Ontario Clean Water Agency
Agence Ontarienne Des Eaux

Fort Frances WPCP
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May 16, 2016

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
April 2016 Monthly Report

As per the operating agreement, the attached document is the April 2016 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)
April 2016 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 April 2016; 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.

APRIL 2016 EFFLUENT QUALITY

Parameters	***Monthly Actual Concentration* mg/L**	***Compliance Criteria Concentration* mg/L**	***Performance Objective Concentration*** mg/L	***Monthly Actual Loading, kg/d***	***Compliance Criteria Loading kg/d***	***Performance Objective Loading* kg/d**
$CBOD_5$	2.4 mg/L	25 mg/L	15 mg/L	20.2 kg/d	225 kg/d	135 kg/d
Total Suspended Solids	5.6 mg/L	25 mg/L	15 mg/L	47.1 kg/d	225 kg/d	135 kg/d
Total Phosphorus	0.13 mg/L	1.0 mg/L	0.9 mg/L	1.11 kg/d	9 kg/d	8.1 kg/d
Total Nitrogen Nitrate Nitrogen	9.72 mg/L 3.20 mg/L					
Total Cl_2 Residual		<0.01 mg/L (when in use)				
E-Coli	9.3 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 7.3 to 7.9; average pH was 7.6			
Temperature degrees C			Temperatures ranged from 7.5 to 8.0; average temperature of effluent was 7.7 C			

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 April was 8462.4 m^3 /day. This represents 94% of the design average flow. Total treated flow for the month was 253871 m^3.
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.
The Town of Fort Frances agreed to accept 20 loads of 3000 gallons each, for a total of 60000 gallons of sewage hauled from the New Gold Mine site which was received into the collection system in April.

INVENTORY

Chemical	End of Month Status	Units
Hypochlorite	1140 +/-@ 7.0% + 410 @ 12%	Litres
Alum	14.0 +/- @ 60 %	Cubic meters
Polymer	15 Bags (375 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
- Regular cleaning of seal water strainer TFP 9-5
- Greased all blowers
- Cleaned UV sensors
- Replaced the cutting edge on the snow plow
- Installed new shear pin drive sprocket for clarifier 2 longitudinal drive
- Stored snow blower and chains for John Deere and installed mower deck
- Removed debris from both grit pumps
- Cleaned DO probes and spot checked both aeration cells with YSI portable
- Drained and cleaned Headcell inlet, Teacup and Snail
- Removed rag balls from clarifier 2 inlet weir

Pump Stations:

- Ran gensets
- Changed seal water strainers
- Cleaned bar screens
- Replaced block heater Central Avenue genset
- Repaired seal water tubing Central Avenue pump 2
- Adjusted signal cut off value Boundary Road flow meter and replaced couplant

OPERATIONAL ISSUES

The flow meter at White Pine lift station has failed and we are in the process of obtaining quotes on a suitable replacement. We have also been troubleshooting some issues with the Boundary Road flow meter in consultation with the supplier.

SLUDGE SUMMARY

Asselin Transportation and Storage Limited hauled a total of 228.3 m3 of thickened digested sludge (12.0 m3/load average) to the Town of Fort Frances landfill site.

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 594 (x 180 multiplier) kWh.
Quarterly sludge samples and annual Rainbow trout acute lethality samples were sent out to ALS laboratory.
The Proplus Delta V SCADA operator station was replaced.

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

Month	Avg. Day Flow m3	Sewage Flows Year 2016 Max Day Flow m3	Total Treated Volume ML	Total ByPass Volume ML	Total Volume ML	Usage % Plant Capacity	Sludge Volume Hauled M3
January	5668.1	5900	175712		175712	63%	249.9
February	5417.8	5665	157117		157117	60%	251.7
March	7463.4	12988	231365		231365	83%	212.7
April	8462.4	10027	253871		253871	94%	228.3
May						0%	
June						0%	
July						0%	
August						0%	
September						0%	
October						0%	
November						0%	
December						0%	
Sum				0	818065		942.6
Average	6753		204516		204516	75%	235.7
Max		12988	253871		253871		
C of A	9000	18000					

Removal Efficiency	
CBOD5	0.962676056
Suspended Solids	0.956635214
Total Phosphorus	0.937027708

	CBOD5			Suspended Solids			Total Phosphorus			Nitrogen		E. Coli
	Avg. Raw	Avg. Eff.	Avg. Load	Avg. Raw	Avg. Eff.	Avg. Load	Avg. Raw	Avg. Eff.	Avg. Load	Avg. Raw	Avg. Eff.	Geo Mean
Month	BOD	CBOD	CBOD	S.S	S.S	S.S	T.P	T.P	T.P	TKN	Total N	Counts
	(mg/L)	(mg/L)	(kg/day)	(mg/L)	(mg/L)	(kg/day)	(mg/L)	(mg/L)	(kg/day)	(mg/L)	(mg/L)	/100ml
January	87.0	2.4	13.5	142.4	6.0	34.7	2.41	0.15	0.83			23.7
February	74.3	3.5	18.5	132.5	4.3	23.2	2.12	0.11	0.57	17.3	8.9	19.3
March	65.2	2.3	16.1	112.4	5.7	47.7	1.87	0.11	0.94	15.1	9.7	21.4
April	57.5	2.4	20.2	110.8	5.6	47.1	1.54	0.13	1.11	12.0	9.7	9.3
May												
June												
July												
August												
September												
October												
November												
December												
Average	71.0	2.7	17.1	124.5	5.4	38.2	2.0	0.13	0.86	14.8	9.4	18.4
Max	87	3.5	20.2	142.4	6	47.7	2.4	0.15	1.11	17.3	9.7	23.7
C of A		25	225		25	225		0.9	9	200	6.0	200