The Corporation of the Town of Fort Frances
Wastewater Treatment Plant
(Sewage Plant)
May 2022 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 May 2022; 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.

MAY 2022 EFFLUENT QUALITY

Parameters	***Monthly Actual Concentration* mg/L**	***Compliance Criteria Concentration* mg/L**	***Performance Objective Concentration* mg/L**	***Monthly Actual Loading,* kg/d**	***Compliance Criteria Loading* kg/d**	***Performance Objective Loading* kg/d**
$CBOD_5$	2.8 mg/L	25 mg/L	15 mg/L	49.7 kg/d	225 kg/d	135 kg/d
Total Suspended Solids	5.7 mg/L	25 mg/L	15 mg/L	95.7 kg/d	225 kg/d	135 kg/d
Total Phosphorus	0.23 mg/L	1.0 mg/L	0.9 mg/L	3.90 kg/d	9 kg/d	8.1 kg/d
Total Nitrogen Nitrate Nitrogen	7.00 mg/L 4.00 mg/L					
Total Cl_2 Residual		<0.01 mg/L (when in use)				
E-Coli	107 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 7.5; average pH was 7.4			
Temperature degrees C			Temperatures ranged from 6.5 to 8.5 C; average temperature of effluent was 7.1 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 May was 16832.1 m^3 /day. This represents 187% of the design average flow. Total treated flow for the month was 521795 m^3. There were 3 Manhole 8 bypass events in May that totaled 16930.4 m3. After May 3rd all daily peak flow and total flow numbers were estimates as river level is impeding the outfall flow through our parshall flume. 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
- Greased clarifier drives
- Pumped out digester valve chamber sump

Pump Stations:

- Ran gensets
- Changed seal water strainers
- Peterbilt replaced a fuel pump on Fifth Street lift station genset
- Gavel Manufacturing removed the old flowmeter and installed the new unit in White Pine lift station drywell
- Pulled and cleaned pump 3 and repaired seal water tubing at Central Avenue lift station
- Pulled and cleaned pump 2 at Fifth Street lift station
- Cannect Electric rewired both rebuilt pumps at White Pine lift station
- Both rebuilt pumps were lowered into White Pine lift station drywell with assistance from FFPC
- A float switch was replaced in White Pine lift station wet well
- Cannect Electric wired the new flowmeter in White Pine lift station drywell

PROCESS AND OPTIMIZATION ISSUES

The Atlas Dewatering pump has remained onsite until a replacement for the level sensor in the wet well is received and installed.

Blower 4 and the spare both failed so blower 3 is providing air to the digesters. Blowers 1 and 2 are providing air to their respective aeration cells. Blower 4 has been sent for repair and a new replacement has been ordered as well.

SLUDGE SUMMARY

Dennis Robinson Limited hauled a calculated total of 91.3 m3 (9 bins) of thickened digested sludge to the Town of Fort Frances landfill site. The hauled sludge averaged 23.1 % TS for the month but slump test results from the landfill site have not been provided.
The Fournier press ran for 109 hours in the past month.

COMPLAINTS

There were no complaints during the report period.

BYPASS/OVERFLOW REPORT(S)

There were 3 manhole 8 and 3 UV bypass events as well as 1 reported power outage in the reporting period.

COMMENTS

Plant power consumption for the month was 452 (x 180 multiplier) kWh.
The Fournier press has been operated 585.5 hours in 2022.
Annul fire extinguisher inspections were completed by SPI.
There were 3 Manhole 8 bypass events in May that totaled 16930.4 m3. After May 3rd all daily peak flow and total flow numbers were estimates as river level is impeding the outfall flow through our parshall flume.
The Atlas Dewatering pump has remained onsite until a replacement for the level sensor in the wet well is received and installed.

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)