



Ontario Clean Water Agency
Agence Ontarienne Des Eaux

Ontario Clean Water Agency
5 Industrial Dr.
Chesterville ON
K0C 1H0
Phone: 613-448-3098
Fax: 613-448-1616

March 10, 2017

Ministry of the Environment & Climate Change
Kingston Office
1259 Gardiners Rd.
Kingston, Ontario
K7M 8S5

Attention: Lyn Garrah, Water Supervisor

Dear Ms. Garrah,

SUBJECT: Crysler Wastewater Treatment System 2016 Annual Report

Please find enclosed the 2016 Annual Performance Report for Chrysler's Wastewater Treatment System. This report was completed in accordance with Condition 10 (5) of Environmental Compliance Approval No. 9170-9PXLXZ issued November 19, 2014. The report was prepared by the Ontario Clean Water Agency on behalf of the Township of North Stormont, based on the information we have in our records. The report covers the period from January 1, 2016 to December 31, 2016.

Should you require any further information in relation to this report, please do not hesitate to contact our office.

Yours truly,

A handwritten signature in black ink that reads "Dawn Crump".

Dawn Crump
Process & Compliance Technician
Ontario Clean Water Agency
Seaway Valley Cluster

c.c. Marc Chenier, C.A.O./Clerk, Township of North Stormont

Crysler Wastewater Treatment Facility 2016 Annual Performance Report

A regional sewage forcemain was constructed in the Township of North Stormont from the Village of Finch to the Village of Chrysler's sewage collection and treatment system in the year 2000. The construction was completed in accordance with Certificate of Approval No. 3-0515-99-006. In December of 2012, a contract to begin an Environmental Assessment was awarded to RV Anderson and Associates. The EA was completed in 2013 and has provided a Master Plan approach for future residential development within the Chrysler and Finch sewage catchment area.

The following report outlines the requirements of Section 10 (5) of Certificate of Approval #9170-9PXLXZ for the Chrysler Sewage Works, issued November 19, 2014.

10 (5) The Owner shall prepare and submit to the Water Supervisor a performance report, on an annual basis, within ninety (90) days following the end of the period being reported upon. The first such report shall cover the first annual period following the commencement of operation of the Works and subsequent reports shall be submitted to cover successive annual periods following thereafter. The reports shall contain, but shall not be limited to, the following information:

(a) a summary and interpretation of all monitoring data and a comparison to the effluent limits outlined in Condition 6, including an overview of the success and adequacy of the Works;

The hydraulic flows reaching the Sewage Lagoons during 2016 were an average of 514 m³/day which is approximately 46% of the 1,118 m³/day Design Capacity. Please see the attached 2016 Performance Assessment Report for detailed flow information.

The total volume of the spring discharge was 203,083 m³. There were no exceedances of the effluent limits prescribed in Table 3 under Condition 6 of the ECA. The seasonal average concentration of CBOD₅ was 5.0 mg/L, which was less than the limit of 30 mg/L; the concentration of Suspended Solids was 15.0 mg/L, which was less than the limit of 30 mg/L; the concentration of Total Phosphorus was 0.28 mg/L, which was less than the limit of 1.0 mg/L; the concentration of Ammonia + Ammonium was 1.6 mg/L which was less than the limit of 20.0 mg/L; and the concentration of hydrogen sulphide was 0.012 mg/L, which was less than the limit of 0.26 mg/L. Correspondingly, none of the seasonal waste loadings specified in Table 3 were exceeded during the 2016 discharge. Please see the attached lagoon Performance Assessment Report for detailed information.

b) A description of any operating problems encountered and corrective actions taken;

None to report.

c) a summary of all maintenance carried out on any major structure, equipment, apparatus, mechanism or thing forming part of the Works;

- performed routine sewer main flushing and wet well cleaning
- repaired/upgraded man holes

Other scheduled maintenance of the facility was performed as part of OCWA's Computerized Maintenance Management System.

d) a summary of any effluent quality assurance or control measures undertaken in the reporting period;

Operational Measures: Prior to lagoon discharges, OCWA collects samples from the lagoon cell(s) to be discharged in attempt to ensure compliance with effluent parameters.

Use of Accredited Labs: Analytical tests to monitor wastewater quality are conducted by a laboratory accredited by the Canadian Association Laboratory Accreditation (CALA). Accreditation ensures that the laboratory has acceptable laboratory protocols and test methods in place. It also requires the laboratory to provide evidence and assurances of the proficiency of the analysts performing the test methods.

Operation by Licensed Operators: The facility is operated and maintained by the Ontario Clean Water Agency's competent and licensed staff.

Quality Assurance/Quality Control: OCWA utilizes a Quality Environmental Management System (QEMS) which helps ensure facilities are being operated in an efficient, safe and environmentally responsible manner and includes programs for identifying and mitigating risks. The QEMS system is based on international standards of excellence for Quality Management Systems (ISO 9001) and Environmental Management Systems (ISO 14001).

e) a summary of the calibration and maintenance carried out on all effluent monitoring equipment;

A copy of the effluent flow meter calibration certificate for 2016 is attached.

f) a description of efforts made and results achieved in meeting the Effluent Objectives of Condition 5;

There were no exceedances of the effluent objectives in 2016.

- g) a tabulation of the volume of sludge generated in the reporting period, an outline of anticipated volumes to be generated in the next reporting period and a summary of the locations where the sludge was disposed;***

Periodic measurement of sludge depth on lagoon bottoms has confirmed no appreciable accumulation.

- h) a summary of any complaints received during the reporting period and any steps taken to address the complaints;***

None to report.

- i) a summary of all By-pass, spill or abnormal discharge events;***

There were no By-passes, spills or other abnormal discharge events during the reporting period.

- j) a copy of all Notice of Modifications submitted to the Water Supervisor as a result of Schedule 'A'. Section 1, with a status report on the implementation of each modification;***

None to report.

- k) A report summarizing All modifications completed as a result of Schedule 'A', Section 3;***

None to report.

- l) any other information the Water Supervisor may require from time to time.***

Not applicable.

ONTARIO CLEAN WATER AGENCY SEWAGE PERFORMANCE ASSESSMENT REPORT

MUNICIPALITY: TOWNSHIP OF NORTH STORMONT
PROJECT: CRYSLER/FINCH LAGOON SYSTEM
PROJECT NUM.: 6053
WORKS NUM.: 110002960

YEAR: 2016
WATER COURSE: SOUTH NATION RIVER
DESIGN CAPACITY: 1.118 x 1000 m³/d

DESCRIPTION: A SINGLE SEWAGE PUMPING STATION EQUIPPED WITH A STANDBY POWER DIESEL GENERATOR SET AND TWO FACULTATIVE LAGOONS HAVING A TOTAL OPERATING VOLUME OF 149,600 m³ AND A POST AERATION CELL HAVING AN OPERATING CAPACITY OF 148,000 m³

MONTH	FLOWS			EFFLUENT		BIOCHEMICAL O ₂ DEMAND			SUSPENDED SOLIDS			PHOSPHORUS			TKN
	TOTAL FLOW (m ³)	AVG DAY FLOW (m ³)	MAX DAY FLOW (m ³)	EFFLUENT FLOW (m ³)	DISCHARGE DURATION (days)	AVG RAW BOD (mg/L)	AVG EFF CBOD (mg/L)	PERCENT REMOVAL (%)	AVG RAW SS (mg/L)	AVG EFF SS (mg/L)	PERCENT REMOVAL (%)	AVG RAW PHOS. (mg/L)	AVG EFF PHOS. (mg/L)	PERCENT REMOVAL (%)	AVG RAW TKN (mg/L)
JAN	17,230	556	870			45			69			2.09			11.2
FEB	17,770	613	1,080			34			52			2.51			17.5
MAR	25,570	825	1,260			102			320			4.28			17.8
APR	19,610	654	1,070	203,083	21	60	5.0		85	15.0		3.3	0.30		33.2
MAY	12,940	417	520			138			254			4.10			46.7
JUN	10,740	358	510			127			124			5.26			55.2
JUL	11,020	355	460			100			336			7.15			61.5
AUG	12,770	412	650			132			204			5.22			51.0
SEPT	11,020	367	460			78			163			4.55			27.5
OCT	15,160	489	1,070			114			167			7.34			66.3
NOV	15,630	521	650			104			196			4.41			62.5
DEC	18,710	604	990			73			99			2.01			23.5
TOTAL	188,170		SPRING	203,083	21										
TOTAL			FALL	0	0										
AVG		514				92	5.0	94.6	172	15.0	91.3	4.35	0.30	93.1	39.5
MAX			1,260						336			7.34			
CRITERIA		1,118	SPRING	295,650			30			30			1		
CRITERIA			FALL	112,420			15			25			0.5		

COMPLIANCE	YES	SPRING	YES			YES			YES			YES			
COMPLIANCE		FALL	N/A			N/A			N/A			N/A			

	SPRING			FALL		
	Actual	Criteria	Compliance	Actual	Criteria	Compliance
START DATE	Apr. 5	Mar. 15	YES	N/A	Nov. 4	N/A
END DATE	Apr. 25	Apr. 30	YES	N/A	Dec. 17	N/A

COMMENTS: PERCENT REMOVAL BASED ON 12 MONTHS OF RAW SEWAGE GRAB SAMPLES

ONTARIO CLEAN WATER AGENCY SEWAGE PERFORMANCE ASSESSMENT REPORT

MUNICIPALITY: TOWNSHIP OF NORTH STORMONT
PROJECT: CRYSLER/FINCH LAGOON SYSTEM

YEAR: 2016
WATER COURSE: SOUTH NATION RIVER
DESIGN CAPACITY: 1.118 x 1000 m³/d

PROJECT NUM.: 6053
DESCRIPTION: TWO FACULTATIVE LAGOON CELLS HAVING A TOTAL OPERATING VOLUME OF 149,600 m³ AND POST AERATION HAVING AN OPERATING CAPACITY OF 148,000 m³

	SAMPLE RESULTS	SPRING							203,083 m ³	
		Date	16-Mar*	05-Apr	11-Apr	14-Apr	19-Apr	25-Apr	Average	ECA Objective
Samples Collected at Start, 25%, 50%, 75% and End of the Discharge Period	CBOD (mg/L)	3	2	3	5	7	8	5.0	30	30
	SS (mg/L)	<2	4	6	10	29	26	15.0	30	30
	TP (mg/L)	0.29	0.33	0.30	0.29	0.26	0.24	0.28	1.0	1.0
	NH ₃ (mg/L)	2.28	0.15	2.80	2.96	1.34	0.83	1.6	6.0	20
	S2- (mg/L)	<0.002	0.01	0.01	0.01	<0.002	0.03	0.012	ND	0.26
	TKN (mg/L)	4.52	3.27	4.70	4.80	3.94	6.1			
	NO ₂ (mg/L)	-	<0.10	<0.10	<0.10	<0.10	<0.10			
	NO ₃ (mg/L)	-	0.15	0.20	0.41	0.84	0.86			
	pH (on site)	-	8.02	8.56	8.10	8.16	8.13			
	Temp (on site)	-	6.80	7.10	10.90	11.90	12.1			
	Conductivity (on site)	-	1000	1000	1000	950	950			
	<i>E.coli</i> (cfu/100mL)	<10	<10	<10	<10	<10	<10			

* Pre-discharge sample results, not included in average/stream loading calculations

	TOTAL LOADING	C OF A LIMIT
BOD (kg)	1015	8870
SS (kg)	3046	8870
TP (kg)	58	296
NH ₃ (kg)	328	5930
H ₂ S (kg)	2.4	77

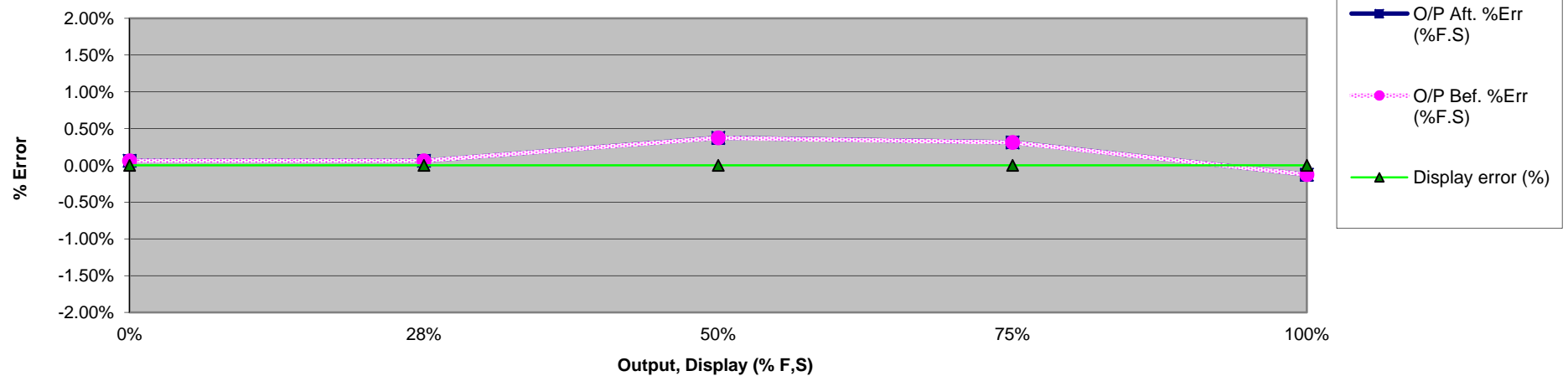
Effluent Flow	DATE	05-Apr	06-Apr	07-Apr	08-Apr	09-Apr	10-Apr	11-Apr	12-Apr	13-Apr	14-Apr	15-Apr
	Flow (m ³ /d)	2098	9,573	14,722	14,494	14494	14494	12,176	7,874	5890	6721	7847
	DATE	16-Apr	17-Apr	18-Apr	19-Apr	20-Apr	21-Apr	22-Apr	23-Apr	24-Apr	25-Apr	
	Flow (m ³ /d)	8143	8,143	11,307	12,738	11005	9985.5	8,965	8,965	8965	4483	

Calibration / Inspection Check

Project: <u>CRYSLER WWTP</u>	Description: <u>METER FLOW EFFLUENT</u>	Technician: <u>Tom K</u>
Equipment ID: <u>0000170829</u>	Make: <u>MILL</u>	Signature: _____
Model#: <u>OCM III</u>	Type: <u>MAG</u>	
Serial#: _____	Project Org.: <u>6053</u>	Date: <u>05/11/2016</u>
Palmer: <u>Bolws</u>	Work Order Ref.: _____	
Size: <u>27"</u>	Range: <u>0-373.7 l/sec</u>	
Customer FS: <u>373</u> liter/s	98.55usg Calibrated Head: <u>49.00 cm</u>	

No.	V. Setting (m/sec)	P(psi)	Head (cm)	Head (m/w.c)	Flow (l/sec)	USGPS	Display Before	Display After	Display error (%)	O/P. Theo (mAdc)	O/P. Before CAL.(mAdc)	O/P. After CAL.(mAdc)	O/P Bef. %Err (%F.S)	O/P Aft. %Err (%F.S)
1			0.00		0.00					4.00	4.01	4.01	0.06%	0.06%
2			25.43		106.50					8.55	8.56	8.56	0.06%	0.06%
3			34.26		188.40					12.06	12.12	12.12	0.37%	0.37%
4			42.19		279.70					15.97	16.02	16.02	0.31%	0.31%
5			68.58		385.10					20.03	20.01	20.01	-0.12%	-0.12%

Calibration Characteristic



Comment: