Ontario Clean Water Agency
Agence Ontarienne Des Eaux

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RECEIVED
JUL - 9 2014
TOWN OF FORT FRANCES

July 2, 2014

Town of Fort Frances
320 Portage Avenue
Fort Frances Ontario
P9A 3M5

Attention: Mr. Doug Herr
Environmental and Facilities Superintendent

Dear Doug:

Re: Fort Frances Wastewater Treatment Facility
June 2014 Monthly Report

As per the operating agreement, the attached document is the June 2014 monthly report for the Fort Frances Wastewater Treatment Facility.

The report highlights the influent and effluent quality and the process parameters. Additionally, the routine operation and maintenance activities conducted by the operators are summarized.

If you have any questions regarding this report do not hesitate to contact Mr. Larry Wachter – Operations Manager.

Yours truly,

Kelly Cunningham
Senior Operator

For Larry Wachter
Operations Manager

The Corporation of the Town of Fort Frances
Wastewater Treatment Plant
(Sewage Plant)
June 2014 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 June 2014; 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 received and operates its operation under *Certificate of Approval Number 3-0049-96-006,* in accordance with Section 53 of the Ontario Water Resources Act. The Certificate of Approval 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.

JUNE 2014 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**
$CBOD_5$	3.5 mg/L	25 mg/L	15 mg/L	49.0 kg/d	225 kg/d	135 kg/d
Suspended Solids	9.2 mg/L	25 mg/L	15 mg/L	113.7 kg/d	225 kg/d	135 kg/d
Total Phosphorus	0.37 mg/L	1.0 mg/L	1.0 mg/L	5.3 kg/d	9 kg/d	9 kg/d
Ammonia as N Nitrite as N Nitrate as N	3.45 mg/L 0.18 mg/L 2.59 mg/L					
Total Cl_2 Residual		<0.01 mg/L (when in use)				
E-Coli		155.7 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 7.0 to 7.8; average pH was 7.4		
Temperature degrees C				Temperatures ranged from 9.0 – 11.5 average temperature of effluent at 10.1		

Compliance criteria are mandatory requirements of the C of A and performance objectives are a goal to be achieved using best reasonable efforts.

WASTEWATER LIQUID PROCESS

The average daily flow for June was 14,683.4 m^3/day,16 days of which were estimated as the river was surcharging the parshall flume. This represents 163% of the design average flow. Total treated flow for the month was 440,501 m^3. Two bypass events totaled 33,807 m^3.
High river levels compromised the integrity of the regular effluent sample point necessitating that grab samples be taken of the effluent June 16-23.
The Fort Frances WWTP met all effluent compliance criteria for the parameters listed above as outlined in the Certificate of Approval.

INVENTORY

Chemical	End of Month Status	Units
Hypochlorite	260 +/-@ 10.0% + 410 @ 12%	Litres
Alum	14.7 +/- @ 60 %	Cubic meters
Polymer	35 Bags (875 kg)	Bags (25 kg/bag)

MAINTENANCE

The operators performed the routine operations and maintenance at the treatment plant and pumping stations. The activities are highlighted as follows:

Treatment Plant:

- Alternated lead/lag pumps
- Adjusted fluidizing water to head cell and grit snail as needed
- Greased GBT, mechanical bar screen and grit snail. Lubricated drive chain on grit snail and bar screen
- Regular cleaning of head works EW basket strainer
- Greased all blowers
- Regular cleaning of seal water strainer TFP 9-5
- Pulled and cleaned RAS pump 2 X 2
- Installed new coupler LRP 11-2
- Removed debris from grit pump 2 inlet reducer X 2
- Installed new UV intensity sensor
- Cleared plugged rag compactor drain
- Shoveled sand from clarifier 2 inlet channel
- Replaced belt EF 03
- Changed oil blowers 1, 2, 3 and 5
- Installed new belt ASU 02
- Changed UV bulbs and three sleeves bank B and acid washed sleeves banks A and B
- Removed rag ball from clarifier 1 inlet weir
- Replaced 2 shear pins long and cross collectors clarifier 2
- Drained and inspected clarifier 2, placed cross collector chain back on idler, removed rags and shortened cross collector chain and long collector chain one link each side

Pump Stations:

- Ran gen sets
- Changed seal water strainers
- Cleaned bar screens
- Purged and reset the bubbler system at White Pine lift station
- Reset Strachan lift station PLC
- Back flushed pump 1 at White Pine lift station
- Reset pump 2 at Church Street lift station
- Joe was in to replace radio communication antenna and work on radios

OPERATIONAL ISSUES

A failed cross collector in clarifier 2 was repaired once the river level and extreme flows had subsided to a reasonable level. The facility met all operational requirements for the month.

SLUDGE SUMMARY

The volume directed to the gravity belt thickener totaled 885.5 m3 for the month. Hammond Landscaping (Certificate of Approval Hauler # 11000025801) hauled/transported 286.8 m3 (average 13.0 m^3/load) to the agricultural drying bed.
The Organic Soil Conditioning site has a valid Certificate of Approval - number S-71048-31.

COMPLAINTS

There were no complaints during the report period.

BY-PASS REPORT(S)

There were 2 by-pass events in the report period.

COMMENTS

Plant power consumption for the month was 610 (x 180 multiplier) kWh.
Clarifier 2 was drained and inspected. Some debris was removed from shafts and sprockets and 1 link was removed from each side of the longitudinal chain. The cross collector chain was shortened 1 link on each side and was placed back on the idler sprocket.
The additional effluent testing that is required as of January 1, 2013 to meet the requirements of the Wastewater Systems Effluent Regulations is now a part of our regular sampling regimen.

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)

Month	Avg. Day Flow m3	Sewage Flows Year 2014 Max Day Flow m3	Total Treated Volume ML	Total ByPass Volume ML	Total Volume ML	Usage % Plant Capacity	Sludge Volume Hauled M3	Removal Efficiency CBOD5 Suspended Solids Total Phosphorus
January	5057.6	5552	156785		156785	56%	143.5	
February	5630.1	6812	157644		157644	63%	129.8	
March	8118.8	10455	251682		251682	90%	217.9	
April	10927.7	14036	327830		327830	121%	198.3	
May	10855.8	18381	336530		336530	121%	243.5	
June	14683.4	21000	440501	33807.4	474308.4	163%	286.8	
July						0%		
August						0%		
September						0%		
October						0%		
November						0%		
December						0%		
Sum				33807.4	1704779.4		1219.8	
Average	9212		278495		284130	102%	203.3	
Max		21000	440501		474308.4			
C of A	9000	18000						

	CBOD5			Suspended Solids			Total Phosphorus			E. Coli		pH
	Avg Raw	Avg. Eff.	Avg. Load	Avg Raw	Avg. Eff.	Avg. Load	Avg Raw	Avg. Eff.	Avg. Load	Geo Mean	Monthly	Monthly
Month	CBOD	CBOD	CBOD	S.S	S.S	S.S	T.P	T.P	T.P	Counts	Minimum	Maximum
	(mg/L)	(mg/L)	(kg/day)	(mg/L)	(mg/L)	(kg/day)	(mg/L)	(mg/L)	(kg/day)	/100ml		
January	76.0	3.7	18.2	147.0	7.3	36.8	2.2	0.20	1.02	2.8	7.2	7.7
February	88.3	4.3	23.2	146.9	7.4	42.6	2.6	0.18	1.02	10.4	7.2	7.5
March	49.8	5.0	42.4	183.0	12.2	102.0	1.6	0.18	1.42	11.9	7.3	7.5
April	40.6	3.0	31.3	92.5	9.1	93.2	1.2	0.25	2.80	29.6	6.9	7.6
May	36.3	4.0	46.7	78.6	7.6	81.2	1.1	0.36	3.8	36.0	7.2	7.7
June	23.8	3.5	49.0	85.4	7.6	113.7	0.8	0.37	5.30	155.7	7.0	7.8
July												
August												
September												
October												
November												
December												
Average	52.5	3.9	35.1	122.2	8.5	78.3	1.6	0.26	2.56	41.1	7.1	7.6
Max	88.3	5	49.0	183.0	12.2	113.7	2.6	0.37	5.3	155.7	7.3	7.8
C of A		25	225		25	225		1	9	200	6.0	9.5