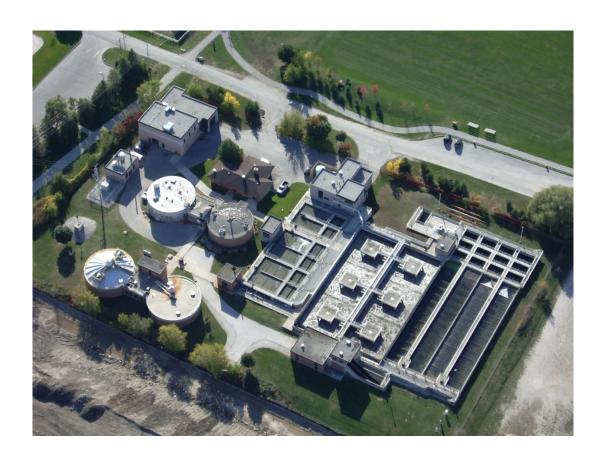


# **Collingwood Wastewater Treatment Plant**

2018 Annual Compliance Report



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#### **Appendices**

Appendix A Monthly Flow and Process Quality Data

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#### **Definitions**

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
GEOMEAN	Average of a set of Products
HP	Horsepower
kg	Kilograms
kW	Kilowatt
mg/l	Milligrams per litre
MI/d	Mega litres per day
m³/d	Cubic metres per day
NH <sub>3</sub>	Ammonia
NO <sub>2</sub>	Nitrites
NO <sub>3</sub>	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: <a href="http://www.collingwood.ca/water/docs">http://www.collingwood.ca/water/docs</a>

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 (	Gland	е								
Total Flow to WWTP		MI/d													
Design average daily Flow	24548 m³/d	24.548 MI/d													
Average Daily Flow	m³/d	MI/d													
Bypass events	0	0													
Compliance Parameters			Actual				Nu	mber o	f times	criteria	excee	ded			
				Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Annual average CBOD₅	Objective	15 mg/l		0	0	0	0	0	0	0	0	0	0	0	0
Annual average CBOD₅	Limit	25 mg/l		0	0	0	0	0	0	0	0	0	0	0	0
Annual average CBOD₅	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 geomean E-Coli	Objective	100cfu/100 ml		0	0	0	0	0	0	0	0	0	0	0	1
Monthly geomean 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
  - o 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
Lindent Farameter	(milligrams per litre unless otherwise indicated)
CBOD <sub>5</sub>	15.0
Total Suspended Solids	15.0
Total Phosphorous	0.8
E. Coli	Monthly Geometric Mean Density
	100 organisms per 100ml
pH of the effluent maintained	between 6.5 to 9.5, inclusive, at all times

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

- 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.
- 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 CBOD<sub>5</sub>, 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 CBOD<sub>5</sub>, 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 CBOD<sub>5</sub>, 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 CBOD<sub>5</sub>, total SS, TP and TKN. Twenty–four (24) hour composite samples of final effluent are required to be collected monthly and analyzed for CBOD<sub>5</sub>, 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 CBOD<sub>5</sub>, total suspended solids, total phosphorus, and total Kieldahl 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 CBOD<sub>5</sub>, 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,	V. Nowik Instrumentation and
	Sludge Loading, TWAS and Final Effluent	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 <sup>3</sup> /d	24,548	17936
Maximum Daily Flow in m <sup>3</sup> /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 28,309.8m<sup>3</sup> 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.

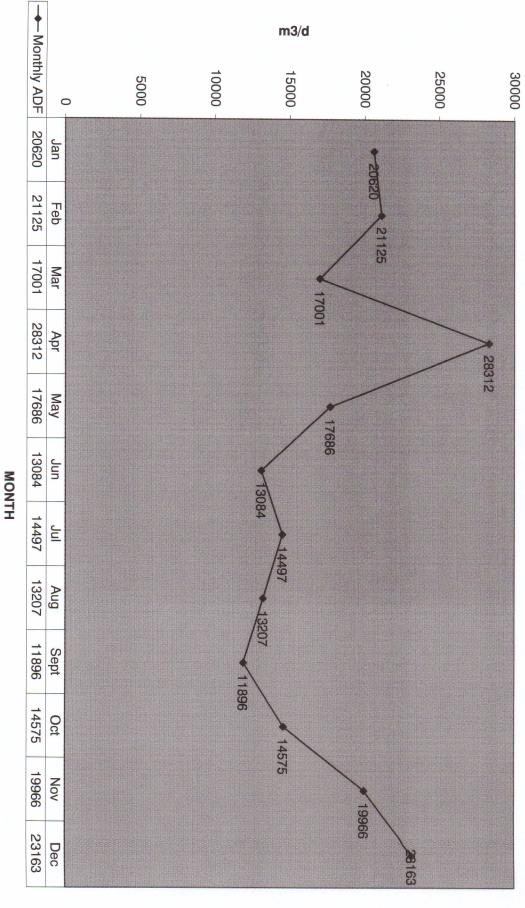
# **Appendices**

# Appendix A Monthly Flow and Process Quality Data

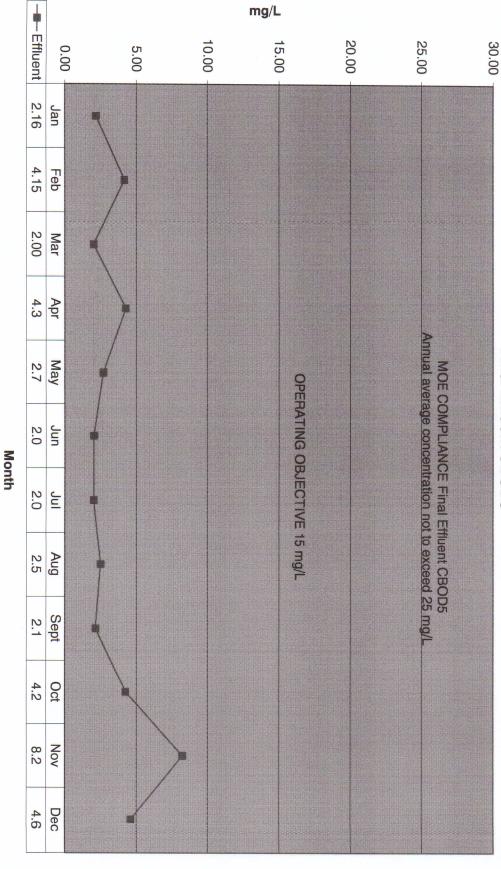
# TOWN of COLLINGWOOD WATER POLLUTION CONTROL PLANT 2018 PERFORMANCE EVALUATION

Plant Municipality Works Number	Collingwood WWTP Town of Collingwood 120000550	od WWTP			Region Central District Simcoe Operating Authorit Municipal	Authorit	Central Simcoe Municipa						Effluent C CBOD5	Effluent Objectives 5 15mg/L 15mg/l	
Treatment  Design Capacity	Conventional Activated Sludge Phosphorus Removal 24.548 (1000 m3/d)	nal Activat us Remova )00 m3/d)	red Sludge al		Watercourse Minor Basin Major Basin		Collingwood Huron Great Lakes	Collingwood Harbour Huron Great Lakes	our				P Coll	0.8 mg/L 100 organisms/ 100mL 6.5 to 9.0	OOmL
													Annual average	Annual average Annual average Average	Average
2018	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	concentration	Loading	daily flow
FLOWS (m3/d)															17936
Monthly ADF	20620	21125	17001	28312	17686	13084	14497	13207	11896	14575	19966	23163			
Month Total	639220	591490	527040	849360			449410		356880 451840	_	612950 718060	18060			
Max day	45480	47550	24250	41390			20670	_	14020		36090	43000			
Min day	12090	13950	13990	16380	14050	10660	11490	11440	9540	11590	13680	17470			
CBOD5 (mg/L)													Compliance is	Compliance is	
Iniluent			138								146		25 mg/L	613.7 kg/d	
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	3.4	61.18	
Final Effluent Objective concentration is	ctive concer		15 mg/L												
SS(mg/L)	000												Compliance is	Compliance is	
	201.00		109.00	)	1						00.222		25 mg/L	613.7 kg/d	
Final Efficient Ohio	Stive concer	1.0	2.2	α.υ	0.9	2.3	4.1	3.3	2.5	12.1	21.9	8.3	7.1	127.95	
TP (mg/l)	001001		10/19/1									ļ		Callina	
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	ncentration	objective	is 0.8mg/L,	-, complia	compliance limit is 1.0 mg/L and an annual average loading of 2	s1.0mg/L	and an a	annual av	erage loa	ding of 2	4				
Influent		7	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)															
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											1	1			
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 the pH of the final effluent within the limits 6.0 to 9.5(objective is 6.5 to 9.0)	maintaining	the the pl	H of the fir	nal effluer	nt within th	e limits 6	3.0 to 9.5(	objective	is 6.5 to						
Final effluent	Oī	74	0	37	0	7	1	70	0	22	705	સુ			
Monthly geometric mean density of F-Coli: objective											-				

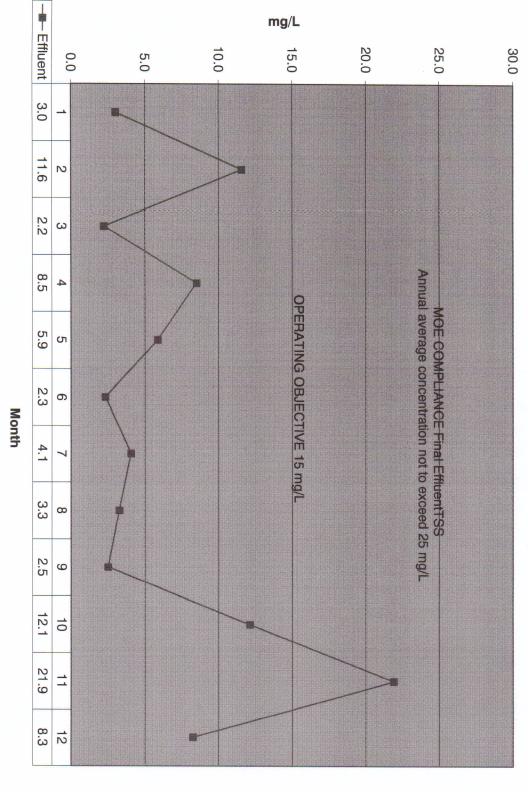
# TOWN of COLLINGWOOD WWTP 2018Monthly Average Final Effluent Flow



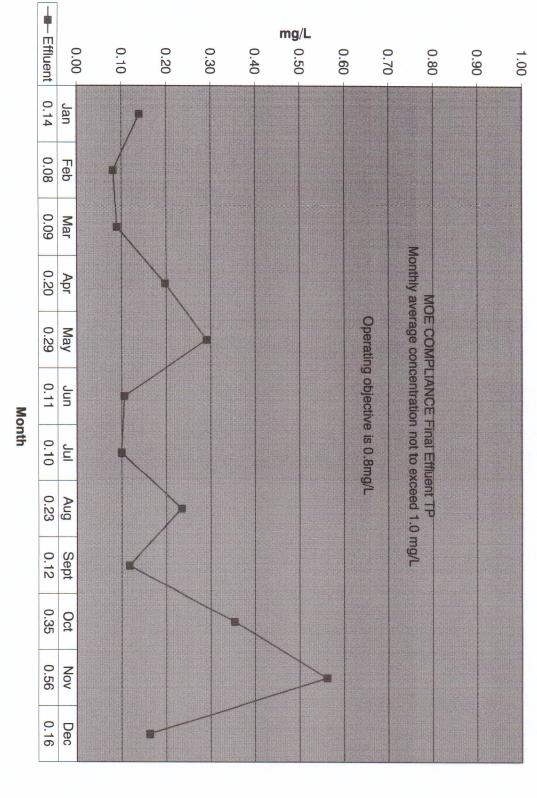
# TOWN of COLLINGWOOD WWTP 2018 Monthly Average Concentration Final Effluent CBOD5



# TOWN of COLLINGWOOD WWTP 2018 Monthly Average Concentration Final EffluentTSS



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





# Municipal Utility Monitoring Program (MUMP) Mechanical Plants

Project Na	me															_									
WWTP																									
Mailing Ad	dress																						-		
Unit No.		Street No.	).		treet Nar Birch St	me															- 1	PO Box			
Municipalit	y/City/T	own											Provi	nce							_	ostal			
Collingwo	ood												Onta									_9Y 2			
Operating /	Authorit	у											Onta	110				_			1	J9 I Z	.10		
Town of (	Colling	wood																							
Mailing Add	dress																								
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C.P.																									
0 1	FLOW	/S						Para	mete	r Coo	de	Dec				Mont	hlv F	Resi	ults						
12 13	Total F	low			(10	<sup>3</sup> m <sup>3</sup> )	5	0	0	1	0	3	1		T		_	9		2	2	0			
	Averag	e Daily Flo	ow		(10 <sup>3</sup> r		5	0	0	1		3	1 -	+	+	_	_	0	•		-				
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					(101	, ا (	30		U		34	35	J L	8			4	5		4	8	<i>0</i>			
2 6	BYPA	SS																							-
		ypass Vol	ume		(10	) <sup>3</sup> m <sup>3</sup> )	5	0		0	6	2	1 _			_	_	_		_			No. c	f Occu	_
	Duratio		unie				8	0	5	2		3	-	+	-	_	_	_		-					
		dary Bypas	e Volu	ımo		(hrs) (m³)	5		_	6		1	-			_	_	_			_	_			
	Duratio		SS VUIL	Jille			8	0	0	4		3	┥┝	-		_	-	-		4					
	Duranc					(hrs)	30	0	5	6	5 34	<b>1</b>	] [_												
0 3	DAW	SEWAGE	_				00				34	33	3	0											
	BOD <sub>5</sub>	SEWAGE	-		,	, , [	_			1 -			1 -										No	of Sa	ample
		-110-11				ng/L)	0	0	0	0		0	-	_											
	TKN	nded Solid	S			ng/L)	0	0	0	0		0		1		_	_				_				
		haanharai				ng/L)	0	0	0	2		2		+	1	_	_	_							
	Total P	hosphorou	ıs		(m	ng/L) [	30	0	0	3		1	l L												
0 4	CINIAL	CCCI III					30				34	35	3	В											
		. EFFLUE	EN I			Г									, ,										
	BOD <sub>5</sub>	O - 11 - 1				ng/L)	0	0	0	0		1													
		nded Solid				ng/L)	0	0	0	0		1						3		3					
		nia + Amm	ionium			ng/L)	0	0	0	1	9	2						0		6	8				
	TKN					ng/L)	0	0	0	2		2						2		3	0				
		hosphorou			(m	ng/L)	0	0	0	3		2						0		1	4				
		Representati		inal Di	scharge)		30				34	35	3	3											
		FECTION	1																						
	Chlorin				(kg as	Cl <sub>2</sub> )	5	0	3	2	0	1													
	Chlorin	e Dosage			(mg/L as	Cl <sub>2</sub> )	8	0	4	1	0	1													
		e Residua			(mg/L as	Cl <sub>2</sub> )	8	0	4	2	0	1								$\top$					
		lepresentati		inal Di			30				34	35	38									L	48		
Operator Te		e Number				Email	Addr	ess																	
705-445-1 Comments	581					gpric	e@c	ollin	gwoo	d.ca	l														

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



# Municipal Utility Monitoring Program (MUMP) R2 Mechanical Plants

Proje	ect Na VTP	me	)																												
	ing Ad	dre	ess																												
Unit	No.		3	Street No	).		Street I Birch		ne																	PC	Box	<			
Mun	icipalit	y/C	City/Tov	vn													Pr	ovin	ice							Po	stal (	Cod	6		
	lingw																	ntar									Y 2				
			thority																									10			
Tow	vn of	Co	llingw	700d																											
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- 1. Environmental Monitoring and Reporting Branch, MOE, at <a href="mailto:WasteWaterReporting@Ontario.ca">WasteWaterReporting@Ontario.ca</a> AND
- 2. Your Environmental Officer at your local District/Area MOE Office. (Find your local MOE office: <a href="http://www.ene.gov.on.ca/environment">http://www.ene.gov.on.ca/environment</a>)



#### Municipal Utility Monitoring Program (MUMP) **R1**

**Mechanical Plants** Project Name WWTP Mailing Address Unit No. Street No. Street Name PO Box 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 Hurontario St Box157 Municipality/City/Town **Province** Postal Code Collingwood Ontario L9Y 3Z5 Data Period File No. Works Number Update Code Days Discharge Type Month Year R C.P **FLOWS** Parameter Code Dec Monthly Results Total Flow  $(10^3 \text{m}^3)$ Average Daily Flow  $(10^3 \text{m}^3/\text{d})$ Maximum Daily Flow  $(10^3 \text{m}^3/\text{d})$ **BYPASS** No. of Occurrences Plant Bypass Volume  $(10^3 m^3)$ Duration (hrs) Secondary Bypass Volume  $(10^3 m^3)$ Duration (hrs) **RAW SEWAGE** No. of Samples BOD<sub>5</sub> (mg/L) Suspended Solids (mg/L) TKN (mg/L) **Total Phosphorous** (mg/L) **FINAL EFFLUENT** BOD<sub>5</sub> (mg/L) Suspended Solids (mg/L) Ammonia + Ammonium (mg/L). TKN (mg/L)Total Phosphorous (mg/L) (Representative of Final Discharge) DISINFECTION Chlorine Used (kg as Cl<sub>2</sub>) Chlorine Dosage (mg/L as Cl<sub>2</sub>) Chlorine Residual (mg/L as Cl<sub>2</sub>) (Representative of Final Discharge) Operator Telephone Number **Email Address** 705-445-1581 gprice@collingwood.ca Comments

- 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)



# Municipal Utility Monitoring Program (MUMP) R2 Mechanical Plants

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# Municipal Utility Monitoring Program (MUMP) R1 Mechanical Plants

Project Name WWTP Mailing Address Unit No. Street No. Street Name PO Box 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 Hurontario St Box157 Municipality/City/Town Province Postal Code Collingwood Ontario L9Y 3Z5 Data Period File No. Works Number Discharge Type Dayş Update Code Month Year R C.P. **FLOWS** Parameter Code Dec Monthly Results Total Flow  $(10^3 \text{m}^3)$ Average Daily Flow  $(10^3 \text{m}^3/\text{d})$ Maximum Daily Flow  $(10^3 \text{m}^3/\text{d})$ **BYPASS** No. of Occurrences Plant Bypass Volume  $(10^3 \text{m}^3)$ Duration (hrs) Secondary Bypass Volume  $(10^3 \text{m}^3)$ Duration (hrs) **RAW SEWAGE** No. of Samples BOD<sub>5</sub> (mg/L) Suspended Solids (mg/L) TKN (mg/L)Total Phosphorous (mg/L) **FINAL EFFLUENT** BOD<sub>5</sub> (mg/L) Suspended Solids (mg/L) Ammonia + Ammonium (mg/L)TKN (mg/L) Total Phosphorous (mg/L) (Representative of Final Discharge) DISINFECTION Chlorine Used (kg as Cl<sub>2</sub>) Chlorine Dosage (mg/L as Cl<sub>2</sub>) Chlorine Residual (mg/L as Cl<sub>2</sub>) (Representative of Final Discharge) Operator Telephone Number **Email Address** 705-445-1581 gprice@collingwood.ca Comments

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- 2. Your Environmental Officer at your local District/Area MOE Office. (Find your local MOE office: http://www.ene.gov.on.ca/environment)



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Project Na	ame																		
Mailing Ac	Idress																		
Unit No.	Street No.	Street Nam	ne											- 1	PO E	Box			
	3	Birch St													101	JOX			
	ty/City/Town							Prov	ince						Post	al Coc	de		
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0 4	FINAL EFFLUENT	-																	
12 13	Parameter	Unit	Para	ameter C	ode		Dec		Mo	onthly	Aver	age Re	sults			N	o. of S	ample	es
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# Municipal Utility Monitoring Program (MUMP) R1 Mechanical Plants

Project N WWTP																		
Mailing A	Address																	
Unit No.		Street No.	Street Birch												РО В			
Municipa	ality/City/To	190	Direir	Ji.											Box1			
Collingy										Province					1	I Code		
	g Authority									Ontario	_				L9Y	2T8		
	f Colling																	
Mailing A	Address				,													
Unit No.		Street No. 97	Street	Name ntario St											PO Bo			
Municipal	lity/City/To	wn		Turio Di						Province					Box1			
Collingv	wood									Ontario					Posta L9Y	l Code 3Z5		
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C.P.								13		20 21			22				80	
0 1	FLOW	S			Por	ameter	Cada		D									
12 13	Total Flo			$(10^3 \text{m}^3)$ 5	0			0	Dec				Results					
		Daily Flow		10 <sup>3</sup> m <sup>3</sup> /d) 5	0	0	1	0	3		8	-	9.	3 6				
		m Daily Flo	,	$10^3 \text{m}^3/\text{d}) = 5$	0	0	1 2	5	3				8.	3 1				
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2 6	BYPAS	S								00					46		-	
12 13	Plant By	pass Volui	me	$(10^3 \text{m}^3)$ 5	0	0	2	6	3							No. of	f Occurre	
	Duration			(hrs) 8	0	5	6	3	1				-					0
	Seconda	ary Bypass	Volume	$(10^3 \text{m}^3)$ 5	0	0	4	0	3									
	Duration			(hrs) 8	0	5	6	5	1				•					0
				30	J		0	34	35	38								
0 3	RAW S	EWAGE																
12 13	BOD <sub>5</sub>			(mg/L) 0	0	0	0	1	0							No.	of Samp	oles
	Suspend	led Solids		(mg/L) 0	0	0	0	6	0				_					
	TKN			(mg/L) 0	0	0	2	0	2			-						+
	Total Ph	osphorous		(mg/L) 0	0	0	3	3	1			_	•					+
	_			30				34	35	38			•					
0 4		EFFLUEN	IT															
12 13	BOD₅			(mg/L) 0	0	0	0	1	1				T					
		led Solids		(mg/L) 0	0	0	0	6	1				8 .	5				1
		a + Ammor	nium	(mg/L) 0	0	0	1	9	2				4 .	4 2				4
	TKN			(mg/L) 0	0	0	2	0	2				6 .	6 0	_	$\vdash$		4
		osphorous		(mg/L) 0	0	0	3	3	2				0.	2 0	-			4
	_		of Final Discharg	je) 30				34	35	38		-						7
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12 13	Chlorine			as Cl <sub>2</sub> ) 5	0	3	2	0	1				١.					
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	Chlorine		(mg/L	as Cl <sub>2</sub> ) 8	0	4	2	0	1						1			
Operator T			of Final Discharg					34	35	38						48		51
Operator T 705-445-	1501	Number		Email Add														
Comments				gprice@c	ollin	gwood	.ca											
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- 1. Environmental Monitoring and Reporting Branch, MOE, at WasteWaterReporting@Ontario.ca AND
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# Municipal Utility Monitoring Program (MUMP) R2 Mechanical Plants

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705-4	445-1	581	ne mumber					Addre																	
	nents	100					gpric	e@co	lling	wood.	ca														

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# Municipal Utility Monitoring Program (MUMP) R1 Mechanical Plants

Project Na	ame									
WWTP										
Mailing A	ddress									
Unit No.	Street No.	Street Name Birch St							PO Box	
Municipali	ity/City/Town						Province		Box157	The state of the s
Collingw							Ontario		Postal C	
Operating	Authority						Omano		L9Y 2T	.8
Town of	Collingwood									
Mailing Ad										
Unit No.	Street No.	Street Name							РО Вох	
	97	Hurontario St							Box157	7
Municipali	ity/City/Town						Province		Postal Co	
Collingw	vood						Ontario		L9Y 3Z	
				De	to Dode		Ontario		L91 3Z	J
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		0 0 5 5 6	0	0   5	1	8	3 1	2		R
1 2	3	1	1	16	1	9	20 21	22		80
C.P.										
0 1	FLOWS		Para	ameter	Code	De	ec	Monthly Results		
12 13	Total Flow	$(10^3 \text{m}^3)$	5 0	0	1 0				8 0	
	Average Daily Flow		5 0	0	1 5	_				
	Maximum Daily Flow	The second secon	5 0	0	2 0				8 6	
			30		34			2 3 . 6 .	2 0	
2 6	BYPASS									
12 13	Plant Bypass Volume	$(10^3 \text{m}^3)$	5 0		0 0				No.	o. of Occurrences
	Duration			0	2 6	_				0
	Secondary Bypass Volum	0 0		5	6 3	1				
	Duration	, , ,	5 0	0	4 0	3				0
	D di dilori		3 0	5	6 5					
0 3	RAW SEWAGE				34	35	38			
12 13	BOD <sub>5</sub>	( 1)		T = T						No. of Samples
	Suspended Solids	(mg/L) (	_	0	0 1	0				
	TKN	(mg/L) (		0	0 6	0				
	Total Phosphorous	(mg/L) (		0	2 0	2				
	rotal Phosphorous	(mg/L) (		0	3 3	1				
0 4	FINAL EFFLUENT	3	U		34	35	38			
12 13	BOD <sub>5</sub>									
	Suspended Solids	(mg/L) (		0	0 1	1				
	Ammonia + Ammonium	(mg/L) (		0	0 6	1		5.9		5
	TKN	(mg/L) (	_	0	1 9	2		3 . 9 2	2	5
		(mg/L)		0	2 0	2		5 . 8 0		5
	Total Phosphorous	(mg/L) (		0	3 3	2		0 . 2 9	_	5
	(Representative of Final	al Discharge) 3	0		34	35	38			
0 7	DISINFECTION									
	Chlorine Used	(kg as Cl <sub>2</sub> ) 5	0	3	2 0	1				
	Chlorine Dosage	(mg/L as Cl <sub>2</sub> ) 8	0	4	1 0	1				
	Chlorine Residual	(mg/L as Cl <sub>2</sub> ) 8	0	4	2 0	1			7 -	
	(Representative of Fina	al Discharge) 30	)		34	35	38		48	8 51
	elephone Number	Email Ad	Idress							
705-445-1		gprice@	colling	gwood	.ca					
Comments										

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# Municipal Utility Monitoring Program (MUMP) R2 Mechanical Plants

Project Na	me																							
WWTP																								
Mailing Ad	dress																							
Unit No.		Street No	).		Street Na Birch St	me														РО	Box			
Municipalit	y/City/	Town										Prov	/ince							Doo	tal Co	al a		
Collingw													ario											
Operating	Authori	ty										Ont	arro							L9	Y 2T8	5		
Town of	Collin	gwood																						
Mailing Ad	dress														-									
Unit No.		Street No 97	).		Street Na Hurontar																Box			
Municipalit	y/City/	Town										Prov	vince								x157	-1-		
Collingw												Ont									tal Cod Y 3Z5			
File No.			Work	s Nur	mber			N	Data Nonth	a Peri	od Year		Days			Disc	harg	je T	ype			Upd	ate C	ode
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1 2	3						11	16			19	20	21	_		_	22	2	_				80	
C.P.	R	AW SEW																						
3 6		Paramete	er		Unit		Para	ameter	Code		Dec		Mo	nthly	Aver	age	Res	ults			N	lo. of S	Samp	les
12 13														T		_						T		T
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0 4	FIN	AL EEE		_		30				34	35	38												
0 4	FIN	AL EFFL		Г																				
12 13	-	Paramete	er		Unit		Para	meter	Code		Dec		Мо	nthly	Aver	age	Res	ults			N	o. of S	Sampi	les
	CBOL	)		1	mg/l	0	0	0	0	2	1					2		7				T		
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L						30				34	35	38												
Deretor T	lenha	ne Number								04	33	38												
705-445-1		ie inumber					Addre																	
Comments	201					gpric	e@cc	llingv	wood.	ca														
Johnnents																								

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



# Municipal Utility Monitoring Program (MUMP) R1 Mechanical Plants

Project Na	ame												_							
Mailing Ac	ldrage																			
Unit No.		1 0																		
Offic NO.	Street No.	Street Name	9													PO B	Box			
Mandalas	3	Birch St														Box	157			
	ty/City/Town							Prov	ince							Posta	al Cod	е		
Collingw								Ont	ario							L9Y	2T8			
Operating	•																			
	Collingwood																			
Mailing Ad		1																		
Unit No.	Street No.	Street Name														РО В	ox			
14	97	Hurontario	St													Box1	157			
	ty/City/Town							Prov								Posta	al Cod	е		
Collingw	rood							Ont	ario							L9Y	3Z5			
File No.	NA/I	NI			Data	Period				1										
FILE INO.	VVORKS	Number			Month	Year			ays			Dis	char	ge Ty	/pe			Upda	te Co	de
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1 2	3	0 0 3										L		2					R	
	7		11	1	6	19		20	21				2	2					80	
C.P.																				
0 1	FLOWS			Para	meter Co	ode	De	c			Mon	ithly	Res	ults						
12 13	Total Flow	(10 <sup>3</sup> n		0	0	1 0	3		3 9	2	5	3	0			1				
	Average Daily Flow	(10 <sup>3</sup> m <sup>3</sup>	<sup>3</sup> /d) 5	0	0	1 5	3	7 [	1	3	8	0	4							
	Maximum Daily Flow	(10 <sup>3</sup> m <sup>3</sup>	<sup>3</sup> /d) 5	0	0	2 0	3	7	1	6	5	6	0							
			30			34	35	_	38							46				
2 6	BYPASS																No	of Oc	OUEFOR	2000
12 13	Plant Bypass Volume	(10 <sup>3</sup> r	m³) 5	0	0	2 6	3	7 [					-	-			NO.	01 00	Currer	
	Duration		irs) 8	0		6 3	1	┨	+					•	-					0
	Secondary Bypass Volur			0		4 0	3	+ +		+				•	_	$\overline{}$		_		0
	Duration		rs) 8	0		6 5	1	+		+				•						0
	Daration	(11	30	U	3	34	35	JL	38											
0 3	RAW SEWAGE					01	00		00											
12 13	BOD₅	,	// \ \ \ \														N	lo. of S	Sampl	es
12 10		(mg		0		0 1	0	4		-										
	Suspended Solids TKN	(mg		0		0 6	0	4								_				
		(mg		0		2 0	2	4						-						
	Total Phosphorous	(mg		0	0	3 3	1													
	] =		30			34	35		38											
0 4	FINAL EFFLUENT					-														
12 13	BOD₅	(mg		0	0	0 1	1													
	Suspended Solids	(mg		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	7 [					0		1 1					4
	(Representative of Fin	al Discharge)	30			34	35		38							_				
0 7	DISINFECTION																			
12 13	Chlorine Used	(kg as C	Cl <sub>2</sub> ) 5	0	3	2 0	1	7 [	T				1							
	Chlorine Dosage	(mg/L as C		0		1 0	1	1					+	•	$\dashv$					
	Chlorine Residual	(mg/L as C	1000	0		2 0	1	1		1				•	+	7		T		
	(Representative of Fin		30			34	35		18					•		_	48			51
Operator T	elephone Number		mail Addr	ess													.5			
705-445-			orice@c		wood.c	ca														
Comments		LSI			,															

- 1. Environmental Monitoring and Reporting Branch, MOE, at <a href="mailto:WasteWaterReporting@Ontario.ca">WasteWaterReporting@Ontario.ca</a> AND
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# Municipal Utility Monitoring Program (MUMP) R2 Mechanical Plants

Proje	ect Na	me																									
	ng Ad	dre	ess																								
Unit		u. c		Street No	).		treet Na	me														PC	) Box				
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	ingw													Onta									stal C				
Oper	ating	Aut	thority											Ont	allo							L	1 2	10			
			llingw	vood																							
Maili	ng Ad		SS																								
Unit	No.			Street No 97	).		treet Nar Iurontar																) Box 0x15'				
Muni	cipalit	y/C	City/Tov	wn										Prov	ince								stal C				
Coll	ingw	00	d											Onta									Y 37				
											Data	a Perio	nd			7											
File					Work	s Nun					Month	\	/ear		ays			Disc	harg	ge Ty	ype			L	Jpdate	e Cod	de
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1	2	7	3						11	1	6		19	20	21	_		_	22	2	_					30	
C.	P.		RA	W SEW	AGE																						
3	6			Paramet	er		Unit		Para	mete	r Code		Dec		Mo	onthly	Ave	rage	Res	ults				No.	of Sa	ample	s
12	13																										
		L													*												
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		L																									
								30				34	35	38													
0	4	_		L EFFL		Т																					
12	13	_		Paramet	er		Unit		_	_	r Code		Dec		M	onthly	Ave		Res	ults			_	No.	of Sa	imple	
		C	BOD				mg/l	0	0	0	0	2	1			$\perp$		2		0	0	0					4
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								30				34	35	38				_	•	1							
				Numbe	r				il Addr																		
	-445- ments		81					gpri	ce@c	olling	gwood	.ca															
Con	ments	5																									

- 1. Environmental Monitoring and Reporting Branch, MOE, at WasteWaterReporting@Ontario.ca AND
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# Municipal Utility Monitoring Program (MUMP) R1 Mechanical Plants

riojecti	Name							al Plants		
WWTF										
Mailing /	Address									
Unit No.	Street No.	Street Name								
	3	Birch St								PO Box
	ality/City/Town	Dittion								Box157
Colling	wood							Province	1	Postal Code
Operatin	g Authority							Ontario		L9Y 2T8
Town o	f Collingwood									
Mailing A Unit No.										
Offit NO.	Street No.	Street Name								1 50 5
Municina	97 lity/City/Town	Hurontario St								PO Box
Collingy	ary/Ory/TOWN							Province		Box157 Postal Code
Totali,	7							Ontario		L9Y 3Z5
File No.	Work	s Number			Data F	eriod				7 7
4 6				Mon	th	Year		Days	Discharge Type	Update Cod
	1 2 0 0	0 0 5 5	0	0	7	18		3 1	2	
1 2	3		11	16		19		20 21		R
C.P.									22	80
0 1	FLOWS		Pa	ramete	er Cod	e	Dec		Mandelina	
12 13	Total Flow	(10 <sup>3</sup> m <sup>3</sup> )	5 0		1	0	3		Monthly Results	
	Average Daily Flow	(10 <sup>3</sup> m <sup>3</sup> /d)	5 0	0	1	5	3			1 0
	Maximum Daily Flow	(10 <sup>3</sup> m <sup>3</sup> /d)	5 0	0	2	0	3			9 7
	7		30			34	35	38	20.6	7 0
2 6 12 13	BYPASS									-
12 13	Plant Bypass Volume	(10 <sup>3</sup> m <sup>3</sup> )	5 0	0	2	6	3			No. of Occurrent
	Duration		8 0	5	6	3	1		++++	
	Secondary Bypass Volu		5 0	0	4	0	3		<del>                                     </del>	
	Duration		8 0	5 .	6	5	1		- R	
0 3	RAW SEWAGE		30			34	35	38	<del></del>	
12 13	BOD <sub>5</sub>									No. of Sample
	Suspended Solids	The second secon	0 0		0	1	0			INO. OF Sample
	TKN		0 0	0	0	6	0			
	Total Phosphorous	The second secon	0 0	0	2	0	2			
		-	0 0	0	3	3	1			
0 4	FINAL EFFLUENT		· ·			34	35	38		
12 13	BOD₅	(mg/L) (	1 0	T.	T =					
	Suspended Solids			0	0	1	1			
	Ammonia + Ammonium	(mg/L) (		0	0	6	1		4 . 0	
	TKN	(mg/L) (		0	2	9	2		0.05	
	Total Phosphorous	(mg/L) (		0	3	3	2		1 . 1 5	
	(Representative of Fir	nal Discharge) 3		0	0	34	35	38	1.00	
	DISINFECTION						-			
	Chlorine Used	(kg as Cl <sub>2</sub> ) 5	0	3	2	0	1			
	Chlorine Dosage	(mg/L as Cl <sub>2</sub> ) 8		4	1	0	1		*	
	Chlorine Residual	(mg/L as Cl <sub>2</sub> ) R		4	2	0	1			1
nerator T	(Representative of Fin	nal Discharge) 30	)			34	35	38		
05-445-1	elephone Number	Email Ad								48 5
「一」「「「「「「「「」」」	.301	gprice@	colling	mmore	100					

- 1. Environmental Monitoring and Reporting Branch, MOE, at WasteWaterReporting@Ontario.ca AND
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# Municipal Utility Monitoring Program (MUMP) Ramechanical Plants

Mailing A Unit No.	ddre		٠.		1			***					*****										***************************************	
			Street 3	No.		Street N Birch S														-	PO Box			
Municipal Collingv	ity/Ci	ty/To	nwo										Pr	ovince	2					_	D	***************************************		*******************
Operating	VOOC	neit.										-		ntario						- 3	Postal (			
Fown of	Col	line	road											***************************************							L9Y 27	10		
Mailing A	ddres	S	woou		***************************************			-																
Jnit No.		-	Street	No.		Street Na Huronta															РО Вох			-
Municipal	ity/Cit	y/To	wn			i i di Oilla	110 3														Box15	7		
Collingw	700d													ovince							Postal C		-	
	I												U	ntario	}						L9Y 32	<u>75</u>		
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C.P.	-			WAGE																			90	
3 6	-		Param	eter		Unit		Para	ameter	Code		Dec		A	Nonthly	Ave	rane	Pos	ulte		7 -	NI= =f	0	
12 13	_															T	lage		uno	T	-	No. of	Samp	T
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2 13			arame		1																			
- 10	CBO		arante	eter		Unit	-	-	meter	T T		Dec		M	lonthly	Aver	rage I	Resu	ilts		1 1	No. of	Sampl	es
		22.7				mg/l	0	0	0	0	2	1					2		0		1	T		Ī
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mments							gprice	e(a)co.	ungw	vood.c	a				***************************************									
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# Municipal Utility Monitoring Program (MUMP) R1 Mechanical Plants

Project N	lame									
WWTP										
Mailing A	ddress									
Unit No.	Street No.	Street Name Birch St							PO Box	
Municipal	lity/City/Town						Province		Box15	
Collingy									Postal C	
	Authority						Ontario		L9Y 27	Γ8
	Collingwood									
Mailing A										
Unit No.	Street No.	Street Name							PO Box	
	97	Hurontario St							Box15	
Municipal	ity/City/Town						Province			
Collingv	vood						Ontario		Postal C L9Y 3Z	
			7	Data	Devised		Ontario		L9 1 32	25
File No.	Works	Number		Data Month	Period		Days	Discharge Type		Update Code
A 6	1 2 0 0				Year					Opdate Code
4 6		0 0 5 5 0	0	8	18		3 1	2		R
1 2	3	11	16	3	19		20 21	22		80
C.P.										00
0 1	FLOWS		Paran	neter Co	de	Dec		Monthly Results		
12 13	Total Flow	(10 <sup>3</sup> m <sup>3</sup> ) 5	0	0 1		3			2 0	
	Average Daily Flow	$(10^3 \text{m}^3/\text{d})$ 5	0	0 1	_	3	<del></del>		3 0	
	Maximum Daily Flow	$(10^3 \text{m}^3/\text{d})$ 5	0	0 2		3			0 7	
		30		0   2	34	35	38	1 9 . 7	1 0	
2 6	BYPASS					00	00		46	
12 13	Plant Bypass Volume	(10 <sup>3</sup> m <sup>3</sup> ) 5		0 0						lo. of Occurrences
	Duration		0	0 2		3				0
		(hrs) 8	0	5 6		1				
	Secondary Bypass Volur Duration		0	0 4		3				0
	Duration	(hrs) 8	0	5 6		1				
0 0	DAWOEWAGE	30			34	35	38			
0 3 12 13	RAW SEWAGE									No. of Samples
12 13	BOD₅	(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				
	1	30			34	35	38			
0 4	FINAL EFFLUENT									
12 13	BOD <sub>5</sub>	(mg/L) 0	0	0 0	1	1				
	Suspended Solids	(mg/L) 0	0	0 0	6	1		3 . 3		5
	Ammonia + Ammonium	(mg/L) 0	0	0 1	9	2		0 . 4 6		5
	TKN	(mg/L) 0	0	0 2	0	2		0 2 3		5
	Total Phosphorous	(mg/L) 0	0	0 3		2		0 . 2 3		4
	(Representative of Final	al Discharge) 30			34	35	38	0 . 2 3	<u>'</u>	4
0 7	DISINFECTION									
12 13	Chlorine Used	(kg as Cl <sub>2</sub> ) 5	0	3 2	0	1				
	Chlorine Dosage	(mg/L as Cl <sub>2</sub> ) 8	0	4 1		1				
	Chlorine Residual	(mg/L as Cl <sub>2</sub> ) 8	0	4 2		1		<del>      •     -                           </del>		
	(Representative of Fina		0	7   2	34	35	38			
Operator T	elephone Number	Email Add	ress		-					48 51
705-445-		gprice@c		wood ca	1					
Comments		Sprice	- Jannie I							

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# Municipal Utility Monitoring Program (MUMP) R2 Mechanical Plants

Po Box   Province	Project Na WWTP	ame																							
Street Name		ldress																							
Province	Unit No.		3	٥.			me														РО	Box			
Ontario   L9Y 278   Departing Authority   Department   Departing Authority   Departing			Town										Pr	ovince							Post	tol Co	do	_	
Page																									
Street No.   Street No.   Street Name   97														iiiiiii							L7 I	. 210	)		_
No.   Street No.   Street No.   Burloundario St   Box   Street No.	Town of	Collin	gwood																						
Public   Box   Sex   S		dress	1																				-		
Monthly Now register	Unit No.			).																					
Collingwood	Municipalit	y/City/	Town										Pro	ovince									do		
No. of Samples																									
No. of Samples										Dat	a Dori	od		Tturro							1.71	_ <u> </u>			
C.P. RAW SEWAGE 3 6 Parameter Unit Parameter Code  0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0			T		s Num						1			Days			Disc	char	ge Ty	pe			Upd	ate C	ode
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C.P. RAW SEWAGE  3	1 2	3						11	1	16		19					L								
2 13	C.P.	R	AW SEW	AGE																					
2 13	3 6		Paramet	er		Unit		Para	mete	er Code		Dec		M	onthly	/ Ave	rane	Res	ulte			N	o of s	Samn	loc
	12 13													ΠÏ		1	lage				-	- 14	0.010	Janip	165
Decay 13 Parameter Unit Parameter Code CBOD mg/1 0 0 0 0 2 1																+				-	_		_	_	+
30 34 35 38  D 4 FINAL EFFLUENT  Parameter Unit Parameter Code CBOD mg/l 0 0 0 0 2  13 Parameter Unit Parameter Code 1															_		-				-		_	_	-
No. of Samples															_	+				7	_				$\vdash$
Dec   Monthly Average Results   No. of Samples															+	+					-		-	_	$\vdash$
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30 34 35 38    D   4   FINAL EFFLUENT																					-				
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# Municipal Utility Monitoring Program (MUMP) Mechanical Plants

Project N	ame													* * 1	i Gi I I	<u> </u>				-							
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Mailing Ad	ddress																										
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12 13	1	EFFLUE	=NT																								
12 13	BOD <sub>5</sub>					(mg/L)	0	0	0	0	1		1				T								T		
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#### Municipal Utility Monitoring Program (MUMP) F Mechanical Plants

Unit	ling A No.		Stre 3	et No.		Street N										***************************************	***************************************	POE	Box	Nigeral Annual A	POPPOSONO NICEARA
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## Municipal Utility Monitoring Program (MUMP) R1 Mechanical Plants

Project Na	ame									
WWTP										
Mailing Ad	ddress									
Unit No.	Street No.	Street Name Birch St							PO Box	
Municipali	ity/City/Town					Province			Box157 Postal Co	ndo.
Collingw						Ontario			L9Y 2T8	
Operating						Omario			L91 210	)
Town of	Collingwood									
Mailing Ad										
Unit No.	Street No. 97	Street Name Hurontario St							PO Box Box157	
	ty/City/Town				F	Province			Postal Co	de
Collingw	700d				(	Ontario			L9Y 3Z5	
File No.	Works N	lumber	Data Month	Period Year		Days	Discharge T	уре		Update Code
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1 2	3	11	16	19		20 21	22	J		80
C.P.										
0 1	FLOWS		Parameter Co	de	Dec		Monthly Results			
12 13	Total Flow	(10 <sup>3</sup> m <sup>3</sup> ) 5	0 0 1	0	3		4 5 1 .	8 4	0	
	Average Daily Flow	(10 <sup>3</sup> m <sup>3</sup> /d) 5	0 0 1		3		1 4 .	5 7		
	Maximum Daily Flow	(10 <sup>3</sup> m <sup>3</sup> /d) 5	0 0 2		3		2 8 .	0 0	_	
	-	30		34	35	38			46	
2 6	BYPASS								No	. of Occurrences
12 13	Plant Bypass Volume	$(10^3 \text{m}^3)$ 5	0 0 2	2 6	3					0
	Duration	(hrs) 8	0 5 6	3	1					
	Secondary Bypass Volum	ie (10 <sup>3</sup> m <sup>3</sup> ) 5	0 0 4	0	3					0
	Duration	(hrs) 8	0 5 6	5 5	1					0
	1	30		34	35	38				
0 3 12 13	RAW SEWAGE									No. of Samples
12 13	BOD₅	(mg/L) 0	0 0 0		0					
	Suspended Solids	(mg/L) 0	0 0 0		0					
	TKN	(mg/L) 0	0 0 2		2					
	Total Phosphorous	(mg/L) 0	0 0 3		1					
0 4	FINAL EFFLUENT	30		34	35	38				
12 13	BOD <sub>5</sub>	(m = // ) 0								
	Suspended Solids	(mg/L) 0	0 0 0		1					
	Ammonia + Ammonium	(mg/L) 0 (mg/L) 0	0 0 0		1		1 2 .	1	, [	5
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0 7	DISINFECTION	<b>U</b> ,				55				
12 13	Chlorine Used	(kg as Cl <sub>2</sub> ) 5	0 3 2	0	4					
	Chlorine Dosage	(mg/L as Cl <sub>2</sub> ) 8	0 4 1		1					
	Chlorine Residual	(mg/L as Cl <sub>2</sub> ) 8	0 4 2		1		-		, ,	
	(Representative of Fina		- 7 2	34	35	38			48	51
	elephone Number	Email Addr	ess						40	31
705-445-1			ollingwood.ca	ı						
Comments										

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### Municipal Utility Monitoring Program (MUMP) Mechanical Plants

**R2** 

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## Municipal Utility Monitoring Program (MUMP) R1 Mechanical Plants

Project Na	ame						
WWTP							
Mailing A							
Unit No.	Street No.	Street Name				PO Box	
Municipal	ity/City/Town	Birch St				Box157	
Collingu	-			Province		Postal Cod	de
Operating				Ontario		L9Y 2T8	
	Collingwood						
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Unit No.	Street No.	Street Name				PO Box	
	97	Hurontario St				Box157	
	ity/City/Town			Province		Postal Cod	le
Collingw	vood			Ontario		L9Y 3Z5	
File No.	Works N	lumber	Data Period				
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4 6	1 2 0 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.							
0 1	FLOWS		Parameter Code	Dec	Monthly Results		
12 13	Total Flow	$(10^3 \text{m}^3)$ 5	0 0 1 0	3		5 0	
	Average Daily Flow	$(10^3 \text{m}^3/\text{d})$ 5	0 0 1 5	3		3 2	
	Maximum Daily Flow	(10 <sup>3</sup> m <sup>3</sup> /d) 5	0 0 2 0	3		9 0	
		30	34	35 38		46	
2 6	BYPASS					No.	of Occurrences
12 13	Plant Bypass Volume	(10 <sup>3</sup> m <sup>3</sup> ) 5	0 0 2 6	3			0
	Duration	(hrs) 8	0 5 6 3	1			
	Secondary Bypass Volum		0 0 4 0	3			0
	Duration	(hrs) 8	0 5 6 5	1			
0 3	RAW SEWAGE	30	34	35 38			
12 13	BOD₅	(				N	lo. of Samples
	Suspended Solids	(mg/L) 0	0 0 0 1	0			
	TKN	(mg/L) 0	0 0 0 6	0			
	Total Phosphorous	(mg/L) 0 (mg/L) 0	0 0 2 0	2			
		30	0 0 3 3	35 38			
0 4	FINAL EFFLUENT			55 55			
12 13	BOD₅	(mg/L) 0	0 0 0 1	1			
	Suspended Solids	(mg/L) 0	0 0 0 6	1	2 1 0		
	Ammonia + Ammonium	(mg/L) 0	0 0 1 9	2	2 1 . 9	7	4
	TKN	(mg/L) 0	0 0 2 0	2		7	4
	Total Phosphorous	(mg/L) 0	0 0 3 3	2		6	4
	(Representative of Final	Discharge) 30	34	35 38			4
0 7	DISINFECTION						
12 13	Chlorine Used	(kg as Cl <sub>2</sub> ) 5	0 3 2 0	1			
	Chlorine Dosage	(mg/L as Cl <sub>2</sub> ) 8	0 4 1 0	1			
	Chlorine Residual	(mg/L as Cl <sub>2</sub> ) 8	0 4 2 0	1			
Operator T	(Representative of Final		34	35 38		48	51
705-445-1	elephone Number	Email Addre					
Comments		gprice@co	ollingwood.ca				

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## Municipal Utility Monitoring Program (MUMP) R2 Mechanical Plants

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## Municipal Utility Monitoring Program (MUMP) R1 Mechanical Plants

Project Na	ame									
WWTP										
Mailing A										
Unit No.	Street No.	Street Name							PO Box	
M	3	Birch St							Box157	
	ity/City/Town						Province		Postal Code	<b>,</b>
Collingy	Authority						Ontario		L9Y 2T8	
	Collingwood									
Mailing A										
Unit No.	Street No.	Street Name							DO D	
	97	Hurontario St							PO Box	
Municipali	ity/City/Town	Traiontario Di					Province		Box157 Postal Code	
Collingw							Ontario		L9Y 3Z5	,
			1	Data Pe	ried					
File No.	Works N	lumber	M	onth	Year		Days	Discharge Type	- 1	Update Code
4 6	1 2 0 0 0	0 7 7 0			1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	_				
	1 2 0 0 0		1	2	18		3 1	2		R
1 2	3	11	16		19		20 21	22		80
C.P.										
0 1	FLOWS		Parame	eter Code		Dec		Monthly Results		
12 13	Total Flow	$(10^3 \text{m}^3)$ 5	0	0 1	0	3		7 1 8 . 0	6 0	
	Average Daily Flow	$(10^3 \text{m}^3/\text{d})$ 5	0	0 1	5	3		2 2 . 5	4 1	
	Maximum Daily Flow	$(10^3 \text{m}^3/\text{d})$ 5	0	0 2	0	3		4 3 . 0	0 0	
	7	30			34	35	38		46	
2 6	BYPASS								No. (	of Occurrences
12 13	Plant Bypass Volume	$(10^3 \text{m}^3)$ 5	0	0 2	6	3				0
	Duration	(hrs) 8		5 6	3	1				
	Secondary Bypass Volum	1		0 4	0	3				0
	Duration	(hrs) 8	0	5 6	5	1				
0 0	DAW 05W 05	30			34	35	38			
0 3 12 13	RAW SEWAGE		T - T						No	o. of Samples
12 10	BOD <sub>5</sub>	(mg/L) 0		0 0	1	0				
	Suspended Solids TKN	(mg/L) 0		0 0	6	0				
	Total Phosphorous	(mg/L) 0		0 2	0	2				
	rotairinospilorous	(mg/L) 0	0	0 3	34	<b>1</b>	00			
0 4	FINAL EFFLUENT	00			34	33	38			
12 13	BOD <sub>5</sub>	(ma/l)		0 0	4					
	Suspended Solids	(mg/L) 0 (mg/L) 0		0 0	1	1				
	Ammonia + Ammonium	(mg/L) 0		0 0	9	2		8 . 3		4
	TKN	(mg/L) 0		0 2	0	2		2 . 0 8		4
	Total Phosphorous	(mg/L) 0		0 3	3	2			2	4
	(Representative of Fina		10	0 0	34	35	38	0 . 1	5	4
0 7	DISINFECTION									
12 13	Chlorine Used	(kg as Cl <sub>2</sub> ) 5	0	3 2	0	1				
	Chlorine Dosage	(mg/L as Cl <sub>2</sub> ) 8		4 1	0	1		•		
	Chlorine Residual	(mg/L as Cl <sub>2</sub> ) 8		4 2	0	1			7 —	
	(Representative of Final			.   _	34	35	38		48	51
Operator T	elephone Number	Email Add	ress							31
705-445-	1581	gprice@c		ood.ca						
Comments	3									

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



## Municipal Utility Monitoring Program (MUMP) R2 Mechanical Plants

Mailing Address Unit No. Street No. Street Name 3 Birch St  Municipality/City/Town Province Postal Code Collingwood Ontario L9Y 2T8  Operating Authority Town of Collingwood Mailing Address	Project Nar WWTP	me																		
Unit No.		dress																		
Municipality/City/Town   Collingwood	Unit No.	Street No.														PO Bo	эx			
Collingwood   Collingwood   Street No.   Street Name   Hurontario St   Hurontario St   Province   Ontario   Data Perod   Monthly Average Results   No. of Samples   Town of	Municipality		Direit ot						Provir	ice						Posta	I Code	e		
Operation   Authority   Town of Collingword   Street Name   Pown of Collingword   Street Name   Pown of Collingword   Province   Pown of Collingword   P	Collingwo	ood																		
Mailing Address   Street No.																				
Street No.	Town of C	Collingwood																		
Municipality/City/Town Collingwood    Postal Code	Mailing Add	Street No.																		
File No.		y/City/Town	Hulonta	110 31												Posta	I Code	е		
A			Number				1					D	ischar	ge Typ				Upda	ate Co	ode
T   2   3   3   5   5   5   5   5   5   5   5	4 0	1 2 0 0	0 0 5								l		_							Т
No. of Samples			0 0 5																	
12 13   13   14   15   15   15   15   15   15   15	C.P.	RAW SEWAGE																		
O   4   FINAL EFFLUENT   Parameter Code   CBOD   mg/l   0   0   0   0   2   1     4   6     4     6     4     6       4     6       4     6	3 6	Parameter	Unit		Parame	ter Code		Dec		Mon	thly A	Avera	ge Res	sults			No	o. of S	ampl	es
O   4   FINAL EFFLUENT	12 13																			
O   4   FINAL EFFLUENT																				
O   4   FINAL EFFLUENT																				
Value   Valu																				
O   4   FINAL EFFLUENT																				
No. of Samples   Samples				-						_					_	_				
O   4   FINAL EFFLUENT																_				
No. of Samples   No.								-				-	-		-	_				
Section   Sect								-		_		-								-
Variable   Variable				+ +			-	-							-					-
Variable   Variable				30			34	35	38											
13	0 4	FINAL FEELLIENT						55	00											
CBOD mg/l 0 0 0 0 2 1					Parame	ter Code		Dec		Mor	thly 4	Avera	ne Res	eulte			Ne	of S	amnl	000
Operator Telephone Number 705-445-1581 Email Address gprice@collingwood.ca				_				<del></del>		IVIOI	I I			1		-	INC	). UI C	ampi	_
Operator Telephone Number 705-445-1581  Email Address gprice@collingwood.ca		CDOD	mg/1		U	0 0	-	1						0	-	-				4
Operator Telephone Number 705-445-1581 Email Address gprice@collingwood.ca																				
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705-445-1581 gprice@collingwood.ca				30			34	35	38											
705-445-1581 gprice@collingwood.ca	Operator T	elephone Number		Email A	Address	i														
Comments							.ca													
	Comments																			

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

# Appendix B Sludge Management Overview

	20-Dec-18		20-Nov-18	7-Nov-18	24-Oct-18		26-Sep-18						5-Jul-18	20-Jun-18	6-Jun-18				11-Apr-18	14-Mar-18	7-Mar-18	28-Feb-18	14-Feb-18	31-Jan-18	17-Jan-18	3-Jan-18	Date	Sampling	Contaminar Arsenic
	0.128	0.135	0.133	0.12	0.098	0.147	0.128	0.02	0.133	0.066	0.154	0.112	0.158	0.112	0.095	0.117	0.103	0.145	0.086	0.058	0.065	0.046	0.091	0.08	0.107	0.10	mg/L	As	
	0.0398	0.0753	0.0389	0.0418	0.0324	0.0353	0.0244	0.002	0.0542	0.0105	0.0289	0.0189	0.0286	0.0197	0.0145	0.0164	0.0159	0.024	0.0146	0.0081	0.0099	0.0065	0.0127	0.0116	0.0164	0.0185	mg/L	Cd	Cadmium
	0.1	0.1	0.1	0.13	0.1	0.12	0.11	0.1	0.12	0.1	0.11	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.12	0.1	0.1	0.1	0.1	0.1	0.1	mg/L	င၀	
	0.8	0.7	1.1	1.4	0.7	1.2	1.2	0.1	1.0	0.5	1.1	0.6	0.8	0.5	0.4	0.5	0.5	8.0	0.5	3.4	0.4	0.3	0.6	0.6	0.9	8.0	mg/L	Cr	Cobalt Chromium
	23.5	23.5	26.2	25.3	18	27.1	26.6	0.94	25.4	9.4	24.6	17.7	25	16.2	13	15	15.1	22.3	12.9	15.5	11.1	7.27	18.6	13.4	18.4	17.7	mg/L	Cu	Copper
	0.0142	0.0132	0.0167	0.0317	0.0107	0.0217	0.0332	0.001	0.0298	0.012	0.0151	0.0122	0.0133	0.0119	0.0124	0.012	0.0107	0.0096	0.0093	0.0037	0.007	0.0081	0.0089	0.0105	0.0163	0.0088	mg/L	Hg	Mercury
	0.282	0.303	0.318	0.247	0.176	0.288	0.267	0.018	0.212	0.094	0.227	0.168	0.207	0.137	0.111	0.116	0.109	0.17	0.11	0.268	0.09	0.1	0.111	0.109	0.161	0.155	mg/L	Mo	Mercury Molybdenum
	0.57	0.5	0.64	0.78	0.4	0.67	0.54	0.1	0.62	0.29	0.7	0.42	0.53	0.37	0.33	0.34	0.28	0.51	0.39	1.29	0.19	0.15	0.59	0.37	0.56		mg/L	Z	Nickel
	1.29	1.63	1.72	2.06	0.952	1.54	1.43	0.078	1.54	0.59	1.68	1.33	1.34	0.98	0.736	0.914	0.778	1.04	0.563	0.387	0.641	0.507	0.714	0.786	1.14	1.19	mg/L	Pb	Lead
	0.099	0.103	0.117	0.091	0.072	0.114	0.102	0.01	0.118	0.042	0.105	0.066	0.093	0.068	0.051	0.065	0.058	0.076	0.046	0.049	0.05	0.038	0.052	0.061	0.078	0.067	mg/L	Se	Selenium
	21.8	19.1	23.5	24.8	16.8	24	22.4	1.1	23	9.14	21	13.4	18.7	12.5	10.9	13	11.2	15.8	9.33	9.75	8.4	4.67	10.9	8.62	12.5	11.8	mg/L	Zn	Zinc
	1130	989	843	779	824	878	923	734	638	1120	1070	1080	1240	1320	1190	1290	1230	1210	1800	11.9	993	1220	974	976	717	1110	mg/L	NH3	Ammonia
	0.4		0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	mg/L	NO3	Nitrate
П	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	mg/L	NO2	Nitrite F
	2710	2410	1640	1240	2050	2000	1900	1110	3070	2400	1860	2970	2620	2590	2580	3470	2540	3210	3380	2040	2720	3010	2880	2760	4350	4090	mg/L	TKN	(jeldahl-N
	978	882	1480	833	705	975	1650	163	1640	1150	1210	723	1130	655	766	1110	934	744	720	711	958	744	610	678	1100	950	mg/L	TP	Phosphorus
	145	158	137	122	109	173	138	110	108	121	204	151	178	165	138	187	156	195	142	566	138	105	174	153	154	141	mg/L	×	Potassium
	2.54	2.27	2.88	3.7	2.15	2.14	2.93	0.28	2.76	N	2.43	2.14	2.21	1.68	1.74	1.78	1.93	2.55	1.98	2.13	1.77	1.65	1.7	1.76	2.35	2.03	%	TS	Kjeldahl-N Phosphorus Potassium Total Solids
	466	905	1130	17800	729	523	383	877	472	698	2240	434	272	1550	395	444	1360	1050	445	2860	433	2580	697	162	270	159	cfu/g		E-Coli
	61.7	61.6	60.5	50.4	61.6	62.8	61.9	65.9	61.6	61.9	64	64.5	64.3	63.8	64.8	62.5	60.8	58	63.7	56.1	64.1	66.7	65.3	65	64.9	63.0	%	VS	Volatile Solids



# Town of Collingwood Waste Water Treatment Plant

	Field	Year	Month	Day	Vol [m <sup>3</sup> ]	NH <sub>3</sub> [mg/L]	NH <sub>3</sub> [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 fo	r F1 -		(4 detail red	ords)		
			Sum		2,838.2				
			y for F1 - 2018 (4	1 detai		Г			
		Sum			2,838.2				
		y for F1 - F1 (	4 detail records	6)					
	Sum				2,838.2		****		
	for 22533F1	- (4 detail r	ecords)	Т					
Sum	and the second s				2,838.2				
23195	1765	2018	September	24	624.4				NLSTFC1
				25	717.8				NLSTFC1
			Summary fo	r 1765		ber, 2018 (2	detail reco	rds)	
			Sum		1,342.2		Online to the last of the last		
			y for 1765 - 2018	(2 de		s)			
		Sum			1,342.2				
	Summar	v for 1765 - 1	765 (2 detail rec	ords)					
		,		-		_			
	Sum				1,342.2				
Summary Sum	Sum	765 - (2 detai			1,342.2	[			
	Sum			01					NLSTFC3
Sum	Sum for 2319517	765 - (2 detai	I records)	01 02	1,342.2				NLSTFC3 NLSTFC3
Sum	Sum for 2319517	765 - (2 detai	I records)		1,342.2 1,143.0				
Sum	Sum for 2319517	765 - (2 detai	I records)	02	1,342.2 1,143.0 1,125.2				NLSTFC3
Sum	Sum for 2319517	765 - (2 detai	I records)	02	1,342.2 1,143.0 1,125.2 1,182.0				NLSTFC3
Sum	Sum for 2319517	765 - (2 detai	August Summary fo	02 03 06 07	1,342.2 1,143.0 1,125.2 1,182.0 694.0 506.4 August, 20		records)		NLSTFC3 NLSTFC3 NLSTFC3
Sum	Sum for 2319517	765 - (2 detai	August	02 03 06 07	1,342.2 1,143.0 1,125.2 1,182.0 694.0 506.4		records)		NLSTFC3 NLSTFC3 NLSTFC3
Sum	Sum for 2319517	2018 Summar	August Summary fo	02 03 06 07 or F1 -	1,342.2 1,143.0 1,125.2 1,182.0 694.0 506.4 August, 20 4,650.6		records)		NLSTFC3 NLSTFC3 NLSTFC3
Sum	Sum for 2319517	<b>2018</b>	August Summary for Sum	02 03 06 07 or F1 -	1,342.2 1,143.0 1,125.2 1,182.0 694.0 506.4 August, 20 4,650.6		records)		NLSTFC3 NLSTFC3 NLSTFC3
Sum	Sum for 2319517	2018 Summary	August Summary for Sum	02 03 06 07 or F1 -	1,342.2 1,143.0 1,125.2 1,182.0 694.0 506.4 August, 20 4,650.6		records)		NLSTFC3 NLSTFC3 NLSTFC3
Sum	Sum for 2319517	2018 Summary	August Summary for Sum	02 03 06 07 or F1 -	1,342.2 1,143.0 1,125.2 1,182.0 694.0 506.4 August, 20 4,650.6		records)		NLSTFC3 NLSTFC3 NLSTFC3
Sum	for 2319517	2018 Summary	August Summary for Sum	02 03 06 07 or F1 -	1,342.2 1,143.0 1,125.2 1,182.0 694.0 506.4 August, 20 4,650.6 Il records) 4,650.6	018 (5 detail	records)		NLSTFC3 NLSTFC3 NLSTFC3
23382	F1 Summary	Summary Sum	August Summary for Sum y for F1 - 2018 (5	02 03 06 07 or F1 -	1,342.2 1,143.0 1,125.2 1,182.0 694.0 506.4 August, 20 4,650.6 il records) 4,650.6	018 (5 detail	records)		NLSTFC3 NLSTFC3 NLSTFC3 NLSTFC3
23382	F1 Summary	Summary Sum	August Summary for Sum y for F1 - 2018 (5	02 03 06 07 or F1 -	1,342.2 1,143.0 1,125.2 1,182.0 694.0 506.4 August, 20 4,650.6 4,650.6	018 (5 detail	records)		NLSTFC3 NLSTFC3 NLSTFC3 NLSTFC3

Site	Field	Year	Month	Day	Vol [m <sup>3</sup> ] NH <sub>3</sub> [m	g/L] NH3[kg] TP [	mg/L] TP [kg] Origin
			Summary fo	r NF-1	1 - July, 2018 (4 de 4,636.2	etail records)	
		Summary Sum	for NF-1 - 2018	(4 de	tail records) 4,636.2		
		for NF-1 - N	F-1 (4 detail rec	ords)	4 000 0		
	Sum				4,636.2		
Summary Sum	for 23382NF	-1 - (9 detail	records)		9,286.8		
23408	WSSL	2018	September	20	1,353.4		NLSTFC
				21	730.0		NLSTFC
				24	1,198.4		NLSTFC
				25	945.6		NLSTFC
				26	442.0		NLSTFC
			Summary fo	r Wss	sl - September, 20	18 (5 detail records)	
			Sum		4,669.4		
		Summary	for Wssl - 2018	3 (5 de	etail records)		
		Sum			4,669.4		
	Summary	for Wssl - V	/ssl (5 detail re	cords)			
	Sum				4,669.4		
Summary Sum	for 23408Ws	ssl - (5 detai	l records)		4,669.4		
23435	NF-1	2018	August	15	340.8		NLSTFC
				16	870.0		NLSTFC
				20	1,215.4		NLSTFC
				23	982.4		NLSTFC
				24	1,184.4		NLSTFC
				27			INLOTT
				41	597.4		
			Summary fo		597.4 1 - August, 2018 (	6 detail records)	NLSTFC
			Summary fo	r NF-		6 detail records)	
		Summar		or NF-	1 - August, 2018 (6 5,190.4	6 detail records)	
		Summar	Sum	or NF-	1 - August, 2018 (6 5,190.4	6 detail records)	
	_	Sum	Sum	or NF-	1 - August, 2018 (6 5,190.4 etail records) 5,190.4	6 detail records)	
Summary	Sum	Sum for NF-1 - N	Sum y for NF-1 - 2018 F-1 (6 detail red	or NF-	1 - August, 2018 (c 5,190.4 etail records) 5,190.4	6 detail records)	
-	_	Sum for NF-1 - N	Sum y for NF-1 - 2018 F-1 (6 detail red	or NF-	1 - August, 2018 (6 5,190.4 etail records) 5,190.4	6 detail records)	
Sum	Sum	Sum for NF-1 - N	Sum y for NF-1 - 2018 F-1 (6 detail red	or NF-	1 - August, 2018 (c 5,190.4 etail records) 5,190.4 5,190.4	6 detail records)	NLSTFO
Sum	Sum for 23435NF	Sum for NF-1 - N	Sum y for NF-1 - 2018 F-1 (6 detail rec	3 (6 de	1 - August, 2018 (c 5,190.4 etail records) 5,190.4 5,190.4	6 detail records)	
Sum	Sum for 23435NF	Sum for NF-1 - N	Sum y for NF-1 - 2018 F-1 (6 detail rec	3 (6 de	1 - August, 2018 (15,190.4 etail records) 5,190.4 5,190.4 5,190.4 187.0 1,480.4	6 detail records)	NLSTFC  NLSTFC  NLSTFC
Sum	Sum for 23435NF	Sum for NF-1 - N	Sum y for NF-1 - 2018 F-1 (6 detail rec	16 17	1 - August, 2018 (c 5,190.4 etail records) 5,190.4 5,190.4 187.0 1,480.4 1,282.4	6 detail records)	NLSTFC  NLSTFC  NLSTFC  NLSTFC
Sum	Sum for 23435NF	Sum for NF-1 - N	Sum y for NF-1 - 2018 F-1 (6 detail rec	16 17 18	1 - August, 2018 (15,190.4 etail records) 5,190.4 5,190.4 187.0 1,480.4 1,282.4 316.0	6 detail records)	NLSTFC  NLSTFC  NLSTFC  NLSTFC
	Sum for 23435NF	Sum for NF-1 - N	Sum y for NF-1 - 2018 F-1 (6 detail records)  May	16 17 18 19 23	1 - August, 2018 (15,190.4 etail records) 5,190.4 5,190.4 187.0 1,480.4 1,282.4 316.0		NLSTFC  NLSTFC  NLSTFC  NLSTFC

THE RESERVE OF THE PERSON NAMED IN COLUMN 1	Field	Year	Month	Day	Vol [m <sup>3</sup> ] NH <sub>3</sub> [mg/L]	NH <sub>3</sub> [kg]	TP [mg/L]	TP [kg] Origin
			y for MF1 - 201	8 (5 det				
		Sum			4,269.8	EMPARENTE MANAGEMENT		
	Summar	y for MF1 - M	F1 (5 detail red	cords)				
	Sum				4,269.8			
Summary fo	or 23466M	F1 - (5 detail	records)					
Sum					4,269.8			
L1	PLT	2018	January	08	93.8			HSLP
			Summary	for PLT	- January, 2018 (1 deta	ail record)		
			Sum		93.8			
		Summar	y for PLT - 201	8 (1 det				
		Sum			93.8			
	Summar	y for PLT - Pl	LT (1 detail rec	ord)				
	Sum				93.8			
Summary f	or L1PLT -	(1 detail red	ord)					
Sum					93.8			
NFP	PLT	2018	October	16	298.2			HSLP
				17	121.4			HSLP
			Summary	for PLT	- October, 2018 (2 deta	ail records	)	
			Sum		419.6			
		Summar	y for PLT - 201	8 (2 det	ail records)			
		Summar Sum	y for PLT - 201	8 (2 det	ail records) 419.6			
	Summar	Sum						
	Summar Sum	Sum	y for PLT - 201 LT (2 detail rec					
Summary f	Sum	Sum y for PLT - P	LT (2 detail rec		419.6			
	Sum	Sum	LT (2 detail rec		419.6			
Sum	Sum for NFPPLT	Sum y for PLT - P	LT (2 detail rec		419.6		]	HSLP
Sum	Sum for NFPPLT	Sum y for PLT - P	LT (2 detail rec	ords)	419.6 419.6			HSLP HSLP
	Sum for NFPPLT	Sum y for PLT - P	LT (2 detail rec	(cords)	419.6 419.6 419.6			HSLP
Sum	Sum for NFPPLT	Sum y for PLT - P	LT (2 detail rec	02 03	419.6 419.6 419.6 78.4 99.4			
Sum	Sum for NFPPLT	Sum y for PLT - P	LT (2 detail rec	02 03 04	419.6 419.6 419.6 78.4 99.4 99.4			HSLP HSLP
Sum	Sum for NFPPLT	Sum y for PLT - P	LT (2 detail rec	02 03 04 05	419.6 419.6 419.6 78.4 99.4 99.4 36.4			HSLP HSLP
Sum	Sum for NFPPLT	Sum y for PLT - P	LT (2 detail rec	02 03 04 05 09	419.6 419.6 419.6 78.4 99.4 99.4 36.4 36.4			HSLP HSLP HSLP
Sum	Sum for NFPPLT	Sum y for PLT - P	LT (2 detail rec	02 03 04 05 09	419.6 419.6 78.4 99.4 99.4 36.4 36.4 126.0			HSLP HSLP HSLP HSLP
Sum	Sum for NFPPLT	Sum y for PLT - P	LT (2 detail rec	02 03 04 05 09 10	419.6 419.6 78.4 99.4 99.4 36.4 36.4 126.0 99.4			HSLP HSLP HSLP HSLP HSLP
Sum	Sum for NFPPLT	Sum y for PLT - P	LT (2 detail rec	02 03 04 05 09 10 11	419.6 419.6 78.4 99.4 99.4 36.4 36.4 126.0 99.4 63.0			HSLP HSLP HSLP HSLP HSLP HSLP
Sum	Sum for NFPPLT	Sum y for PLT - P	LT (2 detail rec	02 03 04 05 09 10 11 12	419.6  419.6  78.4  99.4  99.4  36.4  126.0  99.4  63.0  120.4			HSLP HSLP HSLP HSLP HSLP HSLP HSLP
Sum	Sum for NFPPLT	Sum y for PLT - P	LT (2 detail rec	02 03 04 05 09 10 11 12 15	419.6  419.6  78.4  99.4  99.4  36.4  36.4  126.0  99.4  63.0  120.4  271.6			HSLP HSLP HSLP HSLP HSLP HSLP HSLP HSLP
Sum	Sum for NFPPLT	Sum y for PLT - P	LT (2 detail rec	02 03 04 05 09 10 11 12 15 16	419.6  419.6  78.4  99.4  99.4  36.4  126.0  99.4  63.0  120.4  271.6  162.4			HSLP HSLP HSLP HSLP HSLP HSLP HSLP HSLP
Sum	Sum for NFPPLT	Sum y for PLT - P	LT (2 detail rec	02 03 04 05 09 10 11 12 15 16 17	419.6  419.6  78.4  99.4  99.4  36.4  126.0  99.4  63.0  120.4  271.6  162.4  126.0			HSLP HSLP HSLP HSLP HSLP HSLP HSLP HSLP
Sum	Sum for NFPPLT	Sum y for PLT - P	LT (2 detail rec	02 03 04 05 09 10 11 12 15 16 17 18	419.6  419.6  78.4  99.4  99.4  36.4  126.0  99.4  63.0  120.4  271.6  162.4  126.0  177.8			HSLP HSLP HSLP HSLP HSLP HSLP HSLP HSLP
Sum	Sum for NFPPLT	Sum y for PLT - P	LT (2 detail rec	02 03 04 05 09 10 11 12 15 16 17 18	419.6  419.6  78.4  99.4  99.4  36.4  126.0  99.4  63.0  120.4  271.6  162.4  126.0  177.8  78.4			HSLP HSLP HSLP HSLP HSLP HSLP HSLP HSLP

Site	Field	Year	Month	Day	Vol [m <sup>3</sup> ]	NH <sub>3</sub> [mg/L]	NH <sub>3</sub> [kg]	TP [mg/L]	TP [kg] Origin
NLSTF-C1	PLT	2018	January	29	177.8				HSLP
				30	198.8				HSLP
				31	193.2				HSLP
				for PLT		2018 (20 de	etail records	s)	
			Sum		2,427.6				
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
				for PLT		, 2018 (18 d	letail record	ds)	
			Sum		2,443.0				
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			1	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

Site	Field	Year	Month	Day	Vol [m <sup>3</sup> ] NH <sub>3</sub> [mg/L]	NH <sub>3</sub> [kg]	TP [mg/L]	TP [kg] Origin
NLSTF-C1	PLT	2018	March	27	21.0			HSLP
				r PLT	- March, 2018 (19 deta	il records)		
			Sum		2,421.0			
NLSTF-C1	PLT	2018	April	19	57.4			HSLP
	I.		Summary fo	r PLT	- April, 2018 (1 detail re	ecord)		
			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 fo	r PLT	- August, 2018 (20 deta	ail records	3)	
			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
					0.1.0			TICL D
				21	84.0			HSLP

Site	Field	Year	Month	Day	Vol [m <sup>3</sup> ]	NH <sub>3</sub> [mg/L]	NH <sub>3</sub> [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 fo	r PLT		er, 2018 (18	detail reco	ords)		
			Sum		2,052.2					
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		4			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 fo	or PLT	- October	2018 (18 de	etail record	s)		
			Sum		2,277.2					
NLSTF-C1	PLT	2018	November	05	21.0					HSLP
				06	135.8					HSLP
				08	78.4					HSLP
				09	162.4					HSLP
				13	114.8				, i , i , i , i , i , i , i , i , i , i	HSLP
				14	162.4	7				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						HSLP
				28	84.0					HSLP

Site	Field	Year	Month		Vol [m <sup>3</sup> ] NH				TP [kg] Origin
			Summary fo	r PLT	- November, 2,049.6	2018 (17 (	detail reco	rds)	
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 fo	r PLT	- December,	2018 (6 de	etail record	ds)	
			Sum		716.8				
		Summar	y for PLT - 2018	(137 c	letail records	)			
		Sum			16,797.4				
	Summar	v for PLT - Pl	LT (137 detail re	cords	)				MILES TO A CONTRACT OF THE STATE OF THE STAT
	Sum	,	(101 40441110		16,797.4				
Summary f	or NI STF-	C1PLT - (137	detail records)						
Sum		(101			16,797.4				
NLSTFC3	PLT	2018	March	28	120.4		WATER OF THE PARTY		HSLP
112011 00	121	2010	111111	29	120.4				HSLP
			Summary fo		- March, 201	8 (2 detail	records)		
			Sum		240.8		,		
NLSTFC3	PLT	2018	April	03	172.2		AND REAL PROPERTY OF THE PERSON NAMED IN		HSLP
			I	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					HSLP
				17					HSLP
				18					HSLP
				20					HSLP
				23					HSLP
				24					HSLP
				25					HSLP
				26					HSLP
				27					HSLP
				30					HSLP
			Summary fo		Γ - April, 2018	(19 detail	records)		11021
			Sum		1,920.4		,	] [	

Site	Field	Year	Month	Day	Vol [m <sup>3</sup> ]	NH <sub>3</sub> [mg/L]	NH <sub>3</sub> [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	<i>I</i> .			HSLP
				09	93.8				HSLP
				10	162.4				HSLP
				11	104.8				HSLP
				14	151.2				HSLP
				15	179.0	12			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
					1 to 1 to 1 to 1				
				31	120.4				HSLP
			Summary Sum			8 (21 detail	records)		HSLP
ILSTFC3	PLT	2018			- May, 201	8 (21 detail	records)		HSLP
ILSTFC3	PLT	2018	Sum	for PLT	- May, 201 2,709.8	8 (21 detail	records)		
ILSTFC3	PLT	2018	Sum	for PLT	- May, 201 2,709.8	8 (21 detail	records)		HSLP
ILSTFC3	PLT	2018	Sum	01 04	- May, 201 2,709.8 84.0 93.8	8 (21 detail	records)		HSLP HSLP
ILSTFC3	PLT	2018	Sum	01 04 05	84.0 93.8	8 (21 detail	records)		HSLP HSLP HSLP
ILSTFC3	PLT	2018	Sum	01 04 05 06	- May, 201 2,709.8 84.0 93.8 93.8	8 (21 detail	records)		HSLP HSLP HSLP
ILSTFC3	PLT	2018	Sum	01 04 05 06 07	84.0 93.8 93.8 177.8	8 (21 detail	records)		HSLP HSLP HSLP HSLP
ILSTFC3	PLT	2018	Sum	01 04 05 06 07 08	84.0 93.8 93.8 177.8 193.2	8 (21 detail	records)		HSLP HSLP HSLP HSLP HSLP
ILSTFC3	PLT	2018	Sum	01 04 05 06 07 08	84.0 93.8 93.8 177.8 193.2 141.4	8 (21 detail	records)		HSLP HSLP HSLP HSLP HSLP HSLP
LSTFC3	PLT	2018	Sum	01 04 05 06 07 08 11	84.0 93.8 93.8 177.8 193.2 141.4 99.4 68.4	8 (21 detail	records)		HSLP HSLP HSLP HSLP HSLP HSLP HSLP
ILSTFC3	PLT	2018	Sum	01 04 05 06 07 08 11 12 13	84.0 93.8 93.8 177.8 193.2 141.4 99.4 68.4	8 (21 detail	records)		HSLP HSLP HSLP HSLP HSLP HSLP HSLP HSLP
LSTFC3	PLT	2018	Sum	01 04 05 06 07 08 11 12 13	84.0 93.8 93.8 177.8 193.2 141.4 99.4 68.4 57.4	8 (21 detail	records)		HSLP HSLP HSLP HSLP HSLP HSLP HSLP HSLP
ILSTFC3	PLT	2018	Sum	01 04 05 06 07 08 11 12 13 15	84.0 93.8 93.8 177.8 193.2 141.4 99.4 68.4 57.4 36.4	8 (21 detail	records)		HSLP HSLP HSLP HSLP HSLP HSLP HSLP HSLP
ILSTFC3	PLT	2018	Sum	01 04 05 06 07 08 11 12 13 15 18	84.0 93.8 93.8 177.8 193.2 141.4 99.4 68.4 57.4 36.4 146.8	8 (21 detail	records)		HSLP HSLP HSLP HSLP HSLP HSLP HSLP HSLP
ILSTFC3	PLT	2018	Sum	01 04 05 06 07 08 11 12 13 15 18	84.0 93.8 93.8 177.8 193.2 141.4 99.4 68.4 57.4 36.4 146.8 198.8	8 (21 detail	records)		HSLP HSLP HSLP HSLP HSLP HSLP HSLP HSLP
ILSTFC3	PLT	2018	Sum	01 04 05 06 07 08 11 12 13 15 18 19 20	84.0 93.8 93.8 177.8 193.2 141.4 99.4 68.4 57.4 36.4 146.8 198.8 105.0 42.0	8 (21 detail	records)		HSLP HSLP HSLP HSLP HSLP HSLP HSLP HSLP
ILSTFC3	PLT	2018	Sum	11 12 13 15 18 19 20 21 22	84.0 93.8 93.8 177.8 193.2 141.4 99.4 68.4 57.4 36.4 146.8 105.0 42.0 84.0	8 (21 detail	records)		HSLP HSLP HSLP HSLP HSLP HSLP HSLP HSLP
NLSTFC3	PLT	2018	Sum	11 12 13 15 18 19 20 21 25	84.0 93.8 93.8 177.8 193.2 141.4 99.4 68.4 57.4 36.4 146.8 105.0 42.0 84.0	8 (21 detail	records)		HSLP HSLP HSLP HSLP HSLP HSLP HSLP HSLP
NLSTFC3	PLT	2018	Sum	11 12 13 15 18 19 20 21 22 25 26	84.0 93.8 93.8 177.8 193.2 141.4 99.4 68.4 57.4 36.4 146.8 105.0 42.0 84.0 219.8 120.4	8 (21 detail	records)		HSLP HSLP HSLP HSLP HSLP HSLP HSLP HSLP

Site	Field	Year	Month	Day	Vol [m <sup>3</sup> ] NH <sub>3</sub> [mg/L]	NH <sub>3</sub> [kg]	TP [mg/L]	TP [kg] Origin
				r 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 fo	r PLT	- July, 2018 (19 detail	records)		
			Sum		2,238.2			
NLSTFC3	PLT	2018	August	01	42.0			HSLP
				02	72.8			HSLP
			Summary fo	r PLT	- August, 2018 (2 deta	il 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		- December, 2018 (12	detail reco	ords)	
			Sum		1,461.4		] [	

Site	Field	Year	Month	Day	Vol [m <sup>3</sup> ] NH <sub>3</sub> [mg/L]	NH <sub>3</sub> [kg]	TP [mg/L]	TP [kg] Origin	
		Summar	y for PLT - 201	8 (95 deta	ail records)				
		Sum		1	0,999.0				
	Summar	y for PLT - PI	_T (95 detail re	ecords)					
	Sum			1	0,999.0				
Summa	ry for NLSTFO	3PLT - (95 c	letail records)						
Sum				1	0,999.0				
Grand	Total (all fie	elds)			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 Verificator. I can come back later when my Verificator 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

o. Donic

Vic Nowik

# Calibration Report for Collingwood WWTP 2018

51 Fourth St. Angus, ON LOM 1B3 Tel: (705) 440-7331

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

Input			Output	(Signal)	(Process)	
Туре:	SIMULATOR %	L/S	Type or EGU:	mA	L/S	
Min:	0.00	0.00	Min:	4.00	0.00	
Max:	100.00	450.00	Max:	20.00	450.00	
Meter Size (mm)	415					
Range Unit	L/S					
Cal. Factor	0.9521					
			Before Ca	alibration	After Ca	alibration
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							
Туре:	Output Simulation	DMM	Calibration performed as per					
Manufacturer:	Endress & Hauser	Fluke Processmeter	manufacturers recommended					
Model:		789	procedure.					
Serial No.:		25430033	Calibration Passed					
Last Cal. Date:		Sept. 2017	O. Donic					

**Comments:** 

MC 4586 AC0093

# Calibration Report for Collingwood WWTP 2018

51 Fourth St. Angus, ON LOM 1B3 Tel: (705) 440-7331

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

Input			Output	(Signal)	(Process)	
Type:	SIMULATOR %	L/S	Type or EGU:	mA	L/S	
Min:	0.00	0.00	Min:	4.00	0.00	
Max:	100.00	450.00	Max:	20.00	450.00	
Meter Size (mm)	400					
Range Unit	L/S					
Cal. Factor	1.0776					
			Before Ca	alibration	After Ca	alibration
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
Manufacturer:	ENDRESS & HAUSER	Fluke Processmeter	manufacturers recommended
Model:	ZX6000	789	procedure.
Serial No.:	402467	25430033	Calibration Passed
Last Cal. Date:	NA	Sept. 2017	Co know - c
			0.10000

**Comments:** 

## Calibration Report for Collingwood WWTP 2018

51 Fourth St. Angus, ON L0M 1B3 Tel: (705) 440-7331

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

Input Output (Signal) (Process) SIMULATOR % Type or EGU: mΑ L/sec Type: Min: 0.00 Min: 4.00 0.00 100.00 20.00 17.33 Max: Max: Meter Size (mm) 100 Range Unit L/S Cal. Factor 1.017 **Before Calibration After Calibration** Cal. Input (%) Calc. O/P (mA) Input % 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 19.90 0.63% 0.63%

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

**Comments:** 

## Calibration Report for Collingwood WWTP 2018

51 Fourth St. Angus, ON LOM 1B3 Tel: (705) 440-7331

Location Collingwood WWTP Manufacturer Endress & Hauser

Process TWAS Model: 50W1H-VLOB1RC1B2AA

Calibration Date: June 12 2018
Technician V.Nowik Serial # AC013A16000
Tag: TWAS-FIT-1

#### See Following pages for E&H Fieldcheck Verificator Report

		C	alibration Equipment	
Туре:	FieldCheck	Simubox		Calibration performed as per
Manufacturer:	Endress&Hauser	Endress&Hauser		manufacturers recommended
Model:	73991	8737370		procedure.
Serial No.:	V2.02.00	1.00.01		Calibration postponed
Last Cal. Date:	Aug. 2017	Aug. 2017		a kron - c
				o. ware

**Comments:** 

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

# Calibration Report for Collingwood WWTP 2018

51 Fourth St. Angus, ON LOM 1B3 Tel: (705) 440-7331

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

Input			Output	(Signal)	(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				
Manufacturer:	Miltronics	Fluke Processmeter	manufacturers recommended				
Model:		789	procedure.				
Serial No.:		25430033	Calibration Passed				
Last Cal. Date:		Sept. 2017	O. Donic				

**Comments:** 

# Appendix D Bypass and Spills Report

Pumping Station and Plant Bypass Monthly Summary								
Month	Primary Bypass			Secondary Bypass				
	# of Days	Duration	Volume (1,000m <sup>3</sup> )	# 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 6<sup>th</sup>, 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 24<sup>th</sup> E-coli result (230), checked and cleaned system.

November 6<sup>th</sup> - Received October 31<sup>st</sup> 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 15<sup>th</sup> - Received E-coli result for November 7<sup>th</sup>,(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 20<sup>th</sup>, Ecoli 5700, increase chlorination by adding a third feed location checking and finding no residual at final effluent weir.

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

December 7<sup>th</sup> -Received December 5<sup>th</sup> result, (120).

Ongoing -Maintaining chlorination levels and checking for residual daily.

E-coli levels have been in compliance since the December 5<sup>th</sup> 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