



**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

November 15, 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**  
**October 2013 Monthly Report**

As per the operating agreement, the attached document is the October 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,

A handwritten signature in blue ink, appearing to read 'Kelly C.'.

Kelly Cunningham  
Senior Operator

For Larry Wachter  
Operations Manager

**The Corporation of the Town of Fort Frances  
Wastewater Treatment Plant  
(Sewage Plant)  
October 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 October 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 <sup>3</sup> /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.

## OCTOBER 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 <sub>5</sub>	2.4 mg/L	25 mg/L	15 mg/L	13.2 kg/d	225 kg/d	135 kg/d
Suspended Solids	4.7 mg/L	25 mg/L	15 mg/L	26.4 kg/d	225 kg/d	135 kg/d
Total Phosphorus	0.24 mg/L	1.0 mg/L	1.0 mg/L	1.4 kg/d	9 kg/d	9 kg/d
Ammonia as N	0.50 mg/L					
Nitrite as N	0.05 mg/L					
Nitrate as N	6.41 mg/L					
Total Cl <sub>2</sub> Residual		<0.01 mg/L (when in use)				
E-Coli		11.3 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 7.5 to 7.9; average pH was 7.6		
Temperature degrees C				Temperatures ranged from 15.0 - 17.0 average temperature of effluent at 16.0		

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 October was 5614.8 m<sup>3</sup>/day; representing 62% of the design average flow. Total treated flow for the month was 174,058 m<sup>3</sup>.

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	400 +/- @ 7.0% + 200 @ 12%	Litres
Alum	11.7 +/- @ 65 %	Cubic meters
Polymer	18 Bags (450 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 oil blower 2
- Flushed digester level sensor
- Cleaned the Teacup
- Calibrated both automatic samplers and replaced tubing influent sampler
- Acid washed all UV bulb sleeves
- Replaced 3 fuses UV system
- Removed sand from head works inlet channel
- Inspected drained primary digester
- New transformer was installed in head works building
- 2 new gas detector heads were installed in head works building

**Pump Stations:**

- Ran gen sets
- Changed seal water strainers
- Cleaned bar screens
- Assisted the Town's crew and contractor to repair Fifth Street force main
- Replaced hour meter Boundary Road lift station
- Back flushed both pumps at White Pine lift station

**OPERATIONAL ISSUES**

The facility met all operational requirements for the month.

**SLUDGE SUMMARY**

The volume directed to the gravity belt thickener totaled 1172 m<sup>3</sup> for the month. Hammond Landscaping (Certificate of Approval Hauler # 11000025801) hauled/transported 231.2 m<sup>3</sup> (average 11.0 m<sup>3</sup>/load) to the agricultural drying bed. Quarterly sludge samples were collected and analyzed.

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 633 (x 180 multiplier) kWh.

Quarterly sludge samples were collected and analyzed.

The new digester draining was completed, settled debris was removed by the Town's contractor and the tank was inspected.

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		Removal Efficiency	
	Avg. Day Flow	Max Day Flow	Total Treated	Total ByPass	Total Volume	% Plant Capacity	Sludge Volume	CBOD5	
	m3	m3	Volume ML	Volume ML	ML		M3	Suspended Solids	
January	4781.7	5473	148234		148234	53%	208.6	Total Phosphorus	
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%	206.5		
August	6704.9	7822	207852		207852	74%	180.5		
September	6215.0	6991	186449		186449	69%	244.9		
October	5614.8	6134	174058		174058	62%	231.2		
November						0%			
December						0%			
Sum				4906.5	1991039.5		2122.6		
Average	6517		198613		199104	72%	212.3		
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																
December																
Average	60.7	2.5	16.2	136.5	6.5	51.2	2.0	0.26	1.80	8.7	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				