



Ontario Clean Water Agency
Agence Ontarienne Des Eaux

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August 11, 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
July 2013 Monthly Report**

As per the operating agreement, the attached document is the July 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 black ink, appearing to read "Kelly Cunningham".

Kelly Cunningham
Senior Operator

For Larry Wachter
Operations Manager

**The Corporation of the Town of Fort Frances
Wastewater Treatment Plant
(Sewage Plant)
July 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 July 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.

JULY 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	2.0 mg/L	25 mg/L	15 mg/L	14.1 kg/d	225 kg/d	135 kg/d
Suspended Solids	8.4 mg/L	25 mg/L	15 mg/L	74.8 kg/d	225 kg/d	135 kg/d
Total Phosphorus	0.25 mg/L	1.0 mg/L	1.0 mg/L	2.0 kg/d	9 kg/d	9 kg/d
Ammonia as N	0.60 mg/L					
Nitrite as N	0.15 mg/L					
Nitrate as N	5.07 mg/L					
Total Cl ₂ Residual		<0.01 mg/L (when in use)				
E-Coli		3.5 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 7.7 to 8.1; average pH was 7.9			
Temperature degrees C			Temperatures ranged from 13.0- 15.5 average temperature of effluent at 14.9			

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 July was 7580.9 m³/day; representing 84% of the design average flow. Total treated flow for the month was 235,007 m³. One daily effluent suspended solids result exceeded 25 mg/L and one daily effluent total phosphorous result exceeded 1 mg/L when failure of a cross collector forced a secondary clarifier to be drained with the plant near its hydraulic capacity.

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	300 +/- @ 7.0% + 400 @ 12%	Litres
Alum	16.0 +/- @ 65 %	Cubic meters
Polymer	7 Bags (175 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
- Pulled and cleaned RAS pump 2 on two occasions
- Installed new jack on grit trailer
- Removed grease buildup from rag compactor
- Reinstalled large pulley blower 1
- Calibrated both automatic samplers
- Cleaned DO probes
- Drained clarifier 2 in order to repair a jammed cross collector, replaced shear pin and shortened cross collector flight chain
- Drained aeration cell 2 in order to install new recirculation pump and perform inspection
- Removed debris from aeration cells outlet channel
- Installed rebuilt blower 3

Pump Stations:

- Ran gen sets
- Changed seal water strainers
- Cleaned bar screens
- Bell repaired communication trouble at Church St lift station
- Replaced overload block on pump 2 at Boundary road lift station
- A Town of Fort Frances crew and their contractors were assisted by OCWA staff while a repair was made to the force main at Fifth St lift station

OPERATIONAL ISSUES

The facility met all operational requirements for the month.

SLUDGE SUMMARY

The volume directed to the gravity belt thickener totaled 680.0 m³ for the month. Hammond Landscaping (Certificate of Approval Hauler # 11000025801) hauled/transported 206.5 m³ (average 11.5 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 two by-pass events which occurred on July 18th and July 25th. Reports are available at the plant and have been provided to all parties.

COMMENTS

Plant power consumption for the month was 646 (x 180 multiplier) kWh.

Lakeside Controls were on site to perform the annual testing on our bypass and outfall measuring equipment.

Clarifier 2 was drained in order to repair a jammed cross collector. Rag buildup on a sprocket that had forced a flight against the concrete wall was removed and tank inspected. The cross collector flight chains were shortened by one link each and the shear pin was replaced.

Aeration cell 2 was drained and inspected and the new recirculation pump was installed.

The scheduled power outage on July 28th, 0800-1130 was handled well by the plant and staff.

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	Avg. Day Flow		Sewage Flows Year 2013					Usage		Sludge		Removal Efficiency	
	m3	m3	Max Day Flow	Total		Total		Total Volume	% Plant Capacity	Volume	Hauled	CBOD5	
				Treated Volume ML	ByPass Volume ML	Suspended Solids	Total Phosphorus						
January	4781.7		5473	148234			148234		53%	208.6			
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%	206.5			
August									0%				
September									0%				
October									0%				
November									0%				
December									0%				
Sum						4906.5	1422680.5			1466			
Average	6663			202539			203240		74%	209.4			
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	0.3	2.3	22.9	7.4	7.8				
May	23.3	2.2	26.8	65.4	8.9	115.1	1.0	0.3	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	1.6	6.4	7.5	8.0				
July	41.5	2.0	14.1	172.7	8.4	74.8	1.7	0.24	2	3.5	7.7	8.1				
August																
September																
October																
November																
December																
Average	58.3	2.6	17.2	132.9	7.5	61.7	2.1	0.27	1.94	9.5	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				