



Ontario Clean Water Agency
Agence Ontarienne Des Eaux

Fort Frances WPCP
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October 14, 2014

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
September 2014 Monthly Report**

As per the operating agreement, the attached document is the September 2014 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 Cunningham".

Kelly Cunningham
Senior Operator

For Larry Wachter
Operations Manager

**The Corporation of the Town of Fort Frances
Wastewater Treatment Plant
(Sewage Plant)
September 2014 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 September 2014; 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.

SEPTEMBER 2014 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	11.3 kg/d	225 kg/d	135 kg/d
Suspended Solids	3.1 mg/L	25 mg/L	15 mg/L	17.4 kg/d	225 kg/d	135 kg/d
Total Phosphorus	0.35 mg/L	1.0 mg/L	1.0 mg/L	2.0 kg/d	9 kg/d	9 kg/d
Ammonia as N	0.40 mg/L					
Nitrite as N	0.12 mg/L					
Nitrate as N	6.13 mg/L					
Total Cl ₂ Residual		<0.01 mg/L (when in use)				
E-Coli		16.9 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 7.3 to 7.9; average pH was 7.6		
Temperature degrees C				Temperatures ranged from 16.0 – 16.5 average temperature of effluent at 16.2		

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 September was 5,668.8 m³/day. This represents 63% of the design average flow. Total treated flow for the month was 170,064 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	620 +/- @ 10.0% + 205 @ 12%	Litres
Alum	7.2 +/- @ 60 %	Cubic meters
Polymer	17 Bags (425 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
- Regular cleaning of head works EW basket strainer
- Greased all blowers
- Regular cleaning of seal water strainer TFP 9-5
- Calibrated both automatic samplers and replaced tubing effluent sampler
- Replaced belt GBT
- Replaced filters head works air handlers
- Changed oil blower 2
- New filter on blower 1
- New hot water heater for polymer system
- Inspected GBT compressor and air drier
- Removed debris from teacup and both grit pumps and reducers
- Repaired grit trailer jack
- Replaced battery Yamaha generator
- Replaced current isolator UV bank B light intensity circuit
- Greased clarifier drives
- Inspected clarifier 1, removed 1 link each side of long and cross collector chain
- Inspected aeration cell 1 and installed new recirculation pump
- Removed debris from aeration cells outlet channel
- Blower 2 out for rebuild

Pump Stations:

- Ran gen sets
- Changed seal water strainers
- Cleaned bar screens
- Pulled and cleaned pump 1 at Strachan lift station
- Block heater was replaced on White Pine genset
- Asselin removed debris from Fifth St lift station wet well

OPERATIONAL ISSUES

The facility met all operational requirements for the month.

SLUDGE SUMMARY

The volume directed to the gravity belt thickener totaled 608.6 m³ for the month. Hammond Landscaping (Certificate of Approval Hauler # 11000025801) hauled/transported 151.2 m³ (average 10.8 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 bypass events in the report period.

COMMENTS

Plant power consumption for the month was 678 (x 180 multiplier) kWh.

An inspection of the grit system and mechanical bar screen was done with company reps on site.

We are waiting for a full report and recommendations on the findings.

The bubbler system at White Pine lift station will be decommissioned and removed in the near future.

The inspection of clarifier 1 confirmed that we must recommend that all clarifier chain be replaced next year.

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 2014					Usage		Removal Efficiency	
	Avg. Day Flow	Max Day Flow	Total Treated	Total ByPass	Total Volume	% Plant Capacity	Sludge Volume		
	m3	m3	Volume ML	Volume ML	ML		Hauled	Suspended Solids	CBOD5
							M3	Total Phosphorus	
January	5057.6	5552	156785		156785	56%	143.5		
February	5630.1	6812	157644		157644	63%	129.8		
March	8118.8	10455	251682		251682	90%	217.9		
April	10927.7	14036	327830		327830	121%	198.3		
May	10855.8	18381	336530		336530	121%	243.5		
June	14683.4	21000	440501	33807.4	474308.4	163%	286.8		
July	9034.0	13527	280055		280055	100%	187.4		
August	6098.7	7079	189059		189059	68%	131.6		
September	5668.8	6401	170064		170064	63%	151.2		
October						0%			
November						0%			
December						0%			
Sum				33807.4	2343957.4		1690		
Average	8453		256683		260440	94%	187.8		
Max		21000	440501		474308.4				
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	76.0	3.7	18.2	147.0	7.3	36.8	2.2	0.20	1.02	2.8	7.2	7.7				
February	88.3	4.3	23.2	146.9	7.4	42.6	2.6	0.18	1.02	10.4	7.2	7.5				
March	49.8	5.0	42.4	183.0	12.2	102.0	1.6	0.18	1.42	11.9	7.3	7.5				
April	40.6	3.0	31.3	92.5	9.1	93.2	1.2	0.25	2.80	29.6	6.9	7.6				
May	36.3	4.0	46.7	78.6	7.6	81.2	1.1	0.36	3.80	36.0	7.2	7.7				
June	23.8	3.5	49.0	85.4	7.6	113.7	0.8	0.37	5.30	155.7	7.0	7.8				
July	39.2	2.5	23.3	107.5	7.4	68.2	1.3	0.34	3.10	11.6	7.1	7.8				
August	60.8	2.0	12.3	148.3	4.7	29.0	1.9	0.28	1.71	6.8	7.5	7.7				
September	68.0	2.0	11.3	130.0	3.1	17.4	2.1	0.35	2.00	16.9	7.3	7.9				
October																
November																
December																
Average	53.6	3.3	28.6	124.4	7.4	64.9	1.6	0.28	2.46	31.3	7.2	7.7				
Max	88.3	5	49.0	183.0	12.2	113.7	2.6	0.37	5.3	155.7	7.5	7.9				
C of A		25	225		25	225		1	9	200	6.0	9.5				