10³m³/d)

Parameter Code				
5	0	0	1	0
5	0	0	1	5
5	0	0	2	0
30			34	

Dec
3
3
3

Monthly Results								
		5	4	8	.	2	8	0
			1	7	.	6	8	6
			2	3	.	6	2	0
38								46

2 6
12 13

BYPASS

Plant Bypass Volume (10³m³)
Duration (hrs)
Secondary Bypass Volume (10³m³)
Duration (hrs)

5	0	0	2	6
8	0	5	6	3
5	0	0	4	0
8	0	5	6	5
30			34	

3
1
3
1

				.				
				.				
				.				
				.				
38								

No. of Occurrences			
			0
			0

0 3
12 13

RAW SEWAGE

BOD₅ (mg/L)
Suspended Solids (mg/L)
TKN (mg/L)
Total Phosphorous (mg/L)

0	0	0	0	1
0	0	0	0	6
0	0	0	2	0
0	0	0	3	3
30			34	

0
0
2
1

				.				
				.				
38								

No. of Samples			

0 4
12 13

FINAL EFFLUENT

BOD₅ (mg/L)
Suspended Solids (mg/L)
Ammonia + Ammonium (mg/L)
TKN (mg/L)
Total Phosphorous (mg/L)
(Representative of Final Discharge)

0	0	0	0	1
0	0	0	0	6
0	0	0	1	9
0	0	0	2	0
0	0	0	3	3
30			34	

1
1
2
2
2

				.				
				5	.	9		
				3	.	9	2	
				5	.	8	0	
				0	.	2	9	
38								

			5
			5
			5
			5

0 7
12 13

DISINFECTION

Chlorine Used (kg as Cl₂)
Chlorine Dosage (mg/L as Cl₂)
Chlorine Residual (mg/L as Cl₂)
(Representative of Final Discharge)

5	0	3	2	0
8	0	4	1	0
8	0	4	2	0
30			34	

1
1
1

				.				
				.				
				.				
				.				
38								

48					51

Operator Telephone Number | Email Address
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 Collingwood | Ontario | L9Y 3Z5

File No. 4 6	Works Number 1 2 0 0 0 0 5 5 0	Data Period Month Year 0 6 18	Days 3 0	Discharge Type 2	Update Code R
1 2	3 11	16 19	20 21	22	80

C.P. 0 1	FLOWS	Parameter Code	Dec	Monthly Results
12 13	Total Flow (10 ³ m ³)	5 0 0 1 0	3	3 9 2 5 3 0 . . .
	Average Daily Flow (10 ³ m ³ /d)	5 0 0 1 5	3	1 3 8 0 4 . . .
	Maximum Daily Flow (10 ³ m ³ /d)	5 0 0 2 0	3	1 6 5 6 0 . . .
		30 34	35	38 46

2 6	BYPASS	Parameter Code	Dec	Monthly Results	No. of Occurrences
12 13	Plant Bypass Volume (10 ³ m ³)	5 0 0 2 6	3	. . . . .	0
	Duration (hrs)	8 0 5 6 3	1	. . . . .	0
	Secondary Bypass Volume (10 ³ m ³)	5 0 0 4 0	3	. . . . .	0
	Duration (hrs)	8 0 5 6 5	1	. . . . .
		30 34	35	38	

0 3	RAW SEWAGE	Parameter Code	Dec	Monthly Results	No. of Samples
12 13	BOD ₅ (mg/L)	0 0 0 0 1	0	. . . . .
	Suspended Solids (mg/L)	0 0 0 0 6	0	. . . . .
	TKN (mg/L)	0 0 0 2 0	2	. . . . .
	Total Phosphorous (mg/L)	0 0 0 3 3	1	. . . . .
		30 34	35	38	

0 4	FINAL EFFLUENT	Parameter Code	Dec	Monthly Results	No. of Samples
12 13	BOD ₅ (mg/L)	0 0 0 0 1	1	. . . . .
	Suspended Solids (mg/L)	0 0 0 0 6	1	2 . 3	4
	Ammonia + Ammonium (mg/L)	0 0 0 1 9	2	0 . 0 3	4
	TKN (mg/L)	0 0 0 2 0	2	1 . 4 0	4
	Total Phosphorous (mg/L)	0 0 0 3 3	2	0 . 1 1	4
	(Representative of Final Discharge)	30 34	35	38	

0 7	DISINFECTION	Parameter Code	Dec	Monthly Results	No. of Samples
12 13	Chlorine Used (kg as Cl ₂)	5 0 3 2 0	1	. . . . .
	Chlorine Dosage (mg/L as Cl ₂)	8 0 4 1 0	1	. . . . .
	Chlorine Residual (mg/L as Cl ₂)	8 0 4 2 0	1	. . . . .
	(Representative of Final Discharge)	30 34	35	38	48 51

 Operator Telephone Number | Email Address
 705-445-1581 | gprice@collingwood.ca

Comments

Project Name

WWTP

Mailing Address

Unit No.

Street No.

3

Street Name

Birch St

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Municipality/City/Town

Collingwood

Province

Ontario

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L9Y 2T8

Operating Authority

Town of Collingwood

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Unit No.

Street No.

97

Street Name

Hurontario St

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Box157

Municipality/City/Town

Collingwood

Province

Ontario

Postal Code

L9Y 3Z5

File No. 4 6 1 2	Works Number 1 2 0 0 0 0 5 5 0 3 11	Data Period Month Year 0 7 18 16 19	Days 3 1 20 21	Discharge Type 2 22	Update Code R 80
------------------------	-------------------------------------------	----------------------------------------------	----------------------	---------------------------	------------------------

C.P. 0 1 12 13

FLOWS

 Total Flow
Average Daily Flow
Maximum Daily Flow

 $(10^3 m^3)$
 $(10^3 m^3/d)$
 $(10^3 m^3/d)$

Parameter Code				
5	0	0	1	0
5	0	0	1	5
5	0	0	2	0
30			34	

Dec
3
3
3
35

Monthly Results					
	4	4	9	.	4 1 0
	1	4	.	4	9 7
	2	0	.	6	7 0
38					46

2 6 12 13

BYPASS

 Plant Bypass Volume
Duration
Secondary Bypass Volume
Duration

 $(10^3 m^3)$
(hrs)
 $(10^3 m^3)$
(hrs)

5	0	0	2	6
8	0	5	6	3
5	0	0	4	0
8	0	5	6	5
30			34	

Dec
3
1
3
1
35

				.		
				.		
				.		
				.		
38						

No. of Occurrences		
		0
		0

0 3 12 13

RAW SEWAGE

 BOD₅
Suspended Solids
TKN
Total Phosphorous

(mg/L)
(mg/L)
(mg/L)
(mg/L)

0	0	0	0	1
0	0	0	0	6
0	0	0	2	0
0	0	0	3	3
30			34	

Dec
0
0
2
1
35

				.	
				.	
				.	
38					

No. of Samples		

0 4 12 13

FINAL EFFLUENT

 BOD₅
Suspended Solids
Ammonia + Ammonium
TKN
Total Phosphorous
(Representative of Final Discharge)

(mg/L)
(mg/L)
(mg/L)
(mg/L)
(mg/L)

0	0	0	0	1
0	0	0	0	6
0	0	0	1	9
0	0	0	2	0
0	0	0	3	3
30			34	

Dec
1
1
2
2
2
35

				.	
		4	.	0	
		0	.	0	5
		1	.	1	5
		1	.	0	0
38					

			4
			4
			4
			4

0 7 12 13

DISINFECTION

 Chlorine Used
Chlorine Dosage
Chlorine Residual
(Representative of Final Discharge)

(kg as Cl₂)
(mg/L as Cl₂)
(mg/L as Cl₂)

5	0	3	2	0
8	0	4	1	0
8	0	4	2	0
30			34	

Dec
1
1
1
35

				.	
				.	
				.	
38					

48			51

Operator Telephone Number

705-445-1581

Email Address

gprice@collingwood.ca

Comments

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Operating Authority
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File No. 4 6 1 2	Works Number 1 2 0 0 0 0 5 5 0 3 11	Data Period Month Year 0 8 18 16 19	Days 3 1 20 21	Discharge Type 2 22	Update Code R 80
------------------------	-------------------------------------------	----------------------------------------------	----------------------	---------------------------	------------------------

C.P. 0 1 12 13	FLOWS	Parameter Code	Dec	Monthly Results
Total Flow (10 ³ m ³)	5 0 0 1 0	3	4 0 9 . 4 3 0	
Average Daily Flow (10 ³ m ³ /d)	5 0 0 1 5	3	1 3 . 2 0 7	
Maximum Daily Flow (10 ³ m ³ /d)	5 0 0 2 0	3	1 9 . 7 1 0	
	30 34	35	38 46	

2 6 12 13	BYPASS	Parameter Code	Dec	No. of Occurrences
Plant Bypass Volume (10 ³ m ³)	5 0 0 2 6	3		0
Duration (hrs)	8 0 5 6 3	1		
Secondary Bypass Volume (10 ³ m ³)	5 0 0 4 0	3		0
Duration (hrs)	8 0 5 6 5	1		
	30 34	35	38	

0 3 12 13	RAW SEWAGE	Parameter Code	Dec	No. of Samples
BOD ₅ (mg/L)	0 0 0 0 1	0		
Suspended Solids (mg/L)	0 0 0 0 6	0		
TKN (mg/L)	0 0 0 2 0	2		
Total Phosphorous (mg/L)	0 0 0 3 3	1		
	30 34	35	38	

0 4 12 13	FINAL EFFLUENT	Parameter Code	Dec	No. of Samples
BOD ₅ (mg/L)	0 0 0 0 1	1		
Suspended Solids (mg/L)	0 0 0 0 6	1		5
Ammonia + Ammonium (mg/L)	0 0 0 1 9	2	3 . 3	5
TKN (mg/L)	0 0 0 2 0	2	0 . 4 6	5
Total Phosphorous (mg/L)	0 0 0 3 3	2	0 . 2 1	5
(Representative of Final Discharge)			0 . 2 3	4
	30 34	35	38	

0 7 12 13	DISINFECTION	Parameter Code	Dec	No. of Occurrences
Chlorine Used (kg as Cl ₂)	5 0 3 2 0	1		
Chlorine Dosage (mg/L as Cl ₂)	8 0 4 1 0	1		
Chlorine Residual (mg/L as Cl ₂)	8 0 4 2 0	1		
(Representative of Final Discharge)				
	30 34	35	38	48 51

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File No. 4 6		Works Number 1 2 0 0 0 0 5 5 0									Data Period Month Year 0 8 18		Days 3 1		Discharge Type 2			Update Code R	
1	2	3	4	5	6	7	8	9	10	11	16	17	18	19	20	21	22	80	

C.P.		RAW SEWAGE						Dec	Monthly Average Results						No. of Samples			
3	6	Parameter	Unit	Parameter Code			30		34	35	38	39	40	41	42	43	44	45	46
12	13																	

C.P.		FINAL EFFLUENT						Dec	Monthly Average Results						No. of Samples			
0	4	Parameter	Unit	Parameter Code			30		34	35	38	39	40	41	42	43	44	45
12	13	CBOD	mg/l	0	0	0	0	2	1			2	.	5				5

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Collingwood	Ontario L9Y 3Z5

File No.	Works Number	Data Period	Days	Discharge Type	Update Code
4 6	1 2 0 0 0 0 5 5 0	Month | Year	3 0	2	R
1 2	3 11	16 19	20 21	22	80

C.P.	FLOWS	Parameter Code	Dec	Monthly Results
0 1	Total Flow (10 ³ m ³)	5 0 0 1 0	3	3 5 6 . 8 8 0
12 13	Average Daily Flow (10 ³ m ³ /d)	5 0 0 1 5	3	1 1 . 8 9 6
	Maximum Daily Flow (10 ³ m ³ /d)	5 0 0 2 0	3	1 4 . 0 2 0
		30 34	35	38 46

2 6	BYPASS	Parameter Code	Dec	No. of Occurrences
12 13	Plant Bypass Volume (10 ³ m ³)	5 0 0 2 6	3	
	Duration (hrs)	8 0 5 6 3	1	
	Secondary Bypass Volume (10 ³ m ³)	5 0 0 4 0	3	
	Duration (hrs)	8 0 5 6 5	1	
		30 34	35	38

0 3	RAW SEWAGE	Parameter Code	Dec	No. of Samples
12 13	BOD ₅ (mg/L)	0 0 0 0 1	0	
	Suspended Solids (mg/L)	0 0 0 0 6	0	
	TKN (mg/L)	0 0 0 2 0	2	
	Total Phosphorous (mg/L)	0 0 0 3 3	1	
		30 34	35	38

0 4	FINAL EFFLUENT	Parameter Code	Dec	No. of Samples
12 13	BOD ₅ (mg/L)	0 0 0 0 1	1	
	Suspended Solids (mg/L)	0 0 0 0 6	1	
	Ammonia + Ammonium (mg/L)	0 0 0 1 9	2	
	TKN (mg/L)	0 0 0 2 0	2	
	Total Phosphorous (mg/L)	0 0 0 3 3	2	
	(Representative of Final Discharge)	30 34	35	38

0 7	DISINFECTION	Parameter Code	Dec	No. of Samples
12 13	Chlorine Used (kg as Cl ₂)	5 0 3 2 0	1	
	Chlorine Dosage (mg/L as Cl ₂)	8 0 4 1 0	1	
	Chlorine Residual (mg/L as Cl ₂)	8 0 4 2 0	1	
	(Representative of Final Discharge)	30 34	35	38

Operator Telephone Number	Email Address
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- Your Environmental Officer at your local District/Area MOE Office. (Find your local MOE office: <http://www.ene.gov.on.ca/environment>)

Project Name
WWTP

Mailing Address
Unit No. | Street No. | Street Name | PO Box
3 | Birch St | Box157

Municipality/City/Town | Province | Postal Code
Collingwood | Ontario | L9Y 2T8

Operating Authority
Town of Collingwood

Mailing Address
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97 | Hurontario St | Box157

Municipality/City/Town | Province | Postal Code
Collingwood | Ontario | L9Y 3Z5

File No. 4 6 1 2	Works Number 1 2 0 0 0 0 5 5 0 3 11	Data Period Month Year 1 0 18 16 19	Days 3 1 20 21	Discharge Type 2 22	Update Code R 80
------------------------	-------------------------------------------	----------------------------------------------	----------------------	---------------------------	------------------------

C.P. 0 1 12 13	FLOWS	Parameter Code	Dec	Monthly Results
Total Flow (10 ³ m ³)	5 0 0 1 0	3	4 5 1 . 8 4 0	
Average Daily Flow (10 ³ m ³ /d)	5 0 0 1 5	3	1 4 . 5 7 5	
Maximum Daily Flow (10 ³ m ³ /d)	5 0 0 2 0	3	2 8 . 0 0 0	
	30 34	35	38 46	

2 6 12 13	BYPASS	Parameter Code	Dec	No. of Occurrences
Plant Bypass Volume (10 ³ m ³)	5 0 0 2 6	3		0
Duration (hrs)	8 0 5 6 3	1		
Secondary Bypass Volume (10 ³ m ³)	5 0 0 4 0	3		0
Duration (hrs)	8 0 5 6 5	1		
	30 34	35	38	

0 3 12 13	RAW SEWAGE	Parameter Code	Dec	No. of Samples
BOD ₅ (mg/L)	0 0 0 0 1	0		
Suspended Solids (mg/L)	0 0 0 0 6	0		
TKN (mg/L)	0 0 0 2 0	2		
Total Phosphorous (mg/L)	0 0 0 3 3	1		
	30 34	35	38	

0 4 12 13	FINAL EFFLUENT	Parameter Code	Dec	No. of Samples
BOD ₅ (mg/L)	0 0 0 0 1	1		
Suspended Solids (mg/L)	0 0 0 0 6	1	1 2 . 1	5
Ammonia + Ammonium (mg/L)	0 0 0 1 9	2	0 . 1 1	5
TKN (mg/L)	0 0 0 2 0	2	2 . 3 4	5
Total Phosphorous (mg/L)	0 0 0 3 3	2	0 . 3 5	5
(Representative of Final Discharge)	30 34	35	38	

0 7 12 13	DISINFECTION	Parameter Code	Dec	No. of Occurrences
Chlorine Used (kg as Cl ₂)	5 0 3 2 0	1		
Chlorine Dosage (mg/L as Cl ₂)	8 0 4 1 0	1		
Chlorine Residual (mg/L as Cl ₂)	8 0 4 2 0	1		
(Representative of Final Discharge)	30 34	35	38	48 51

Operator Telephone Number | Email Address
705-445-1581 | gprice@collingwood.ca

Comments

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Collingwood | Ontario | L9Y 3Z5

File No. 4 6 1 2	Works Number 1 2 0 0 0 0 5 5 0 3 11	Data Period Month Year 1 1 18 16 19	Days 3 0 20 21	Discharge Type 2 22	Update Code R 80
------------------------	-------------------------------------------	----------------------------------------------	----------------------	---------------------------	------------------------

C.P.
0 1
12 13

FLOWS

Total Flow
Average Daily Flow
Maximum Daily Flow

(10³m³)
(10³m³/d)
(10³m³/d)

Parameter Code				
5	0	0	1	0
5	0	0	1	5
5	0	0	2	0

Dec
3
3
3

Monthly Results									
			6	1	2	.	9	5	0
				2	0	.	4	3	2
				3	6	.	0	9	0

2 6
12 13

BYPASS

Plant Bypass Volume
Duration
Secondary Bypass Volume
Duration

(10³m³)
(hrs)
(10³m³)
(hrs)

5	0	0	2	6
8	0	5	6	3
5	0	0	4	0
8	0	5	6	5

3
1
3
1

					.				
					.				
					.				
					.				

No. of Occurrences
0

0

0 3
12 13

RAW SEWAGE

BOD₅
Suspended Solids
TKN
Total Phosphorous

(mg/L)
(mg/L)
(mg/L)
(mg/L)

0	0	0	0	1
0	0	0	0	6
0	0	0	2	0
0	0	0	3	3

0
0
2
1

No. of Samples
0

0 4
12 13

FINAL EFFLUENT

BOD₅
Suspended Solids
Ammonia + Ammonium
TKN
Total Phosphorous
(Representative of Final Discharge)

(mg/L)
(mg/L)
(mg/L)
(mg/L)
(mg/L)

0	0	0	0	1
0	0	0	0	6
0	0	0	1	9
0	0	0	2	0
0	0	0	3	3

1
1
2
2
2

					.				
			2	1	.	9			
				1	.	5	7		
				2	.	9	0		
				0	.	5	6		

No. of Samples
4
4
4
4

0 7
12 13

DISINFECTION

Chlorine Used
Chlorine Dosage
Chlorine Residual
(Representative of Final Discharge)

(kg as Cl₂)
(mg/L as Cl₂)
(mg/L as Cl₂)

5	0	3	2	0
8	0	4	1	0
8	0	4	2	0

1
1
1

					.				
					.				
					.				

48 51

Operator Telephone Number | Email Address
705-445-1581 | gprice@collingwood.ca

Comments

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File No.	Works Number						Data Period		Days	Discharge Type	Update Code			
4 6	1	2	0	0	0	5	5	0	1 1 18	3 0	2	R		
1 | 2	3					11			16	19	20	21	22	80

C.P.		RAW SEWAGE					Dec	Monthly Average Results						No. of Samples			
3	6	Parameter	Unit	Parameter Code		30		34	35								
12	13																

C.P.		FINAL EFFLUENT					Dec	Monthly Average Results						No. of Samples			
0	4	Parameter	Unit	Parameter Code		30		34	35								
12	13	CBOD	mg/l	0	0		0			0	2	1	8	.	2		

 Operator Telephone Number | Email Address
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Comments

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Collingwood | Ontario | L9Y 3Z5

File No. 4 6 1 2	Works Number 1 2 0 0 0 0 5 5 0 3 11	Data Period Month Year 1 2 18 16 19	Days 3 1 20 21	Discharge Type 2 22	Update Code R 80
------------------------	-------------------------------------------	--------------------------------------------------	----------------------	---------------------------	------------------------

C.P. 0 1	FLOWS	Parameter Code	Dec	Monthly Results
12 13	Total Flow (10 ³ m ³)	5 0 0 1 0	3	7 1 8 . 0 6 0
	Average Daily Flow (10 ³ m ³ /d)	5 0 0 1 5	3	2 2 . 5 4 1
	Maximum Daily Flow (10 ³ m ³ /d)	5 0 0 2 0	3	4 3 . 0 0 0
		30 34	35	38 46

2 6	BYPASS	Parameter Code	Dec	No. of Occurrences
12 13	Plant Bypass Volume (10 ³ m ³)	5 0 0 2 6	3	0
	Duration (hrs)	8 0 5 6 3	1	
	Secondary Bypass Volume (10 ³ m ³)	5 0 0 4 0	3	0
	Duration (hrs)	8 0 5 6 5	1	
		30 34	35	38

0 3	RAW SEWAGE	Parameter Code	Dec	No. of Samples
12 13	BOD ₅ (mg/L)	0 0 0 0 1	0	
	Suspended Solids (mg/L)	0 0 0 0 6	0	
	TKN (mg/L)	0 0 0 2 0	2	
	Total Phosphorous (mg/L)	0 0 0 3 3	1	
		30 34	35	38

0 4	FINAL EFFLUENT	Parameter Code	Dec	No. of Samples
12 13	BOD ₅ (mg/L)	0 0 0 0 1	1	
	Suspended Solids (mg/L)	0 0 0 0 6	1	4
	Ammonia + Ammonium (mg/L)	0 0 0 1 9	2	4
	TKN (mg/L)	0 0 0 2 0	2	4
	Total Phosphorous (mg/L)	0 0 0 3 3	2	4
	(Representative of Final Discharge)	30 34	35	38

0 7	DISINFECTION	Parameter Code	Dec	No. of Occurrences
12 13	Chlorine Used (kg as Cl ₂)	5 0 3 2 0	1	
	Chlorine Dosage (mg/L as Cl ₂)	8 0 4 1 0	1	
	Chlorine Residual (mg/L as Cl ₂)	8 0 4 2 0	1	
	(Representative of Final Discharge)	30 34	35	38

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Municipality/City/Town	Province	Postal Code
Collingwood	Ontario	L9Y 3Z5

File No.	Works Number	Data Period	Days	Discharge Type	Update Code
4 6	1 2 0 0 0 0 5 5 0	Month Year 1 2 18	3 1	2	R
1 2	3 11	16 19	20 21	22	80

C.P.		RAW SEWAGE						Dec		Monthly Average Results						No. of Samples								
3	6	Parameter	Unit	Parameter Code																				
12	13																							

C.P.		FINAL EFFLUENT						Dec		Monthly Average Results						No. of Samples								
0	4	Parameter	Unit	Parameter Code																				
12	13																							
		CBOD	mg/l	0	0	0	0	0	2	1					4	.	6							4

Operator Telephone Number 705-445-1581	Email Address gprice@collingwood.ca
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Appendix B

Sludge Management Overview

Contaminant	Arsenic	Cadmium	Cobalt	Chromium	Copper	Mercury	Molybdenum	Nickel	Lead	Selenium	Zinc	Ammonia	Nitrate	Nitrite	Kjeldahl-N	Phosphorus	Potassium	Total Solids	E-Coli	Volatle Solids
Sampling Date	As mg/L	Cd mg/L	Co mg/L	Cr mg/L	Cu mg/L	Hg mg/L	Mo mg/L	Ni mg/L	Pb mg/L	Se mg/L	Zn mg/L	NH3 mg/L	NO3 mg/L	NO2 mg/L	TKN mg/L	TP mg/L	K mg/L	TS %	cfu/g	VS %
3-Jan-18	0.10	0.0185	0.1	0.8	17.7	0.0088	0.155	0.49	1.19	0.067	11.8	1110	0.4	0.2	4090	950	141	2.03	159	63.0
17-Jan-18	0.107	0.0164	0.1	0.9	18.4	0.0163	0.161	0.56	1.14	0.078	12.5	717	0.4	0.2	4350	1100	154	2.35	270	64.9
31-Jan-18	0.08	0.0116	0.1	0.6	13.4	0.0105	0.109	0.37	0.786	0.061	8.62	976	0.4	0.2	2760	678	153	1.76	162	65
14-Feb-18	0.091	0.0127	0.1	0.6	18.6	0.0089	0.111	0.59	0.714	0.052	10.9	974	0.4	0.2	2880	610	174	1.7	697	65.3
28-Feb-18	0.046	0.0065	0.1	0.3	7.27	0.0081	0.1	0.15	0.507	0.038	4.67	1220	0.4	0.2	3010	744	105	1.65	2580	66.7
7-Mar-18	0.065	0.0099	0.1	0.4	11.1	0.007	0.09	0.19	0.641	0.05	8.4	993	0.4	0.2	2720	958	138	1.77	433	64.1
14-Mar-18	0.058	0.0081	0.12	3.4	15.5	0.0037	0.268	1.29	0.387	0.049	9.75	11.9	0.4	0.2	2040	711	566	2.13	2860	56.1
11-Apr-18	0.086	0.0146	0.1	0.5	12.9	0.0093	0.11	0.39	0.563	0.046	9.33	1800	0.4	0.2	3380	720	142	1.98	445	63.7
25-Apr-18	0.145	0.024	0.1	0.8	22.3	0.0096	0.17	0.51	1.04	0.076	15.8	1210	0.4	0.2	3210	744	195	2.55	1050	58
9-May-18	0.103	0.0159	0.1	0.5	15.1	0.0107	0.109	0.28	0.778	0.058	11.2	1230	0.4	0.2	2540	934	156	1.93	1360	60.8
24-May-18	0.117	0.0164	0.1	0.5	15	0.012	0.116	0.34	0.914	0.065	13	1290	0.4	0.2	3470	1110	187	1.78	444	62.5
6-Jun-18	0.095	0.0145	0.1	0.4	13	0.0124	0.111	0.33	0.736	0.051	10.9	1190	0.4	0.2	2580	766	138	1.74	395	64.8
20-Jun-18	0.112	0.0197	0.1	0.5	16.2	0.0119	0.137	0.37	0.98	0.068	12.5	1320	0.4	0.2	2590	655	165	1.68	1550	63.8
5-Jul-18	0.158	0.0286	0.1	0.8	25	0.0133	0.207	0.53	1.34	0.093	18.7	1240	0.4	0.2	2620	1130	178	2.21	272	64.3
18-Jul-18	0.112	0.0189	0.1	0.6	17.7	0.0122	0.168	0.42	1.33	0.066	13.4	1080	0.4	0.2	2970	723	151	2.14	434	64.5
1-Aug-18	0.154	0.0289	0.11	1.1	24.6	0.0151	0.227	0.7	1.68	0.105	21	1070	0.4	0.2	1860	1210	204	2.43	2240	64
15-Aug-18	0.066	0.0105	0.1	0.5	9.4	0.012	0.094	0.29	0.59	0.042	9.14	1120	0.4	0.2	2400	1150	121	2	698	61.9
29-Aug-18	0.133	0.0542	0.12	1.0	25.4	0.0298	0.212	0.62	1.54	0.118	23	638	0.4	0.2	3070	1640	108	2.76	472	61.6
12-Sep-18	0.02	0.002	0.1	0.1	0.94	0.001	0.018	0.1	0.078	0.01	1.1	734	0.4	0.2	1110	163	110	0.28	877	65.9
26-Sep-18	0.128	0.0244	0.11	1.2	26.6	0.0332	0.267	0.54	1.43	0.102	22.4	923	0.4	0.2	1900	1650	138	2.93	383	61.9
11-Oct-18	0.147	0.0353	0.12	1.2	27.1	0.0217	0.288	0.67	1.54	0.114	24	878	0.4	0.2	2000	975	173	2.14	523	62.8
24-Oct-18	0.098	0.0324	0.1	0.7	18	0.0107	0.176	0.4	0.952	0.072	16.8	824	0.4	0.2	2050	705	109	2.15	729	61.6
7-Nov-18	0.12	0.0418	0.13	1.4	25.3	0.0317	0.247	0.78	2.06	0.091	24.8	779	0.4	0.2	1240	833	122	3.7	17800	50.4
20-Nov-18	0.133	0.0389	0.1	1.1	26.2	0.0167	0.318	0.64	1.72	0.117	23.5	843	0.4	0.2	1640	1480	137	2.88	1130	60.5
5-Dec-18	0.135	0.0753	0.1	0.7	23.5	0.0132	0.303	0.5	1.63	0.103	19.1	989	0.4	0.2	2410	882	158	2.27	905	61.6
20-Dec-18	0.128	0.0398	0.1	0.8	23.5	0.0142	0.282	0.57	1.29	0.099	21.8	1130	0.4	0.2	2710	978	145	2.54	466	61.7



Town of Collingwood Waste Water Treatment Plant

Biosolids Spreading Report by Field

Site	Field	Year	Month	Day	Vol [m ³]	NH ₃ [mg/L]	NH ₃ [kg]	TP [mg/L]	TP [kg]	Origin
22533	F1	2018	May	10	463.8					NLSTFC3
				11	335.0					NLSTFC3
				12	855.0					NLSTFC3
				16	1,184.4					NLSTFC3
Summary for F1 - May, 2018 (4 detail records)										
Sum					2,838.2					
Summary for F1 - 2018 (4 detail records)										
Sum					2,838.2					
Summary for F1 - F1 (4 detail records)										
Sum					2,838.2					
Summary for 22533F1 - (4 detail records)										
Sum					2,838.2					
23195	1765	2018	September	24	624.4					NLSTFC1
				25	717.8					NLSTFC1
Summary for 1765 - September, 2018 (2 detail records)										
Sum					1,342.2					
Summary for 1765 - 2018 (2 detail records)										
Sum					1,342.2					
Summary for 1765 - 1765 (2 detail records)										
Sum					1,342.2					
Summary for 231951765 - (2 detail records)										
Sum					1,342.2					
23382	F1	2018	August	01	1,143.0					NLSTFC3
				02	1,125.2					NLSTFC3
				03	1,182.0					NLSTFC3
				06	694.0					NLSTFC3
				07	506.4					NLSTFC3
Summary for F1 - August, 2018 (5 detail records)										
Sum					4,650.6					
Summary for F1 - 2018 (5 detail records)										
Sum					4,650.6					
Summary for F1 - F1 (5 detail records)										
Sum					4,650.6					
23382	NF-1	2018	July	24	994.0					NLSTFC3
				27	1,012.2					NLSTFC3
				30	1,194.2					NLSTFC3
				31	1,435.8					NLSTFC3

Biosolids Spreading Report by Field

Site	Field	Year	Month	Day	Vol [m ³]	NH ₃ [mg/L]	NH ₃ [kg]	TP [mg/L]	TP [kg]	Origin
Summary for NF-1 - July, 2018 (4 detail records)					Sum	4,636.2				
Summary for NF-1 - 2018 (4 detail records)					Sum	4,636.2				
Summary for NF-1 - NF-1 (4 detail records)					Sum	4,636.2				
Summary for 23382NF-1 - (9 detail records)					Sum	9,286.8				
23408	WSSL	2018	September	20	1,353.4					NLSTFC1
				21	730.0					NLSTFC1
				24	1,198.4					NLSTFC1
				25	945.6					NLSTFC1
				26	442.0					NLSTFC1
Summary for Wssl - September, 2018 (5 detail records)					Sum	4,669.4				
Summary for Wssl - 2018 (5 detail records)					Sum	4,669.4				
Summary for Wssl - Wssl (5 detail records)					Sum	4,669.4				
Summary for 23408Wssl - (5 detail records)					Sum	4,669.4				
23435	NF-1	2018	August	15	340.8					NLSTFC1
				16	870.0					NLSTFC1
				20	1,215.4					NLSTFC1
				23	982.4					NLSTFC1
				24	1,184.4					NLSTFC1
				27	597.4					NLSTFC1
Summary for NF-1 - August, 2018 (6 detail records)					Sum	5,190.4				
Summary for NF-1 - 2018 (6 detail records)					Sum	5,190.4				
Summary for NF-1 - NF-1 (6 detail records)					Sum	5,190.4				
Summary for 23435NF-1 - (6 detail records)					Sum	5,190.4				
23466	MF1	2018	May	16	187.0					NLSTFC3
				17	1,480.4					NLSTFC3
				18	1,282.4					NLSTFC3
				19	316.0					NLSTFC3
				23	1,004.0					NLSTFC3
Summary for MF1 - May, 2018 (5 detail records)					Sum	4,269.8				

Biosolids Spreading Report by Field

Site	Field	Year	Month	Day	Vol [m ³]	NH ₃ [mg/L]	NH ₃ [kg]	TP [mg/L]	TP [kg]	Origin
Summary for MF1 - 2018 (5 detail records)										
Sum					4,269.8					
Summary for MF1 - MF1 (5 detail records)										
Sum					4,269.8					
Summary for 23466MF1 - (5 detail records)										
Sum					4,269.8					
L1	PLT	2018	January	08	93.8					HSLP
Summary for PLT - January, 2018 (1 detail record)										
Sum					93.8					
Summary for PLT - 2018 (1 detail record)										
Sum					93.8					
Summary for PLT - PLT (1 detail record)										
Sum					93.8					
Summary for L1PLT - (1 detail record)										
Sum					93.8					
NFP	PLT	2018	October	16	298.2					HSLP
				17	121.4					HSLP
Summary for PLT - October, 2018 (2 detail records)										
Sum					419.6					
Summary for PLT - 2018 (2 detail records)										
Sum					419.6					
Summary for PLT - PLT (2 detail records)										
Sum					419.6					
Summary for NFPPLT - (2 detail records)										
Sum					419.6					
NLSTF-C1	PLT	2018	January	02	78.4					HSLP
				03	99.4					HSLP
				04	99.4					HSLP
				05	36.4					HSLP
				09	36.4					HSLP
				10	126.0					HSLP
				11	99.4					HSLP
				12	63.0					HSLP
				15	120.4					HSLP
				16	271.6					HSLP
				17	162.4					HSLP
				18	126.0					HSLP
				19	177.8					HSLP
				22	78.4					HSLP
				23	84.0					HSLP
				24	63.0					HSLP
				26	135.8					HSLP

Biosolids Spreading Report by Field

Site	Field	Year	Month	Day	Vol [m ³]	NH ₃ [mg/L]	NH ₃ [kg]	TP [mg/L]	TP [kg]	Origin
NLSTF-C1	PLT	2018	January	29	177.8					HSLP
				30	198.8					HSLP
				31	193.2					HSLP

Summary for PLT - January, 2018 (20 detail records)

Sum

NLSTF-C1	PLT	2018	February	01	120.4					HSLP
				02	57.4					HSLP
				05	151.2					HSLP
				06	141.4					HSLP
				07	183.4					HSLP
				08	42.0					HSLP
				09	177.8					HSLP
				12	78.4					HSLP
				13	225.4					HSLP
				14	219.8					HSLP
				15	114.8					HSLP
				16	177.8					HSLP
				20	93.8					HSLP
				22	99.4					HSLP
				23	177.8					HSLP
				26	78.4					HSLP
				27	162.4					HSLP
				28	141.4					HSLP

Summary for PLT - February, 2018 (18 detail records)

Sum

NLSTF-C1	PLT	2018	March	01	156.8					HSLP
				02	93.8					HSLP
				05	114.8					HSLP
				06	183.4					HSLP
				07	225.4					HSLP
				08	219.8					HSLP
				09	114.8					HSLP
				12	93.8					HSLP
				13	141.4					HSLP
				14	141.4					HSLP
				15	126.0					HSLP
				16	84.0					HSLP
				19	114.8					HSLP
				20	183.4					HSLP
				21	127.0					HSLP
				22	64.0					HSLP
				23	95.0					HSLP
				26	120.4					HSLP

Biosolids Spreading Report by Field

Site	Field	Year	Month	Day	Vol [m ³]	NH ₃ [mg/L]	NH ₃ [kg]	TP [mg/L]	TP [kg]	Origin
NLSTF-C1	PLT	2018	March	27	21.0					HSLP
Summary for PLT - March, 2018 (19 detail records)										
Sum					2,421.0					
NLSTF-C1	PLT	2018	April	19	57.4					HSLP
Summary for PLT - April, 2018 (1 detail record)										
Sum					57.4					
NLSTF-C1	PLT	2018	August	03	126.0					HSLP
				07	177.8					HSLP
				08	189.0					HSLP
				09	57.4					HSLP
				10	21.0					HSLP
				13	99.4					HSLP
				14	120.4					HSLP
				15	177.8					HSLP
				16	42.0					HSLP
				17	72.8					HSLP
				20	36.4					HSLP
				21	178.8					HSLP
				22	136.8					HSLP
				23	57.4					HSLP
				24	36.4					HSLP
				27	198.8					HSLP
				28	252.0					HSLP
				29	204.4					HSLP
				30	105.0					HSLP
				31	63.0					HSLP
Summary for PLT - August, 2018 (20 detail records)										
Sum					2,352.6					
NLSTF-C1	PLT	2018	September	04	21.0					HSLP
				05	151.2					HSLP
				06	57.4					HSLP
				07	135.8					HSLP
				10	204.4					HSLP
				11	299.4					HSLP
				12	120.4					HSLP
				13	156.8					HSLP
				14	135.8					HSLP
				17	63.0					HSLP
				18	93.8					HSLP
				19	141.4					HSLP
				20	84.0					HSLP
				21	84.0					HSLP
				24	93.8					HSLP

Biosolids Spreading Report by Field

Site	Field	Year	Month	Day	Vol [m ³]	NH ₃ [mg/L]	NH ₃ [kg]	TP [mg/L]	TP [kg]	Origin
NLSTF-C1	PLT	2018	September	25	84.0					HSLP
				26	105.0					HSLP
				27	21.0					HSLP

Summary for PLT - September, 2018 (18 detail records)

Sum

NLSTF-C1	PLT	2018	October	01	78.4					HSLP
				02	184.4					HSLP
				03	231.0					HSLP
				04	105.0					HSLP
				05	141.4					HSLP
				09	135.8					HSLP
				10	162.4					HSLP
				11	114.8					HSLP
				12	42.0					HSLP
				15	219.8					HSLP
				18	208.6					HSLP
				23	151.2					HSLP
				24	95.0					HSLP
				25	93.8					HSLP
				26	36.4					HSLP
				29	57.4					HSLP
				30	114.8					HSLP
				31	105.0					HSLP

Summary for PLT - October, 2018 (18 detail records)

Sum

NLSTF-C1	PLT	2018	November	05	21.0					HSLP
				06	135.8					HSLP
				08	78.4					HSLP
				09	162.4					HSLP
				13	114.8					HSLP
				14	162.4					HSLP
				15	36.4					HSLP
				16	63.0					HSLP
				19	78.4					HSLP
				20	203.0					HSLP
				21	135.8					HSLP
				22	193.2					HSLP
				23	156.8					HSLP
				26	177.8					HSLP
				27	162.4					HSLP
28	84.0					HSLP				
29	84.0					HSLP				

Biosolids Spreading Report by Field

Site	Field	Year	Month	Day	Vol [m ³]	NH ₃ [mg/L]	NH ₃ [kg]	TP [mg/L]	TP [kg]	Origin
Summary for PLT - November, 2018 (17 detail records)										
Sum					2,049.6					
NLSTF-C1	PLT	2018	December	03	42.0					HSLP
				04	57.4					HSLP
				05	105.0					HSLP
				06	235.2					HSLP
				07	162.4					HSLP
				10	114.8					HSLP
Summary for PLT - December, 2018 (6 detail records)										
Sum					716.8					
Summary for PLT - 2018 (137 detail records)										
Sum					16,797.4					
Summary for PLT - PLT (137 detail records)										
Sum					16,797.4					
Summary for NLSTF-C1PLT - (137 detail records)										
Sum					16,797.4					
NLSTFC3	PLT	2018	March	28	120.4					HSLP
				29	120.4					HSLP
Summary for PLT - March, 2018 (2 detail records)										
Sum					240.8					
NLSTFC3	PLT	2018	April	03	172.2					HSLP
				04	183.4					HSLP
				05	177.8					HSLP
				06	219.8					HSLP
				09	57.4					HSLP
				10	99.4					HSLP
				11	42.0					HSLP
				12	156.8					HSLP
				13	135.8					HSLP
				16	114.8					HSLP
				17	72.8					HSLP
				18	93.8					HSLP
				20	42.0					HSLP
				23	32.0					HSLP
				24	42.0					HSLP
				25	42.0					HSLP
				26	36.4					HSLP
				27	116.0					HSLP
				30	84.0					HSLP
Summary for PLT - April, 2018 (19 detail records)										
Sum					1,920.4					
NLSTFC3	PLT	2018	May	02	42.0					HSLP

Biosolids Spreading Report by Field

Site	Field	Year	Month	Day	Vol [m ³]	NH ₃ [mg/L]	NH ₃ [kg]	TP [mg/L]	TP [kg]	Origin
NLSTFC3	PLT	2018	May	03	84.0					HSLP
				04	105.0					HSLP
				07	21.0					HSLP
				08	72.8					HSLP
				09	93.8					HSLP
				10	162.4					HSLP
				11	104.8					HSLP
				14	151.2					HSLP
				15	179.0					HSLP
				16	126.0					HSLP
				17	99.4					HSLP
				18	68.4					HSLP
				22	168.0					HSLP
				23	105.0					HSLP
				24	231.0					HSLP
				25	162.4					HSLP
				28	156.8					HSLP
				29	210.0					HSLP
				30	246.4					HSLP
				31	120.4					HSLP

Summary for PLT - May, 2018 (21 detail records)

Sum

Site	Field	Year	Month	Day	Vol [m ³]	NH ₃ [mg/L]	NH ₃ [kg]	TP [mg/L]	TP [kg]	Origin
NLSTFC3	PLT	2018	June	01	84.0					HSLP
				04	93.8					HSLP
				05	93.8					HSLP
				06	177.8					HSLP
				07	193.2					HSLP
				08	141.4					HSLP
				11	99.4					HSLP
				12	68.4					HSLP
				13	57.4					HSLP
				15	36.4					HSLP
				18	146.8					HSLP
				19	198.8					HSLP
				20	105.0					HSLP
				21	42.0					HSLP
				22	84.0					HSLP
				25	219.8					HSLP
				26	120.4					HSLP
				27	152.4					HSLP
				28	93.8					HSLP
				29	105.0					HSLP

Biosolids Spreading Report by Field

Site	Field	Year	Month	Day	Vol [m ³]	NH ₃ [mg/L]	NH ₃ [kg]	TP [mg/L]	TP [kg]	Origin
Summary for PLT - June, 2018 (20 detail records)										
Sum					2,313.6					
NLSTFC3	PLT	2018	July	03	36.4					HSLP
				04	109.2					HSLP
				05	84.0					HSLP
				06	194.4					HSLP
				09	105.0					HSLP
				10	78.4					HSLP
				11	120.4					HSLP
				12	162.4					HSLP
				13	168.0					HSLP
				16	105.0					HSLP
				17	168.0					HSLP
				18	126.0					HSLP
				19	189.0					HSLP
				23	158.0					HSLP
				24	147.0					HSLP
				25	63.0					HSLP
				26	36.4					HSLP
				27	93.8					HSLP
				30	93.8					HSLP
Summary for PLT - July, 2018 (19 detail records)										
Sum					2,238.2					
NLSTFC3	PLT	2018	August	01	42.0					HSLP
				02	72.8					HSLP
Summary for PLT - August, 2018 (2 detail records)										
Sum					114.8					
NLSTFC3	PLT	2018	December	11	75.4					HSLP
				12	84.0					HSLP
				13	156.8					HSLP
				14	172.2					HSLP
				17	214.2					HSLP
				18	277.2					HSLP
				19	219.8					HSLP
				20	63.0					HSLP
				21	21.0					HSLP
				27	84.0					HSLP
				28	57.4					HSLP
				31	36.4					HSLP
Summary for PLT - December, 2018 (12 detail records)										
Sum					1,461.4					

Biosolids Spreading Report by Field

Site	Field	Year	Month	Day	Vol [m ³]	NH ₃ [mg/L]	NH ₃ [kg]	TP [mg/L]	TP [kg]	Origin
Summary for PLT - 2018 (95 detail records)										
Sum					10,999.0					
Summary for PLT - PLT (95 detail records)										
Sum					10,999.0					
Summary for NLSTFC3PLT - (95 detail records)										
Sum					10,999.0					
Grand Total (all fields)					55,906.6					

Appendix C

Calibration Reports

Collingwood WWTP
Calibration Report 2018

Collingwood WWTP

Stayner WWTP

Dominion St. SPS

Creemore WWTP

V. Nowik Controls and Instrumentation Service

June 26 2018

To: Glen Price

Summary: Annual Meter Certification June 2018 at Collingwood WWTP

Summary of findings is as follows;

All meters were accurate within Manufacturers specifications with the following exceptions;

The Endress & Hauser TWAS flowmeter could not be done due to a problem with my E&H FieldCheck Vericator. I can come back later when my Vericator has been repaired.
Raw Sludge Flowmeter RSL-FIT-1 has been replaced with an E&H ProMag 400, which also, I cannot verify at this time. I will require additional information on this model from E&H



Vic Nowik

V.Nowik Instrumentation & Controls	Calibration Report for Collingwood WWTP 2018	51 Fourth St. Angus, ON L0M 1B3 Tel: (705) 440-7331
------------------------------------------	---------------------------------------------------------	--------------------------------------------------------------

Location	Collingwood WWTP	Manufacturer	ENDRESS & HAUSER
Process	Influent SP3/SP1	Model:	93WA2-AA2A2ORC82A2
Calibration Date:	June 12 2018	Serial #	4S 12A791000
Technician	V.Nowik	Tag:	INF-FIT-1/INF-FIT-3

Input			Output			
Type:	SIMULATOR %	L/S	(Signal)	(Process)		
Min:	0.00	0.00	Type or EGU:	mA	L/S	
Max:	100.00	450.00	Min:	4.00	0.00	
Meter Size (mm)	415		Max:	20.00	450.00	
Range Unit	L/S					
Cal. Factor	0.9521					
			Before Calibration		After Calibration	
Cal. Input (%)	Input %	Calc. O/P (mA)	Output (mA)	%Error	Output (mA)	%Error
0.00	0.00%	4.00	4.00	0.00%	4.00	0.00%
25.00	25.00%	8.00	8.00	0.00%	8.00	0.00%
50.00	50.00%	12.00	12.00	0.00%	12.00	0.00%
75.00	75.00%	16.00	16.00	0.00%	16.00	0.00%
100.00	100.00%	20.00	20.01	-0.06%	20.01	-0.06%

Calibration Equipment			
Type:	Output Simulation	DMM	Calibration performed as per manufacturers recommended procedure. Calibration Passed <i>V. Nowik</i>
Manufacturer:	Endress & Hauser	Fluke Processmeter	
Model:		789	
Serial No.:		25430033	
Last Cal. Date:		Sept. 2017	

Comments:

MC 4586
AC0093

V.Nowik Instrumentation & Controls	Calibration Report for Collingwood WWTP 2018	51 Fourth St. Angus, ON L0M 1B3 Tel: (705) 440-7331
------------------------------------------	---------------------------------------------------------	--------------------------------------------------------------

Location	Collingwood WWTP	Manufacturer	ENDRESS & HAUSER
Process	Influent SP2	Model:	PROMAG 30FH4H-MD1ED1F31B
Calibration Date:	June 12 2018	Serial #	4S F94337
Technician	V.Nowik	Tag:	INF-FIT-2

Input			Output			
Type:	SIMULATOR %	L/S	(Signal)	(Process)		
Min:	0.00	0.00	Type or EGU:	mA	L/S	
Max:	100.00	450.00	Min:	4.00	0.00	
Meter Size (mm)	400		Max:	20.00	450.00	
Range Unit	L/S					
Cal. Factor	1.0776					
			Before Calibration		After Calibration	
Cal. Input (%)	Input %	Calc. O/P (mA)	Output (mA)	%Error	Output (mA)	%Error
0.00	0.00%	4.00	4.07	-0.44%	4.07	-0.44%
25.00	25.00%	8.00	8.05	-0.31%	8.05	-0.31%
50.00	50.00%	12.00	12.04	-0.25%	12.04	-0.25%
75.00	75.00%	16.00	16.03	-0.19%	16.03	-0.19%
100.00	100.00%	20.00	20.06	-0.37%	20.06	-0.37%

Calibration Equipment			
Type:	E&H FLOWJACK SIMULATOR	DMM	Calibration performed as per manufacturers recommended procedure. Calibration Passed <i>O. Nowik</i>
Manufacturer:	ENDRESS & HAUSER	Fluke Processmeter	
Model:	ZX6000	789	
Serial No.:	402467	25430033	
Last Cal. Date:	NA	Sept. 2017	

Comments:

V.Nowik Instrumentation & Controls	Calibration Report for Collingwood WWTP 2018	51 Fourth St. Angus, ON L0M 1B3 Tel: (705) 440-7331
------------------------------------------	---------------------------------------------------------	--------------------------------------------------------------

Location	Collingwood WWTP	Manufacturer	ENDRESS & HAUSER
Process	Sludge Loading	Model:	Disco Mag-VarioMag
Calibration Date:	June 12 2018	Serial #	20558G
Technician	V.Nowik	Tag:	Sludge Loading

Input		Output				
Type:	SIMULATOR %	(Signal)	(Process)			
Min:	0.00	Type or EGU:	mA L/sec			
Max:	100.00	Min:	4.00 0.00			
Meter Size (mm)	100	Max:	20.00 17.33			
Range Unit	L/S					
Cal. Factor	1.017					
			Before Calibration	After Calibration		
Cal. Input (%)	Input %	Calc. O/P (mA)	Output (mA)	%Error	Output (mA)	%Error
0.00	0.00%	4.00	4.01	-0.06%	4.01	-0.06%
25.00	25.00%	8.00	7.97	0.19%	7.97	0.19%
50.00	50.00%	12.00	11.96	0.25%	11.96	0.25%
75.00	75.00%	16.00	15.92	0.50%	15.92	0.50%
100.00	100.00%	20.00	19.90	0.63%	19.90	0.63%

Calibration Equipment			
Type:	E&H FLOWJACK SIMULATOR	DMM	Calibration performed as per manufacturers recommended procedure. Calibration Passed <i>O. Nowik</i>
Manufacturer:	ENDRESS & HAUSER	Fluke Processmeter	
Model:	ZX6000	789	
Serial No.:	402467	25430033	
Last Cal. Date:	NA	Sept. 2017	

Comments:

V.Nowik Instrumentation & Controls	Calibration Report for Collingwood WWTP 2018	51 Fourth St. Angus, ON L0M 1B3 Tel: (705) 440-7331
------------------------------------------	---------------------------------------------------------	--------------------------------------------------------------

Location	Collingwood WWTP	Manufacturer	Endress & Hauser
Process	TWAS	Model:	50W1H-VLOB1RC1B2AA
Calibration Date:	June 12 2018	Serial #	AC013A16000
Technician	V.Nowik	Tag:	TWAS-FIT-1

See Following pages for E&H Fieldcheck Verificator Report

Calibration Equipment			
Type:	FieldCheck	Simubox	Calibration performed as per manufacturers recommended procedure. Calibration postponed <i>O. Nowik</i>
Manufacturer:	Endress&Hauser	Endress&Hauser	
Model:	73991	8737370	
Serial No.:	V2.02.00	1.00.01	
Last Cal. Date:	Aug. 2017	Aug. 2017	

Comments:

Could not perform Verification. E&H Fieldcheck problem. Will re-do after FieldCheck problem resolved.

V.Nowik Instrumentation & Controls	Calibration Report for Collingwood WWTP 2018	51 Fourth St. Angus, ON L0M 1B3 Tel: (705) 440-7331
------------------------------------------	---------------------------------------------------------	--------------------------------------------------------------

Location	Collingwood WWTP	Manufacturer	Milltronics
Process	Final Effluent	Model:	OCM III
Calibration Date:	June 12 2018	Serial #	PBD/B4111061
Technician	V.Nowik	Tag:	FEFF-FIT-1

Input		Output (Signal)		Output (Process)		
Type:	Head (m)	Type or EGU:	mA		L/Sec	
Min:	0.0000	Min:	4.00		0.00	
Max: (P7)	0.326	Max:	20.00		1041.64 (P6)	
exponent (U0)	1.5					
E.D (P46)	1.13851					
			Before Calibration		After Calibration	
Input (m)	Calc flow (L/Sec)	Calc. O/P (mA)	Output (mA)	%Error	Output (mA)	%Error
0.00000	0.000	4.00	3.94	-0.38%	3.94	-0.38%
0.08000	126.90	5.95	5.89	-0.38%	5.89	-0.38%
0.16200	365.68	9.62	9.57	-0.31%	9.57	-0.31%
0.24400	675.95	14.38	14.35	-0.19%	14.35	-0.19%
0.32553	1041.64	20.00	19.99	-0.06%	19.99	-0.06%

Calibration Equipment			
Type:	Emulation Mode F1 and P28	DMM	Calibration performed as per manufacturers recommended procedure. Calibration Passed <i>O. Nowik</i>
Manufacturer:	Miltronics	Fluke Processmeter	
Model:		789	
Serial No.:		25430033	
Last Cal. Date:		Sept. 2017	

Comments:

Appendix D

Bypass and Spills Report

Pumping Station and Plant Bypass Monthly Summary						
Month	Primary Bypass			Secondary Bypass		
	# of Days	Duration	Volume (1,000m³)	# of Days	Duration	Volume (1,000m³)
Jan	0			0		
Feb	0			0		
Mar	0			0		
Apr	0			0		
May	0			0		
Jun	0			0		
Jul	0			0		
Aug	0			0		
Sep	0			0		
Oct	0			0		
Nov	0			0		
Dec	0			0		
Total	0			0		

Appendix E

Out of Compliance Letter

February 4, 2019

Ministry of Environment and Climate Change
Barrie District Office
Unit 1203
54 Cedar Point Drive
Barrie, Ontario
L4N 5R7

ATTENTION: Brian H. Stuhlemmer, Provincial Officer

Incident date: November 2018 E-coli Monthly non-compliance (Monthly mean density: 505)

Further to our conversation regarding the Town of Collingwood WWTP being out of compliance for the Final Effluent parameter of E-coli for the period of November 2018, we provide the following:

Background

Upon receiving the E-coli results and determining that we would be out of compliance, we determined that, a) the lab results were accurate and b) we were experiencing a premature UV bulb failure. Replacement set of UV bulbs from First Light were installed March 6th, life expectancy is 6000hrs. After install we had a communication problem that our electricians remedied, one out of compliance sample with monthly average being 16.

October 31st - Received October 24th E-coli result (230), checked and cleaned system.

November 6th - Received October 31st E-coli result (700), monthly average 33.7 for October. Begin chlorine feed to final effluent, checking and finding no residual at final effluent weir. Double check UV system cleaning.

November 15th - Received E-coli result for November 7th, (690), checked and cleaned system, increase chlorination by adding second feed location checking and finding no residual at final effluent weir.

November 21st -Received November 14 E-coli result, (75).

November 27th -Received sample result from November 20th, Ecoli 5700, increase chlorination by adding a third feed location checking and finding no residual at final effluent weir.

November 30th -Received E-coli result from November 28th, (220). Adjusted chlorination locations and increased amount in each bucket.

December 7th -Received December 5th result, (120).

Ongoing -Maintaining chlorination levels and checking for residual daily.

E-coli levels have been in compliance since the December 5th sample.

We are checking chlorine residuals daily and all have been zero.

Thank you for your assistance with expediting the replacement of our UV system, this will give us the reliability we need in this process.

Regards
Glenn Price
Manager, wastewater Operations
Town of Collingwood