



Ontario Clean Water Agency
Agence Ontarienne Des Eaux

Fort Frances WPCP
200 McIrvine Rd
PO Box 712
Fort Frances, Ontario
P9A 3N1
Tel: 807-274-3121
Fax: 807-274-8381



December 7, 2013

Town of Fort Frances
320 Portage Avenue
Fort Frances Ontario
P9A 3M5

Attention: Mr. Doug Herr
Environmental and Facilities Superintendent

Dear Doug:

**Re: Fort Frances Wastewater Treatment Facility
November 2013 Monthly Report**

As per the operating agreement, the attached document is the November 2013 monthly report for the Fort Frances Wastewater Treatment Facility.

The report highlights the influent and effluent quality and the process parameters. Additionally, the routine operation and maintenance activities conducted by the operators are summarized.

If you have any questions regarding this report do not hesitate to contact Mr. Larry Wachter – Operations Manager.

Yours truly,

Kelly Cunningham
Senior Operator

For Larry Wachter
Operations Manager

**The Corporation of the Town of Fort Frances
Wastewater Treatment Plant
(Sewage Plant)
November 2013 Monthly Operations Report**

INTRODUCTION

In accordance with the Agreement between the Ontario Clean Water Agency (Operating Authority) and the Town of Fort Frances, the Fort Frances Sewage Treatment Plant is required to prepare a monthly report. This document covers the reporting month of November 2013; the facility performance report summarizes important information regarding the quality of the effluent, wastewater, analytical test results, maintenance operations, and relevant activities of the WWTP.

DESCRIPTION OF WORKS

Capacity of Works	9000 m ³ /day (average flow)
Service Area	Town of Fort Frances and Couchiching Reserve
Service Population	9000
Effluent Receiver	Rainy River
Major Process	Secondary treatment facility complete with a phosphorus removal system; ultra violet disinfection; aerobic sludge stabilization and dewatering

The Fort Frances Sewage Treatment Plant received and operates its operation under *Certificate of Approval Number 3-0049-96-006*, in accordance with Section 53 of the Ontario Water Resources Act. The Certificate of Approval outlines the terms and conditions and the report captures these terms and conditions in the following sections.

LABORATORY

ALS Laboratory Group – Thunder Bay is contracted to conduct the required analytical tests of the influent (raw) and effluent samples; weekly requirement.

NOVEMBER 2013 EFFLUENT QUALITY

<i>Parameters</i>	<i>Monthly Actual Concentration mg/L</i>	<i>Compliance Criteria Concentration mg/L</i>	<i>Performance Objective Concentration mg/L</i>	<i>Monthly Actual Loading, kg/d</i>	<i>Compliance Criteria Loading kg/d</i>	<i>Performance Objective Loading kg/d</i>
CBOD ₅	2.9 mg/L	25 mg/L	15 mg/L	16.0 kg/d	225 kg/d	135 kg/d
Suspended Solids	4.6 mg/L	25 mg/L	15 mg/L	25.7 kg/d	225 kg/d	135 kg/d
Total Phosphorus	0.18 mg/L	1.0 mg/L	1.0 mg/L	1.0 kg/d	9 kg/d	9 kg/d
Ammonia as N	0.08 mg/L					
Nitrite as N	0.06 mg/L					
Nitrate as N	6.57 mg/L					
Total Cl ₂ Residual		<0.01 mg/L (when in use)				
E-Coli		16.5 count/100 ml (geometric mean)		200 count/100ml (geometric mean)		E-coli not to exceed 150 organisms/100ml (monthly geometric mean density)
pH			pH range 7.4 to 7.9; average pH was 7.6			
Temperature degrees C			Temperatures ranged from 12.0 - 15.0 average temperature of effluent at 13.5			

Compliance criteria are mandatory requirements of the C of A and performance objectives are a goal to be achieved using best reasonable efforts.

WASTEWATER LIQUID PROCESS

The average daily flow for November was 5524.0 m³/day; representing 61% of the design average flow. Total treated flow for the month was 165,721 m³.

The Fort Frances WWTP met all effluent compliance criteria for the parameters listed above and additionally was well within the recommended more stringent monthly performance objective levels as outlined in the Certificate of Approval.

INVENTORY

Chemical	End of Month Status	Units
Hypochlorite	380 +/- @ 7.0% + 200 @ 12%	Litres
Alum	10.2 +/- @ 65 %	Cubic meters
Polymer	11 Bags (275 kg)	Bags (25 kg/bag)

MAINTENANCE

The operators performed the routine operations and maintenance at the treatment plant and pumping stations. The activities are highlighted as follows:

Treatment Plant:

- Alternated lead/lag pumps
- Adjusted fluidizing water to head cell and grit snail as needed
- Greased GBT, mechanical bar screen and grit snail. Lubricated drive chain on grit snail and bar screen
- Hot water flushed alum lines
- Regular cleaning of head works EW basket strainer
- Exercised portable generators
- Greased all blowers
- Regular cleaning of seal water strainer TFP 9-5
- Changed air filters blowers 2 and 5
- Purged pod digester
- Removed debris from Teacup
- Calibrated both automatic samplers
- Installed snow blower and tire chains on John Deere tractor
- Pumped sump digester valve chamber
- Prydes Plumbing and Heating was here for boiler inspection and low flow fault

Pump Stations:

- Ran gen sets
- Changed seal water strainers
- Cleaned bar screens
- Exercised all isolation valves in the White Pine lift station dry well

OPERATIONAL ISSUES

The facility met all operational requirements for the month.

SLUDGE SUMMARY

The volume directed to the gravity belt thickener totaled 929.3 m³ for the month. Hammond Landscaping (Certificate of Approval Hauler # 11000025801) hauled/transported 142.6 m³ (average 11.0 m³/load) to the agricultural drying bed.

The Organic Soil Conditioning site has a valid Certificate of Approval - number S-71048-31.

COMPLAINTS

There were no complaints during the report period.

BY-PASS REPORT(S)

There were no by-pass events in the report period.

COMMENTS

Plant power consumption for the month was 595 (x 180 multiplier) kWh.

There was an ESA inspection at the WWTP with no issues reported.

Town of Fort Frances staff tested 2 backflow prevention devices on the potable water.

The additional effluent testing that is required as of January 1, 2013 to meet the requirements of the Wastewater Systems Effluent Regulations is now a part of our regular sampling regimen.

REPORTS

ALS – Environmental Analytical Reports (on-file at plant)

Fort Frances WPCP Equipment Run Time Report (on-file at plant)

Bypass Report (on-file at plant as per occurrence)

Month	Sewage Flows Year 2013					Usage % Plant Capacity	Sludge Volume Hauled M3	Removal Efficiency	
	Avg. Day Flow m3	Max Day Flow m3	Total Treated Volume ML	Total ByPass Volume ML	Total Volume ML			CBOD5	
								Suspended Solids	Total Phosphorus
January	4781.7	5473	148234		148234	53%	203.6		
February	4686.2	5427	131213		131213	52%	183.5		
March	4576.3	5880	141866		141866	51%	191.0		
April	6452.2	12672	193567		193567	72%	250.1		
May	11001.0	21372	341032	4640.3	345672.3	122%	233.2		
June	7561.8	10741	226855		226855	84%	193.1		
July	7580.9	17259	235007	266.2	235273.2	84%	205.5		
August	6704.9	7822	207852		207852	74%	180.5		
September	6215.0	6991	186449		186449	69%	241.9		
October	5614.8	6134	174058		174058	62%	231.2		
November	5524.0	5973	165721		165721	61%	142.6		
December						0%			
Sum				4906.5	2156760.5		2265.2		
Average	6427		195623		196069	72%	205.9		
Max		21372	341032		345672.3				
C of A	9000	18000							

Month	CBOD5				Suspended Solids				Total Phosphorus				E. Coli		pH	
	Avg Raw CBOD (mg/L)	Avg. Eff. CBOD (mg/L)	Avg. Load CBOD (kg/day)	Avg Raw S.S (mg/L)	Avg. Eff. S.S (mg/L)	Avg. Load S.S (kg/day)	Avg Raw T.P (mg/L)	Avg. Eff. T.P (mg/L)	Avg. Load T.P (kg/day)	Geo Mean Counts /100ml	Monthly Minimum	Monthly Maximum				
January	78.5	2.1	10.0	125.0	4.2	20.3	2.6	0.26	1.23	5.1	7.4	7.7				
February	93.3	2.5	12.0	166.0	6.7	31.8	3.0	0.27	1.30	7.8	7.3	7.6				
March	70.7	3.4	15.1	139.9	5.8	26.7	2.7	0.31	1.41	4.4	7.3	7.6				
April	53.6	2.7	19.2	143.3	10.2	82.2	2.1	0.30	2.30	22.9	7.4	7.8				
May	23.3	2.2	26.8	65.4	8.9	115.1	1.0	0.30	3.76	16.6	7.6	7.7				
June	47.4	3.1	23.3	118.3	8.0	80.8	1.4	0.21	1.60	6.4	7.5	8.0				
July	41.5	2.0	14.1	172.7	8.4	74.8	1.7	0.24	2.00	3.5	7.7	8.1				
August	57.5	2.1	13.7	127.6	2.8	18.4	1.7	0.19	1.24	2.7	7.5	7.8				
September	67.3	2.3	14.6	147.4	5.6	35.9	1.8	0.29	1.79	6.0	7.4	7.8				
October	73.4	2.4	13.2	159.2	4.7	26.4	2.3	0.24	1.36	11.3	7.5	7.9				
November	73.8	2.9	16.0	147.2	4.6	25.7	2	0.18	1.0	16.5	7.4	7.9				
December																
Average	61.8	2.5	16.2	137.5	6.4	48.9	2.0	0.25	1.73	9.4	7.5	7.8				
Max	93.3	3.4	26.8	172.7	10.2	115.1	3	0.31	3.76	22.9	7.7	8.1				
C of A		25	225		25	225		1	9	150	6.0	9.5				