

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

## SEPTEMBER 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 <sub>5</sub>	2.1 mg/L	25 mg/L	15 mg/L	14.5 kg/d	225 kg/d	135 kg/d
Total Suspended Solids	2.6 mg/L	25 mg/L	15 mg/L	14.1 kg/d	225 kg/d	135 kg/d
Total Phosphorus	0.12 mg/L	1.0 mg/L	0.9 mg/L	0.66 kg/d	9 kg/d	8.1 kg/d
Total Nitrogen Nitrate Nitrogen	8.52 mg/L 5.54 mg/L					
Total Cl <sub>2</sub> Residual		<0.01 mg/L (when in use)				
E-Coli		129.1 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 7.3 to 7.6; average pH was 7.4		
Temperature degrees C				Temperatures ranged from 17.0 to 18.0 C; average temperature of effluent was 17.4 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 5434.6 m<sup>3</sup>/day. This represents 60% of the design average flow. Total treated flow for the month was 162428 m<sup>3</sup>. There was an additional 610 m<sup>3</sup> during the scheduled power outage as a bypass event. 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
- Headworks gas head calibrations were completed
- Replaced shear pin longitudinal collector 2
- Changed oil blowers 4 and 5
- Verifications of the bypass and outfall measuring devices and associated alarms were completed

### **Pump Stations:**

- Ran gensets
- Changed seal water strainers
- Replaced genset batteries for Central Avenue lift station
- All gensets had oil changes and fuel filter replacements by Peterbilt
- Pulled and cleaned pumps 1 and 2 at Central Avenue lift station

## **PROCESS AND OPTIMIZATION ISSUES**

### **SLUDGE SUMMARY**

Dennis Robinson Limited hauled a calculated total of 130.4 m<sup>3</sup> (13 bins) of thickened digested sludge to the Town of Fort Frances landfill site. The hauled sludge averaged 16.7 % TS for the month but slump test results from the landfill site have not been provided.

The Fournier press ran for 126.0 hours in the past month.

## **COMPLAINTS**

There were no complaints during the report period.

## **BYPASS/OVERFLOW REPORT(S)**

There was one bypass event in the reporting period which was during a scheduled power outage that lasted 3.6 hours and measured 610 m<sup>3</sup>. Wastewater flowed through the plant by gravity during the outage.

## **COMMENTS**

Plant power consumption for the month was 452 (x 180 multiplier) kWh.

The Fournier press has been operated 1121.5 hours in 2021.

Dan Veneruzzo did polymer jar testing.

Headworks gas head calibrations were completed

Verifications of the bypass and outfall measuring devices and associated alarms were completed

Annual digested sludge samples were sent to the lab

## **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)