

**The Corporation of the Town of Fort Frances  
Wastewater Treatment Plant  
(Sewage Plant)  
March 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 March 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 <sup>3</sup> /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.

## MARCH 2017 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 <sub>5</sub>	2.8 mg/L	25 mg/L	15 mg/L	20.5 kg/d	225 kg/d	135 kg/d
Total Suspended Solids	5.7 mg/L	25 mg/L	15 mg/L	42.0 kg/d	225 kg/d	135 kg/d
Total Phosphorus	0.20 mg/L	1.0 mg/L	0.9 mg/L	1.4 kg/d	9 kg/d	8.1 kg/d
Total Nitrogen Nitrate Nitrogen	7.98 mg/L 4.94 mg/L					
Total Cl <sub>2</sub> Residual		<0.01 mg/L (when in use)				
E-Coli		39.5 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 7.9; average pH was 7.6		
Temperature degrees C				Temperatures ranged from 7.5 to 9.5 C; average temperature of effluent was 8.0 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 March was 7199.5 m<sup>3</sup>/day. This represents 80% of the design average flow. Total treated flow for the month was 223183 m<sup>3</sup>.

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	15.0 +/- @ 55 %	Cubic meters
Polymer	6 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
- Greased the flocculator bearing seal
- Changed oil in blowers 2,3 and 4
- Weekly manifold wash on the Fournier press
- Wiped DO probes
- Replaced the air filter blower 3
- Greased clarifier drives

### Pump Stations:

- Ran gensets
- Changed seal water strainers
- Adjusted the ventilation louvers in White Pine lift station genset building
- Bud's Electric meggered pump 1 at Boundary Road lift station

## **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 85.4 m<sup>3</sup> (12 bins) of thickened digested sludge to the Town of Fort Frances landfill site. The hauled sludge averaged 18.6 % solids for the month.

## **COMPLAINTS**

There were no complaints during the report period.

## **BYPASS REPORT(S)**

There were no bypass events during the report period.

## **COMMENTS**

Plant power consumption for the month was 632 (x 180 multiplier) kWh.

The polymer/water solution flow for the month of March was 223 m<sup>3</sup> at a polymer concentration of 0.2%.

A trial of two new, more affordable polymers was run and one of them is working very well and has been selected as our default polymer for the time being.

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)