The Corporation of the Town of Fort Frances
Wastewater Treatment Plant
(Sewage Plant)
April 2017 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 2017; 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 operates under *Environmental Compliance Approval Number 6786-A44PWG*. The ECA 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 2017 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**
$CBOD_5$	2.3 mg/L	25 mg/L	15 mg/L	19.9 kg/d	225 kg/d	135 kg/d
Total Suspended Solids	5.4 mg/L	25 mg/L	15 mg/L	46.5 kg/d	225 kg/d	135 kg/d
Total Phosphorus	0.17 mg/L	1.0 mg/L	0.9 mg/L	1.5 kg/d	9 kg/d	8.1 kg/d
Total Nitrogen Nitrate Nitrogen	7.71 mg/L 4.42 mg/L					
Total Cl_2 Residual		<0.01 mg/L (when in use)				
E-Coli	53 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 7.6 to 7.9; average pH was 7.8			
Temperature degrees C			Temperatures ranged from 8.5 to 9.5 C; average temperature of effluent was 9.0 C			

Compliance criteria are mandatory requirements of the ECA and performance objectives are a goal to be achieved using best reasonable efforts.

WASTEWATER LIQUID PROCESS

The average daily flow for April was 8558.6 m^3 /day. This represents 95% of the design average flow. Total treated flow for the month was 256759 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 Environmental Compliance Approval.

INVENTORY

Chemical	End of Month Status	Units
Hypochlorite	1100 +/-@ 8.0% +3x205 L @ 12%	Litres
Alum	13.8 +/- @ 55 %	Cubic meters
Polymer	1 x 205 L drums	Liters

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 all blowers
- Regular cleaning of head works EW basket strainer
- Greased Grit Snail and lubricated drive chain
- Weekly inspection of spiral screen access hatch, removed wrapped debris as required
- Pumped the sump in the digester valve chamber
- Changed oil in blowers 4 and 5
- Weekly manifold wash on the Fournier press
- Removed debris from the Teacup and hosed Snail
- Hosed basement sump and relieved sticky check valve
- Replaced a belt head works exhaust fan
- Installed the mower deck on the John Deere tractor
- Changed oil in the Fournier rotary press gearbox

Pump Stations:

- Ran gensets
- Changed seal water strainers
- Pulled and cleaned pump 1 at Central Avenue lift station
- New complete starter installed for pump 1 at Boundary Road lift station
- Pumped down Church Street wet well on hand and reset power

PROCESS AND OPTIMIZATION ISSUES

The lack of a booster pump for the polymer system dilution water is preventing further optimization of the new sludge thickener.

SLUDGE SUMMARY

Asselin Storage and Transportation Limited hauled a calculated total of 83.8 m3 (11 bins) of thickened digested sludge to the Town of Fort Frances landfill site. The hauled sludge averaged 18.7 % TS for the month.

COMPLAINTS

There were no complaints during the report period.

BYPASS REPORT(S)

There was a 2.1 HR power outage on the 14th resulting in a UV bypass of approximately 350 m3.

COMMENTS

Plant power consumption for the month was 632 (x 180 multiplier) kWh.
The annual Rainbow trout acute lethality testing was sent out to the lab on April 25th with no trout lethality.
The polymer/water solution flow for the month of April was 233 m3 at a polymer concentration of 0.2%.
Screen and Dewatering Upgrades at the FFWWTP have been under way since May 30, 2016.

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)