



Ontario Clean Water Agency
Agence Ontarienne Des Eaux

Fort Frances WPCP
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August 11, 2015

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 2015 Monthly Report

As per the operating agreement, the attached document is the July 2015 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 dark 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 2015 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 2015; 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 2015 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	2.1 mg/L	25 mg/L	15 mg/L	12.4 kg/d	225 kg/d	135 kg/d
Suspended Solids	3.6 mg/L	25 mg/L	15 mg/L	20.6 kg/d	225 kg/d	135 kg/d
Total Phosphorus	0.22 mg/L	1.0 mg/L	1.0 mg/L	1.3 kg/d	9 kg/d	9 kg/d
Ammonia as N	0.32 mg/L					
Nitrite as N	0.15 mg/L					
Nitrate as N	6.94 mg/L					
Total Cl ₂ Residual		<0.01 mg/L (when in use)				
E-Coli		5.8 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 7.1 to 7.7; average pH was 7.5			
Temperature degrees C			Temperatures ranged from 13.5 – 16.5 average temperature of effluent at 15.1			

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 5805.5 m³/day. This represents 65% of the design average flow. Total treated flow for the month was 179969 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	1070 +/- @ 7.0% + 410 @ 12%	Litres
Alum	9.4 +/- @ 60 %	Cubic meters
Polymer	19 Bags (475 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
- Replaced tubing on effluent automatic sampler
- Regular cleaning of seal water strainer TFP 9-5
- Cleaned polymer dilution water rotameter
- Greased clarifier drives
- Flushed digester level sensor
- Changed oil blowers 2, 3 and 4 and greased bearings
- Drained Head cell, Teacup and Snail to remove debris and hosed out snail
- Replaced belt and indicator light ASU 02
- Greased LRP 11-2 and checked gear box
- Timers, switches and relays were installed in a separate panel to run the polymer mixing system failed plc

Pump Stations:

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

OPERATIONAL ISSUES

The facility met all operational requirements for the month.

SLUDGE SUMMARY

The volume directed to the gravity belt thickener totaled 730.0 m³ for the month. Asselin Transportation and Storage Limited hauled a total of 242.8 m³ of thickened digested sludge (average 12.1m³/load) 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 666 (x 180 multiplier) kWh.
A new automatic sampler has been ordered as the influent sampler failed.
Quarterly digested sludge sampling was completed.
The additional effluent testing necessary to meet the requirements of the Wastewater Systems Effluent Regulations is now a part of our regular sampling regimen. Rainbow trout lethality quarterly samples were sent and stellar results obtained.

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 m3	Max Day Flow m3	Sewage Flows Year 2015				Usage % Plant Capacity	Sludge Volume Hauled M3	Removal Efficiency	
			Total Treated Volume ML	Total ByPass Volume ML	Total Volume IML	CBOD5 Suspended Solids			Total Phosphorus	
January	5205.2	5615	161362		161362	58%	133.6			
February	5008.5	5247	140237		140237	56%	163.2			
March	5608.6	6833	173865		173865	62%	244.8			
April	5628.8	5970	168865		168865	63%	239.8			
May	7834.5	15983	242869		242869	87%	240.3			
June	7292.4	10570	218773		218773	81%	217.4			
July	5805.5	6247	179969		179969	65%	242.8			
August						0%				
September						0%				
October						0%				
November						0%				
December						0%				
Sum				0	1285940		1481.9			
Average	6055		183706		183706	67%	211.7			
Max		15983	242869		242869					
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	84.5	2.6	13.6	151.9	6.0	31.0	2.5	0.23	1.18	17.8	6.8	7.6				
February	87.0	3.1	15.3	136.4	6.4	32.1	2.2	0.22	1.12	8.3	6.9	7.5				
March	62.8	3.5	19.6	127.6	8.0	45.1	1.9	0.23	1.29	14.8	6.8	7.5				
April	66.3	4.4	24.7	135.3	7.8	44.2	1.9	0.28	1.57	56.6	6.8	7.2				
May	48.5	3.6	34.9	109.6	5.4	43.4	1.4	0.18	1.40	20.1	6.8	7.3				
June	51.2	2.7	19.8	115.8	4.2	31.7	1.3	0.17	1.30	8.3	7.0	7.5				
July	74.8	2.1	12.4	133.1	3.5	20.6	2.1	0.216	1.30	5.8	7.1	7.7				
August																
September																
October																
November																
December																
Average	67.9	3.1	20.0	130.0	5.9	35.4	1.9	0.22	1.31	18.8	6.9	7.5				
Max	87	4.4	34.9	151.9	8	45.1	2.5	0.28	1.57	56.6	7.1	7.7				
C of A		25	225		25	225		1	9	200	6.0	9.5				