

**The Corporation of the Town of Fort Frances  
Wastewater Treatment Plant  
(Sewage Plant)  
September 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 September 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 <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 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 <sub>5</sub>                  | 2.0 mg/L                                 | 25 mg/L                                       | 15 mg/L                                         | 19.9 kg/d                                                                           | 225 kg/d                                | 135 kg/d                                                                  |
| Total Suspended Solids             | 3.1 mg/L                                 | 25 mg/L                                       | 15 mg/L                                         | 34.7 kg/d                                                                           | 225 kg/d                                | 135 kg/d                                                                  |
| Total Phosphorus                   | 0.13 mg/L                                | 1.0 mg/L                                      | 0.9 mg/L                                        | 1.35 kg/d                                                                           | 9 kg/d                                  | 8.1 kg/d                                                                  |
| Total Nitrogen<br>Nitrate Nitrogen | 6.11 mg/L<br>5.03 mg/L                   |                                               |                                                 |                                                                                     |                                         |                                                                           |
| Total Cl <sub>2</sub> Residual     |                                          | <0.01 mg/L (when in use)                      |                                                 |                                                                                     |                                         |                                                                           |
| E-Coli                             |                                          | 39 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 6.6 to 6.9; average pH was 6.7                                             |                                         |                                                                           |
| Temperature degrees C              |                                          |                                               |                                                 | Temperatures ranged from 15.0 to 16.5 C; average temperature of effluent was 15.6 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 10530.6 m<sup>3</sup>/day. This represents 117% of the design average flow. Total treated flow for the month was 315918 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.

\*\*The Town of Fort Frances accepted an additional 177 m<sup>3</sup> 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, hosed snail
- Cleaned polymer injection check valve
- Wiped DO probes
- Replaced emergency light in the lower basement
- Replaced shear pin longitudinal clarifier drive 1
- Greased flocculator seal bearing
- Replaced belts and filters all air handlers and greased bearings

### **Pump Stations:**

- Ran gensets
- Changed seal water strainers
- Replaced level sensor head at Church St. lift station
- Pulled and cleaned pumps 1 and 3 at Central Ave. lift station
- Lakeside was in to asses a communications fault at Central Ave. lift station. A faulty communications card was identified and replaced with an onsite spare

## **PROCESS AND OPTIMIZATION ISSUES**

### **SLUDGE SUMMARY**

Dennis Robinson Limited hauled a calculated total of 83.1 m<sup>3</sup> (9 bins) of thickened digested sludge to the Town of Fort Frances landfill site. The hauled sludge averaged 17.7 % TS for the month but slump test results from the landfill site have not been provided.

The Fournier press ran for 85 hours in September, 1064 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 439 (x 180 multiplier) kWh.  
The Fournier press has been operated 1064 hours in 2019.  
The annual digested sludge sample was 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)