

**The Corporation of the Town of Fort Frances
Wastewater Treatment Plant
(Sewage Plant)
December 2019 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 December 2019; 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.

DECEMBER 2019 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	2.4 mg/L	25 mg/L	15 mg/L	15.2 kg/d	225 kg/d	135 kg/d
Total Suspended Solids	3.7 mg/L	25 mg/L	15 mg/L	23.9 kg/d	225 kg/d	135 kg/d
Total Phosphorus	0.12 mg/L	1.0 mg/L	0.9 mg/L	0.77 kg/d	9 kg/d	8.1 kg/d
Total Nitrogen Nitrate Nitrogen	8.18 mg/L 5.12 mg/L					
Total Cl ₂ Residual		<0.01 mg/L (when in use)				
E-Coli		187.8 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 6.2 to 6.6; average pH was 6.3			
Temperature degrees C			Temperatures ranged from 9.0 to 11.0 C; average temperature of effluent was 10.0 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 December was 6420.9 m³/day. This represents 71% of the design average flow. Total treated flow for the month was 199047 m³.

The Fort Frances WWTP met all effluent compliance criteria for the parameters listed above as outlined in the Environmental Compliance Approval.

**The Town of Fort Frances accepted an additional 163.7 m³ of sewage from the New Gold mine site into the collection system in December. 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 and restrictor cleaning on the Fournier press
- Drained and inspected teacup, hosed snail
- Cleaned polymer injector check valve
- Changed oil in grit pump gear boxes
- Replaced 2 portable heaters in digester dog houses
- Greased clarifier drives
- Wajax did load bank test on portable genset, it failed
- Hosed and broom swept UV banks and channel. Hosed launder channels

Pump Stations:

- Ran gensets
- Changed seal water strainers
- Wajax did load bank test on gensets at Central, Fifth and White Pine lift stations
- The radio communication signal quality from Boundary Road and Church St. stations was checked
- Replaced sump pump White Pine lift station drywell
- Replaced pump 1 outlet valve at White Pine lift station

PROCESS AND OPTIMIZATION ISSUES

SLUDGE SUMMARY

Dennis Robinson Limited hauled a calculated total of 104.5 m³ (9 bins) of thickened digested sludge to the Town of Fort Frances landfill site. The hauled sludge averaged 16.1% TS for the month but slump test results from the landfill site have not been provided. The Fournier press ran for 108 hours in December, 1380 hours in 2019.

COMPLAINTS

There were no complaints during the report period.

BYPASS/OVERFLOW REPORT(S)

There were no bypass events in the reporting period.

COMMENTS

Plant power consumption for the month was 483 (x 180 multiplier) kWh.

The Fournier press has been operated 1380 hours in 2019.

Debris was removed from Central and Fifth St. wet wells by contractor vacuum truck.

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)