

**The Corporation of the Town of Fort Frances
Wastewater Treatment Plant
(Sewage Plant)
September 2018 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 September 2018; 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.

SEPTEMBER 2018 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	2.3 mg/L	25 mg/L	15 mg/L	13.2 kg/d	225 kg/d	135 kg/d
Total Suspended Solids	3.7 mg/L	25 mg/L	15 mg/L	20.4 kg/d	225 kg/d	135 kg/d
Total Phosphorus	0.13 mg/L	1.0 mg/L	0.9 mg/L	0.74 kg/d	9 kg/d	8.1 kg/d
Total Nitrogen Nitrate Nitrogen	7.62 mg/L 5.87 mg/L					
Total Cl ₂ Residual		<0.01 mg/L (when in use)				
E-Coli		6.7 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 16.5 to 17.5 C; average temperature of effluent was 17.2 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 September was 5652.2 m³/day. This represents 63% of the design average flow. Total treated flow for the month was 169565 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 Environmental Compliance Approval.

**The Town of Fort Frances accepted an additional 163.2 m³ of sewage from the New Gold mine site into the collection system in September. Lab analyses have not been provided.

MAINTENANCE

The operators performed the routine operations and maintenance at the treatment plant and pumping stations. The activities are highlighted as follows and a summary will be included:

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
- Monthly inspection of spiral screen access hatch, removed wrapped debris
- Weekly manifold wash on the Fournier press
- Drained and inspected teacup
- Replaced the second main building sump pump
- Shear pin was replaced longitudinal drive 1
- Replaced battery on the John Deere tractor
- Replaced bulbs and acid washed sleeves UV Bank3
- Cleaned DO probes
- Greased bearings and replaced filters air handlers
- New UPS was installed for Head Works CP-2
- The clarifiers were drained and inspected. Removed 1 link clarifier 1 and none clarifier 2

Pump Stations:

- Ran gensets
- Changed seal water strainers
- Wajax load bank tested all gensets. Report to follow.
- A PLC power supply failure at Central Avenue lift station was diagnosed and remedied

PROCESS AND OPTIMIZATION ISSUES

Ongoing pumping issues with the LMI polymer pumps have made it necessary to delay trials of alternate polymer samples. A screw pump is being looked at as a replacement.

SLUDGE SUMMARY

Dennis Robinson Limited hauled a calculated total of 106.5 m³ (12 bins) of thickened digested sludge to the Town of Fort Frances landfill site. The hauled sludge averaged 17.1 % TS for the month but slump test results from the landfill have not been provided.

COMPLAINTS

There were no complaints during the report period.

BYPASS/OVERFLOW REPORT(S)

There were no bypass events during the month.

COMMENTS

Plant power consumption for the month was 650 (x 180 multiplier) kWh.
The Delta V SCADA system was upgraded by Lakeside Controls.
Annul fire extinguisher inspection completed.

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)