

**The Corporation of the Town of Fort Frances
Wastewater Treatment Plant
(Sewage Plant)
December 2021 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 2021; 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 2021 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	2.6 mg/L	25 mg/L	15 mg/L	14.7 kg/d	225 kg/d	135 kg/d
Total Suspended Solids	2.6 mg/L	25 mg/L	15 mg/L	14.5 kg/d	225 kg/d	135 kg/d
Total Phosphorus	0.12 mg/L	1.0 mg/L	0.9 mg/L	0.69 kg/d	9 kg/d	8.1 kg/d
Total Nitrogen Nitrate Nitrogen	9.90 mg/L 5.50 mg/L					
Total Cl ₂ Residual		<0.01 mg/L (when in use)				
E-Coli		30.3 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 7.2 to 7.5; average pH was 7.4		
Temperature degrees C				Temperatures ranged from 10.0 to 13.0 C; average temperature of effluent was 11.5 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 5626.2 m³/day. This represents 63% of the design average flow. Total treated flow for the month was 174412 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 objectives as outlined in the Environmental Compliance Approval.

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. Hosed Snail
- Monthly inspection of spiral screen access hatch, removed wrapped debris
- Weekly manifold wash and restrictor cleaning on the Fournier press
- Inspected teacup
- Cleaned DO probes in aeration tanks
- Replaced a longitudinal collector shear pin and adjusted the chain tensioner arm
- Replaced a portable heater in digester doghouse

Pump Stations:

- Ran gensets
- Changed seal water strainers
- Replaced a PLC card at White Pine lift station
- Replaced the low level float switch at White Pine lift station
- Peterbilt replaced the radiator on White Pine lift station genset
- Peterbilt purged air from the fuel line on the Fifth Street genset
- Pulled and cleaned pump 1 at White Pine lift station

PROCESS AND OPTIMIZATION ISSUES

SLUDGE SUMMARY

Dennis Robinson Limited hauled a calculated total of 119.3 m³ (13 bins) of thickened digested sludge to the Town of Fort Frances landfill site. The hauled sludge averaged 18.8 % TS for the month but slump test results from the landfill site have not been provided. The Fournier press ran for 156 hours in the past month.

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 479 (x 180 multiplier) kWh.

The Fournier press has been operated 1471.5 hours in 2021.

New starter and overloads are on order for White Pine and Boundary Road lift stations as is a new pressure transducer for White Pine lift station.

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)