



Ontario Clean Water Agency
Agence Ontarienne Des Eaux

Fort Frances WPCP
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June 17, 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
May 2016 Monthly Report**

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

A handwritten signature in black ink, appearing to read 'Kelly CTD'.

Kelly Cunningham
Senior Operator

For Larry Wachter
Operations Manager

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

MAY 2016 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	2.5 mg/L	25 mg/L	15 mg/L	17.2 kg/d	225 kg/d	135 kg/d
Total Suspended Solids	4.1 mg/L	25 mg/L	15 mg/L	27.8 kg/d	225 kg/d	135 kg/d
Total Phosphorus	0.15 mg/L	1.0 mg/L	0.9 mg/L	3.2 kg/d	9 kg/d	8.1 kg/d
Total Nitrogen Nitrate Nitrogen	9.96 mg/L 3.29 mg/L					
Total Cl ₂ Residual		<0.01 mg/L (when in use)				
E-Coli		14.4 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 7.8; average pH was 7.6		
Temperature degrees C				Temperatures ranged from 8.0 to 11.5; average temperature of effluent was 9.8 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 May was 6785.5 m³/day. This represents 75% of the design average flow. Total treated flow for the month was 210352 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	1140 +/-@ 7.0% + 410 @ 12%	Litres
Alum	12.2 +/- @ 60 %	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
- Regular cleaning of head works EW basket strainer
- Regular cleaning of seal water strainer TFP 9-5
- Greased all blowers
- Replaced belt head works exhaust fan EF 01
- Checked head works gas heads for accuracy and response
- Hot water flushed alum lines and pumps
- Removed debris from grit pump 1 outlet reducer
- Cleaned DO probes and spot checked both aeration cells with YSI portable
- Drained and cleaned Teacup and Snail
- Calibrated both automatic samplers
- Cleaned polymer mix tank

Pump Stations:

- Ran gensets
- Changed seal water strainers
- Cleaned bar screens

OPERATIONAL ISSUES

There were no operational issues in the report period.

SLUDGE SUMMARY

Asselin Transportation and Storage Limited hauled a total of 241.2 m³ of thickened digested sludge (12.1 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 616 (x 180 multiplier) kWh.
Kingdom Construction Limited was on site May 31 to begin the Sludge Thickener and Screen Upgrade Project.

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					Usage % Plant Capacity	Sludge Volume Hauled M3	Removal Efficiency		
		Max Day Flow m3	Total Treated Volume ML	Total ByPass Volume ML	Total Volume ML	CBOD5			Suspended Solids	Total Phosphorus	
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	6785.5	8276	210352		210352	75%	241.2				
June						0%					
July						0%					
August						0%					
September						0%					
October						0%					
November						0%					
December						0%					
Sum				0	1028417		1183.8				
Average	6759		205683		205683	75%	236.8				
Max		12988	253871		253871						
C of A	9000	18000									

	CBOD5			Suspended Solids			Total Phosphorus			Nitrogen			E. Coli Geo Mean Counts /100ml
	Avg. Raw BOD (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)	Avg. Raw TKN (mg/L)	Avg. Eff. Total N (mg/L)		
	Month												
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	68.8	2.5	17.2	125.8	4.1	27.8	2.0	0.15	3.19	14.9	10		14.4
June													
July													
August													
September													
October													
November													
December													
Average	70.6	2.6	17.1	124.8	5.1	36.1	2.0	0.13	1.33	14.8	9.6		17.6
Max	87	3.5	20.2	142.4	6	47.7	2.4	0.15	3.19	17.3	10		23.7
C of A		25	225		25	225		0.9	9	200	6.0		200