Ontario Clean Water Agency
Agence Ontarienne Des Eaux

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March 25, 2019

Ministry of the Environment
Thunder Bay Regional Office
435 James St. South
Thunder Bay ON
P7E 6S7

Attention: Mr. Dave Manol
Water Compliance Supervisor (A)

Re: 2018 Performance Report for Fort Frances Sewage Treatment Plant

Dear Mr. Manol:

Attached is the 2018 Performance Report for the **Fort Frances Sewage Treatment Plant** located in the Town of Fort Frances. This report has been completed in accordance with Condition No. 10 (5) cited in *Amended Environmental Compliance Approval Number 6786-A44PWG* dated January 6 2016 and issued to the Town of Fort Frances.

This report was prepared by the Ontario Clean Water Agency on behalf of the Town of Fort Frances based on the information kept on record by OCWA at the Fort Frances Sewage Treatment Plant location; and the report covers the period from January 1 to December 31, 2018.

Should you have any questions or comments in regards to this annual report, please do not hesitate to contact David Hoffman at 807-876-1141 ext 325.

Yours truly,

Larry Wachter
Operations Manager
Ontario Clean Water Agency
Northwestern Ontario Hub

Copy to: Craig Miller– Fort Frances Environmental and Facilities Superintendent
Operations Staff – Fort Frances Sewage Treatment Plant

2018 Annual Report

Fort Frances

Wastewater Treatment Plant

Prepared by the Ontario Clean Water Agency

Ontario Clean Water Agency
Agence Ontarienne Des Eaux

The Corporation of the Town of Fort Frances
Wastewater Treatment Plant
(Sewage Plant)
2018 Annual Report

Introduction

In accordance with the Amended Environmental Compliance Approval Number 6786-A44PWG section 10(5), the Town of Fort Frances Wastewater Treatment Plant is required to prepare an annual performance report. The 2018 annual performance report summarizes important information regarding the treatment quality of the effluent wastewater, analytical test results, relevant activities and maintenance operations of the Works.

Description of the Works

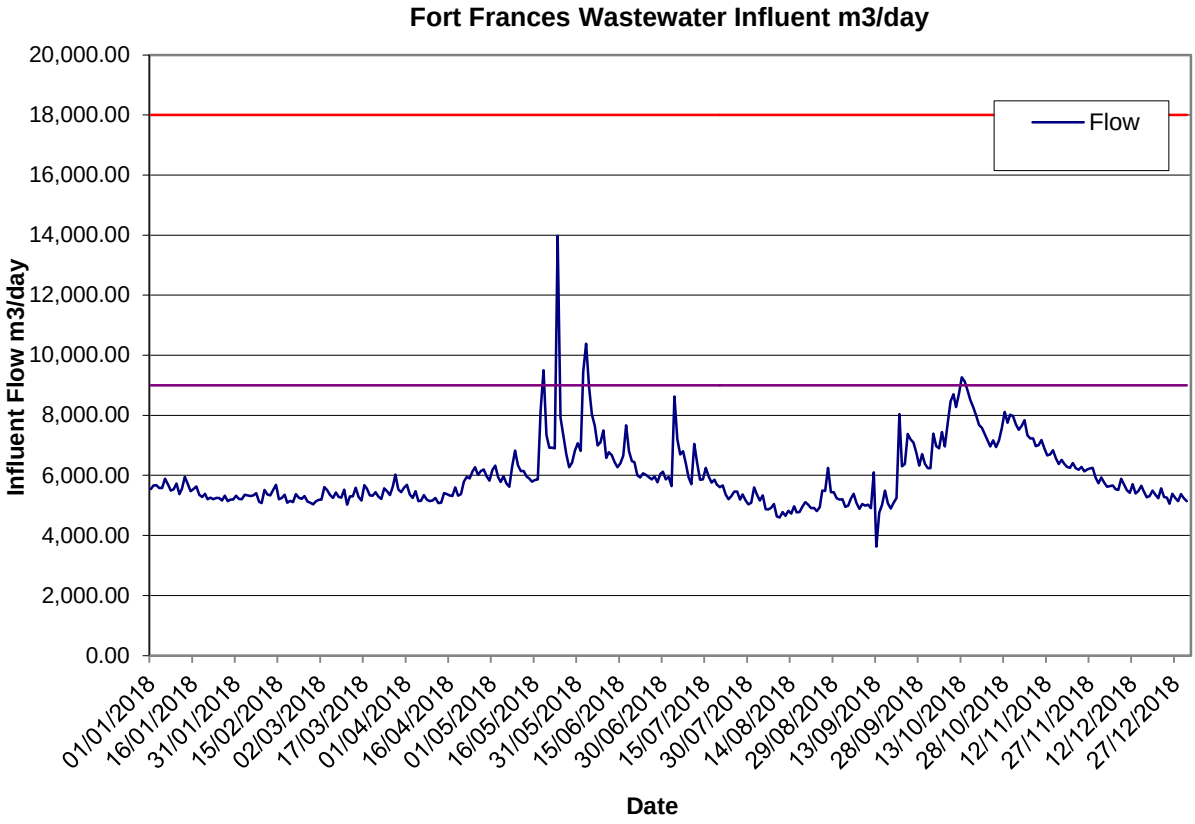
Capacity of Works	9000 m^3/day (average flow) Peak 18000 m3/day
Service Area	Town of Fort Frances and Couchiching Reserve
Service Population	9000
Effluent Receiver	Rainy River
Major Process	Secondary treatment facility complete with a phosphorus removal system; ultra violet disinfection; aerobic sludge stabilization and dewatering

1. Summary and Comprehensive Interpretation of Data

Flow Summary	2014	2015	2016	2017	2018	5-yr avg.
Avg. Day m^3/day	7646	5942	6731	6476	5988	6557
Design m^3/day	9000	9000	9000	9000	9000	9000
Utilization (Avg. Day/ Design)	85%	66%	75%	72%	67%	74 %
Max Day m^3/day	21000*	15983	18874	12238	13977	16414
Max Day Factor	2.7	2.7	2.8	1.9	2.3	2.5

* Estimated volume

The daily flow of influent into the Fort Frances Wastewater treatment plant is presented in the following graph.



The peak flow occurred on May 24 2018. The peak flow through the treatment plant was 13977m^3/day. The flow through the plant exceeded the design flow of 9000 m3/day on two days in May, two days in June, two days in October for 2018.

The daily analytical and process data for the plant is attached as the Monthly Operations Summary. This data is summarized in the Annual Summary also attached to the report.

In the following table the Carbonaceous Biochemical Oxygen Demand, Suspended Solids and Total Phosphorus are compared to the Certificate of Approval effluent concentrations and loadings as specified in section 7.

Month	CBOD5		Suspended Solids		Total Phosphorus		E. Coli	pH	
	Avg. Eff.	Avg. Load	Avg.Eff.	Avg. Load	Avg. Eff.	Avg. Load	Geo Mean	Monthly	Monthly
	CBOD	CBOD	S.S	S.S	T.P	T.P	Counts	Minimum	Maximum
	(mg/L)	(kg/day)	(mg/L)	(kg/day)	(mg/L)	(kg/day)	/100ml		
January	3.3	18.1	6.4	34.8	0.22	1.19	69.5	7.3	7.9
February	2.5	13.0	6.2	32.5	0.17	0.87	14.1	7.1	7.8
March	3.1	16.7	7.6	41.4	0.16	0.86	14.1	6.9	7.5
April	5.1	28.1	5.9	32.7	0.16	0.86	32.8	7.0	7.7
May	2.6	15.9	8.2	56.3	0.20	1.36	67.7	7.3	7.8
June	3.0	22.3	6.5	46.5	0.14	0.97	21.7	7.3	7.9
July	2.0	11.1	2.8	17.1	0.08	0.46	7.3	7.4	7.8
August	2.0	10.6	3.0	15.6	0.16	0.81	16.4	7.3	8.0
September	2.3	13.2	3.7	20.4	0.13	0.74	6.7	7.6	7.9
October	2.0	15.3	2.5	20.3	0.12	0.90	10.0	7.6	8.0
November	2.0	13.3	2.8	19.1	0.10	0.68	11.9	7.2	8.0
December	2.2	11.6	3.1	16.6	0.11	0.60	10	6.9	7.3
Average	2.7	15.8	4.5	29.4	0.15	0.86	23.5	7.2	7.8
Max (Min)	5.1	28.1	7.8	56.3	0.22	1.36	69.5	(6.9)	8
C of A Limit	<25	<225	<25	<225	<1	<9	<200	>6.0	<9.5
C of A Obj.	<15		<15		<0.9		<150		

The Certificate of Approval Limits for CBOD5 and suspended solids are 25 mg/l with an objective target of 15 mg/l and loading limits of less than 225 kg/day. The levels for total phosphorus are less than 1 mg/l and a loading limit of 9 kg/day. In the reporting year 2018, $CBOD_5$, suspended solids and total phosphorus concentration limits and loading limits met both the Certificate of Approval limits and the objectives.

The Certificate of Approval states the pH of the effluent shall be maintained between 6.0 and 9.5, inclusive, at all times. The pH during this period was a high of 8.0 and a low of 6.9. The pH met the requirements of the Certificate of Approval in 2018.

The Certificate of Approval also requires the E-coli results to be less than 200 organisms per 100 ml and an objective of less than 150 organisms per 100 ml as a monthly geometric mean density. The effluent met the limit targets and objective targets with a maximum monthly geometric mean density of 69.5 organisms per 100 ml.

2. Effluent Quality Assurance or Control Measures

The effluent sample is a 24 hour composite sampled downstream of the UV disinfection system. The influent and effluent samplers are set to collect samples at a frequency of at the least one sample per hour interval.

The operators send weekly influent and effluent samples to ALS Laboratories in Thunder Bay. The effluent samples are analyzed for carbonaceous biochemical oxygen demand, total phosphorus, ammonia, total nitrogen, and nitrates. E-coli are sampled from the effluent only. The influent samples are tested for biochemical oxygen demand, total Kjeldahl nitrogen and total phosphorus. The digester contents are analyzed on an annual basis.

Suspended solids are sampled and tested in house on both influent and effluent and total phosphorus is tested on the effluent. The plant operators perform in-house laboratory testing for several other process parameters to monitor plant performance.

3. Maintenance

The operators performed required routine maintenance through the 2018 period. Additional maintenance activities conducted during the year are as follows:

Treatment Plant:

- Thawed frozen sump line in aeration channel
- Removed ice from manhole 8 grating
- Thawed frozen sump line in aeration channel
- Replaced missing linkage from polymer water proportioning valve
- Garage floor drain was repaired by town plumber
- Replaced the UPS for the main plant controller panel
- New sump pump 2 replaced main building basement
- Installed spare DO probe in cell #1
- Replaced RAS pump #1 with spare
- Replaced the motor on blower #3
- Shear pin was replaced longitudinal clarifier drive #2
- Removed large rag ball from clarifier #2 inlet channel
- Replaced Aeration cell #1 recirculation pump LRP 3-1-2 @ 11900 hrs with spare
- Replaced Digester transfer pump STP 10-3 @ 31940 hrs with spare (John Gavel Crane)
- New garage lighting was installed by Cannect Electric
- New UPS was installed for Head Works CP-2
- Spiral screen drive flange connection failed and was repaired
- The VFD and control valves were installed for blower 3 and Lakeside did programming.
- Two factory calibrated DO probes were installed in aeration cells

- Software was updated in the DO controller
- The Delta V SCADA system was upgraded by Lakeside Controls.

Pump Stations:

- Replaced the generator batteries at Central Avenue lift station
- Installed rebuilt pump 2 at Central Avenue lift station
- Pulled pump 3 at Fifth Street lift station and sent out for repair
- Installed rebuilt pump 3 at 5th Street lift station
- Fuel filters were replaced on all lift station gensets by Peterbilt
- A PLC power supply failure at Central Avenue lift station was diagnosed and remedied
- Water pump was repaired on 5th Street lift station genset by Peterbilt

4. Operational issues

The Town of Fort Frances has accepted 2195.7 m3 of untested sewage from the New Gold mine site into the collection system in 2018. The additions were made in every month in the year. The operators of the wastewater plant are not aware of when the addition sewage material is added to the town collection system. Additional testing of the sewage from the New Gold mine has been requested but the results of the testing have not been provided to the Fort Frances wastewater plant operators.

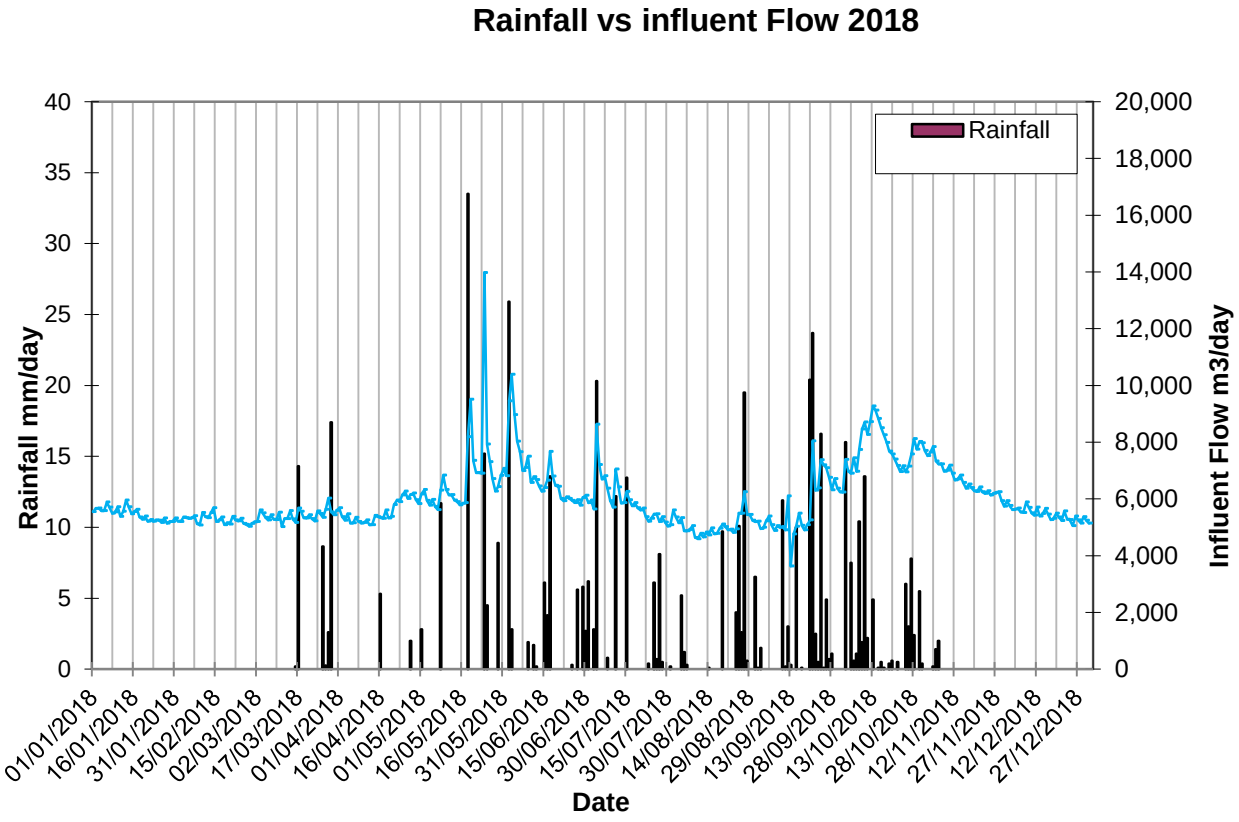
The sludge haulage/transportation contract with Hammond Landscaping came to an end in late 2014. The Town of Fort Frances installed a Fournier rotary press designed to dewater the sludge and allow for the hauled sludge to meet the MOE criteria for landfill disposal without further drying. A new ECA was received from the MOE on January 6 2016 allowing for the installation of the new dewatering equipment. The new equipment began processing sludge on September 19 2016.
Optimization of the sludge dewatering process using the new equipment has been continuing in 2018.
A Fournier press technician visited the plant August 1st and 2nd to give us some suggestions for optimization. He recommends a water heater be installed for polymer dilution water and that the sludge be tested in colder weather for SVI and filaments that could potentially impede drainage. Ongoing pumping issues with the LMI polymer pumps have made it necessary to delay trials of alternate polymer samples. A screw pump is being looked at as a replacement. A new progressive cavity polymer pump and VFD have been ordered from Fournier. Fournier will be handling the installation and commissioning.

There was one reported bypass during 2018. A power interruption at the plant resulted in 1410 m^3 of effluent not being disinfected by the UV disinfection equipment. The normal grit separation and aeration systems were also not functioning. A manual bar screen was used in the headworks and a back-up sodium hypochlorite pump injected disinfectant into the plant UV effluent channel. This event occurred on June 10 2018 and lasted for 5 hours and 13 minutes.

There was no community complaints received during the period of this report.

The weekly samples from December 27th arrived at the lab on December 31st which exceeded the 48 hour hold time for e-coli testing but the delayed tests were within limits. Operations staff had tried to fly the samples to Thunder Bay but flights were cancelled due to snow storm and then the couriers had difficulty with weather and holiday schedules.

A graph of the influent flows and rainfall as recorded at the Fort Frances Airport sourced from Environment Canada is included illustrating several rainfall events closely correlating to influent flow spikes. There were a number of rainfall data gaps in the Environment Canada database; these were supplemented by data from the International Falls Airport. The highest rainfall event occurred on May 18 2018 with a recorded rainfall amount of 33.5 mm. The flow at the sewage plant was 8189 m^3 on May 18 and 9505 m^3 May 19 2018. The peak flow of 13977m^3 was recorded on May 24 2018 with a rainfall of 15.2 mm. The rainfall in the town may have been higher than the recorded value as the airport is located outside of the town.



5. Sludge Generation and Disposal

In the past, the sludge was processed in drying beds for use as an organic soil conditioner at a sod farm. This arrangement ended in November 2014. A new Fournier Rotary Press was installed and in operation as of September 19 2016 decreasing the water content of the sludge for disposal at the landfill. The rotary press operated for 1349 hours in 2018.

Sludge Volume Hauled in 2018

Month	Total Volume(m3)
January	128.9
February	108.3
March	95.0
April	105.7
May	129.7
June	125.3
July	124.7
August	118.6
September	106.5
October	99.6
November	110.1
December	90.7
Total	**1343.1**

There was 1343.1 m^3 of sludge generated and hauled in 2018 with an average of 111.9 m^3 per month. The sludge analytical sample results for 2018 are appended to this report.

The Town of Fort Frances installed a Fournier rotary press designed to dewater the sludge and allow for the hauled sludge to meet the MOE criteria for landfill disposal without further drying. The new equipment began processing sludge on September 19 2016. The sludge will continue to be disposed in the municipal landfill site.
The optimization of the dewatering process continued in 2018. Fournier recommended a water heater be installed for polymer dilution water and that the sludge be tested in colder weather for SVI and filaments that could potentially impede drainage. Ongoing pumping issues with the LMI polymer pumps have made it necessary to delay trials of alternate polymer samples. A screw pump is being looked at as a replacement. A new progressive cavity polymer pump and VFD have been ordered from Fournier. Fournier will be handling the installation and commissioning. The only anticipated potential changes to volumes of sludge hauled from the system are dependent on further optimization of the dewatering process.

6. Calibrations

The owner shall maintain a continuous flow-measuring device to measure the flow rate within an accuracy of +/- 5% of actual rate of flow within the range of 10% to 100% of the full-scale reading of the measuring devices.

In 2018, calibration of the plant bypass weir was completed on July 10 2018 and effluent parshall flume was completed on August 13 2018; results attached to this report. Both flow measuring devices passed the verification testing.

2018 Annual Summary Report

2018 Fort Frances Wastewater

Month	Avg. Day Flow m3	Sewage Flows Year 2018: Max Day Flow m3	Total Treated Volume ML	Total ByPass Volume ML	Total Volume ML	Usage % Plant Capacity	Calculated Volume Hauled M3	Sludge Bins Hauled
January	5458.1	5955	169201		169201	61%	128.9	13
February	5267.8	5685	147497		147497	59%	108.3	11
March	5409.9	6024	167707		167707	60%	95.0	9
April	5543.1	6269	166292		166292	62%	105.7	11
May	6804.3	13977	210932		210932	76%	129.7	12
June	6860.6	10382	205818	1410	205818	76%	125.3	13
July	5918.2	8623	183465		183465	66%	124.7	12
August	5068.6	6250	157126		157126	56%	118.6	12
September	5652.2	8044	169565		169565	63%	106.5	10
October	7725.6	9271	239494		239494	86%	99.6	11
November	6691.5	7840	200745		200745	74%	110.1	12
December	5460.1	5935	169263		169263	61%	90.7	9
Sum				1410	2187105		1343.1	135
Average	5988		182259		182259	67%	111.9	11.3
Max		13977	239494		239494			13
C of A	9000	18000						

Removal Efficiency	
CBOD5	0.971615527
Suspended Solids	0.968367732
Total Phosphorus	0.943438914

The weekly samples from December 27th arrived at the lab on December 31st which exceeded the 48 hour hold time for e-coli testing but the delayed test results were within limits. Operations staff had tried to fly the samples to Thunder Bay but flights were cancelled due to snow storm and then the couriers had difficulty with weather and holiday schedules.

	BOD5/CBOD5			Suspended Solids			Total Phosphorus			Nitrogen		E. Coli	pH	
	Avg. Raw	Avg. Eff.	Avg. Load	Avg. Raw	Avg. Eff.	Avg. Load	Avg. Raw	Avg. Eff.	Avg. Load	Avg. Raw	Avg. Eff.	Geo Mean	Monthly	Monthly
Month	BOD	CBOD	CBOD	S.S	S.S	S.S	T.P	T.P	T.P	TKN	Total N	Counts	Minimum	Maximum
	(mg/L)	(mg/L)	(kg/day)	(mg/L)	(mg/L)	(kg/day)	(mg/L)	(mg/L)	(kg/day)	(mg/L)	(mg/L)	/100ml		
January	102.6	3.3	18.1	155.8	6.4	34.8	2.64	0.22	1.19	19.4	8.1	69.5	7.3	7.9
February	112.0	2.5	13.0	157.2	6.2	32.5	2.82	0.17	0.87	21.8	11.1	14.1	7.1	7.8
March	104.5	3.1	16.7	156.5	7.6	41.4	2.73	0.16	0.86	19.1	12.6	14.1	6.9	7.5
April	103.6	5.1	28.1	167.2	5.9	32.7	2.79	0.16	0.86	19.3	13.1	32.8	7.0	7.7
May	79.8	2.6	15.9	154.9	8.2	56.3	2.50	0.20	1.36	17.2	10.9	67.7	7.3	7.8
June	64.3	3.0	22.3	138.8	6.5	46.5	2.02	0.14	0.97	14.6	8.7	21.7	7.3	7.9
July	84.4	2.0	11.1	150.2	2.8	17.1	2.34	0.08	0.46	17.7	8.3	7.3	7.4	7.8
August	113.0	2.0	10.6	181.2	3.0	15.6	2.98	0.16	0.81	22.0	9.06	16.4	7.3	8.0
September	112.8	2.3	13.2	174.0	3.7	20.4	3.27	0.13	0.74	21.5	7.62	6.7	7.6	7.9
October	76.8	2.0	15.3	125.9	2.5	20.3	1.84	0.12	0.90	15.0	6.94	10.0	7.6	8.0
November	81.8	2.0	13.3	141.4	2.8	19.1	2.48	0.10	0.68	18.2	8.9	11.9	7.2	8.0
December	95.3	2.2	11.6	152.6	3.1	16.6	2.53	0.11	0.60	20.3	9.9	10	6.9	7.3
Average	94.2	2.7	15.8	154.6	4.9	29.4	2.6	0.15	0.86	18.8	9.6	23.5	7.2	7.8
Max	113	5.1	28.1	181.2	8.2	56.3	3.3	0.22	1.36	22	13.1	69.5	7.6	8
C of A		25	225		25	225		1.0	9.0	200	6.0	200	6.0	9.5

Monthly Operations Summary Report

Fort Frances Wastewater Treatment Plant
Monthly Operations Summary

2018	Raw Sewage				Final Effluent												
Day	Raw Flow: Sum (m3/d)	BOD5 (mg/L)	Total Phosphorus (mg/L)	SS (mg/L) IH	Final Eff. Flow: Sum (m3/d)	Final Eff. Flow: Max. (L/s)	CBOD5 (mg/L)	NH3 + NH4 as N (mg/L)	Nitrite - N (mg/L)	Nitrate-N(mg/L)	Total Phosphorus (mg/L)	Suspended Solids (mg/L)	SS (mg/L) IH	Temperature (C)	pH	E. Coli. (cfu/100 mL)	Bypass Volume (m3)
01/01/2018	5,543.00			152	5,543.00	91					0.24		6.4	9.5	7.9		
02/01/2018	5,665.00	94	2.43	194	5,665.00	90	3.3	0.226	0.167	5.74	0.22	0.236	8	10	7.7	10	
03/01/2018	5,674.00			136	5,674.00	91					0.25		10.8	9.5	7.7		
04/01/2018	5,582.00			139	5,582.00	90					0.15		5.2	9.5	7.6		
05/01/2018	5,577.00			143	5,577.00	90					0.13		6.4	9.5	7.7		
06/01/2018	5,886.00			156	5,886.00	97					0.17		10.4	9.5	7.7		
07/01/2018	5,705.00			176	5,705.00	99					0.12		1.2	9	7.8		
08/01/2018	5,491.00	86	2.9	209	5,491.00	91	3.2	0.569	0.26	4.68	0.15	0.17	3.6	9	7.7	300	
09/01/2018	5,533.00			192	5,533.00	92					0.11		4	9	7.7		
10/01/2018	5,723.00			174	5,723.00	91					0.13		3.6	9	7.8		
11/01/2018	5,381.00			139	5,381.00	86					0.16		7.2	9	7.8		
12/01/2018	5,554.00			150	5,554.00	96					0.21		6.8	9	7.8		
13/01/2018	5,955.00			166	5,955.00	97					0.16		7.2	9	7.8		
14/01/2018	5,720.00			179	5,720.00	96					0.12		8.4	9	7.8		
15/01/2018	5,472.00	127	2.5	163	5,472.00	91	4.3	1.18	0.234	4.84	0.11	0.195	6.8	9	7.8	1080	
16/01/2018	5,552.00			148	5,552.00	92					0.19		7.6	9	7.6		
17/01/2018	5,629.00			155	5,629.00	90					0.21		9.2	9	7.9		
18/01/2018	5,357.00			131	5,357.00	88					0.16		6.4	9	7.8		
19/01/2018	5,281.00			142	5,281.00	87					2		11.2	9	7.7		
20/01/2018	5,387.00			191	5,387.00	90					0.16		5.6	9	7.4		
21/01/2018	5,207.00			119	5,207.00	90					0.18		4.8	9	7.3		
22/01/2018	5,261.00			114	5,261.00	91					0.16		6	9.5	7.5		
23/01/2018	5,205.00	93	2.37	129	5,205.00	86	3.9	2.2	0.162	5.25	0.14	0.196	4.4	9	7.6	10	
24/01/2018	5,254.00			174	5,254.00	89					0.17		4.8	9	7.5		
25/01/2018	5,247.00			142	5,247.00	89					0.18		8.4	9	7.7		
26/01/2018	5,166.00			151	5,166.00	90					0.15		6.4	9	7.6		
27/01/2018	5,327.00			132	5,327.00	92					0.17		4.8	9	7.6		
28/01/2018	5,142.00			175	5,142.00	87					0.16		2.4	9	7.6		
29/01/2018	5,200.00	113	2.98	164	5,200.00	90	2	1.8	0.197	4.61	0.06	0.11	2.8	9	7.7	50	
30/01/2018	5,200.00			147	5,200.00	90					0.17		8.8	9	7.6		
31/01/2018	5,325.00			149	5,325.00	88					0.13		7.2	8.5	7.6		
Total	169,201.00				169,201.00												0.00
Average	5,458.10	102.60	2.64	155.84	5,458.10	90.87	3.34	1.20	0.20	5.02	0.22	0.18	6.35	9.11	7.68	69.49	0.00
Minimum	5,142.00	86.00	2.37	114.00	5,142.00	86.00	2.00	0.23	0.16	4.61	0.06	0.11	1.20	8.50	7.30	10.00	0.00
Maximum	5,955.00	127.00	2.98	209.00	5,955.00	99.00	4.30	2.20	0.26	5.74	2.00	0.24	11.20	10.00	7.90	1,080.00	0.00
Count	31	5	5	31	31	31	5	5	5	5	31	5	31	31	31	5	0

Fort Frances Wastewater Treatment Plant
Monthly Operations Summary

2018	Raw Sewage				Final Effluent												
	Raw Flow: Sum (m3/d)	BOD5 (mg/L)	Total Phosphorus (mg/L)	SS (mg/L) IH	Final Eff. Flow: Sum (m3/d)	Final Eff. Flow: Max. (L/s)	CBOD5 (mg/L)	NH3 + NH4 as N (mg/L)	Nitrite - N (mg/L)	Nitrate-N(mg/L)	Total Phosphorus (mg/L)	Suspended Solids (mg/L)	SS (mg/L) IH	Temperature (C)	pH	E. Coli. (cfu/100 mL)	Bypass Volume (m3)
01/02/2018	5,212.00			161	5,212.00	84					0.12		4.8	8.5	7.5		
02/02/2018	5,203.00			154	5,203.00	94					0.18		5.2	8	7.7		
03/02/2018	5,354.00			172	5,354.00	92					0.2		4.4	8	7.8		
04/02/2018	5,338.00			162	5,338.00	91					0.19		5.6	8	7.5		
05/02/2018	5,309.00	112	2.85	167	5,309.00	94	2	4.02	0.187	4	0.12	6.8	4.4	8	7.4	20	
06/02/2018	5,333.00			143	5,333.00	89					0.15		5.2	8	7.3		
07/02/2018	5,404.00			199	5,404.00	96					0.25		7.2	8	7.3		
08/02/2018	5,123.00			142	5,123.00	89					0.25		6.8	8	7.3		
09/02/2018	5,080.00			132	5,080.00	89					0.13		4.8	8	7.3		
10/02/2018	5,516.00			138	5,516.00	97					0.21		2.8	8	7.1		
11/02/2018	5,370.00			141	5,370.00	90					0.19		8.8	8.5	7.3		
12/02/2018	5,329.00	118	2.88	157	5,329.00	91	2.9	5.2	0.115	3.45	0.17	9.1	5.6	8	7.5	10	
13/02/2018	5,512.00			125	5,512.00	87					0.16		6	8	7.2		
14/02/2018	5,685.00			154	5,685.00	93					0.16		7.2	8	7.2		
15/02/2018	5,202.00			122	5,202.00	88					0.15		5.2	8	7.1		
16/02/2018	5,252.00			131	5,252.00	92					0.16		4	8	7.2		
17/02/2018	5,358.00			139	5,358.00	93					0.14		5.2	8	7.2		
18/02/2018	5,089.00			156	5,089.00	87					0.14		4.4	8	7.1		
19/02/2018	5,156.00			212	5,156.00	85					0.08		4.4	8	7.1		
20/02/2018	5,113.00	119	3.18	205	5,113.00	89	2.5	5.94	0.187	3.41	0.11	4.8	4.8	8	7.2	10	
21/02/2018	5,380.00			168	5,380.00	88					0.15		6	8	7.2		
22/02/2018	5,256.00			177	5,256.00	88					0.21		12.8	8	7.6		
23/02/2018	5,221.00			163	5,221.00	94					0.14		6.4	8	7.3		
24/02/2018	5,308.00			160	5,308.00						0.2		8.4	8	7.4		
25/02/2018	5,134.00			157	5,134.00	85					0.2		8	8	7.5		
26/02/2018	5,094.00	99	2.38	152	5,094.00	90	2.6	6.7	0.158	3.08	0.19	8.3	8.4	8	7.3	20	
27/02/2018	5,035.00			168	5,035.00	88					0.16		7.2	8	7.3		
28/02/2018	5,131.00			145	5,131.00	92					0.13		8.8	8	7.3		
Total	147,497.00				147,497.00												0.00
Average	5,267.75	112.00	2.82	157.21	5,267.75	90.19	2.50	5.47	0.16	3.49	0.17	7.25	6.17	8.04	7.33	14.14	0.00
Minimum	5,035.00	99.00	2.38	122.00	5,035.00	84.00	2.00	4.02	0.12	3.08	0.08	4.80	2.80	8.00	7.10	10.00	0.00
Maximum	5,685.00	119.00	3.18	212.00	5,685.00	97.00	2.90	6.70	0.19	4.00	0.25	9.10	12.80	8.50	7.80	20.00	0.00
Count	28	4	4	28	28	27	4	4	4	4	28	4	28	28	28	4	0

Fort Frances Wastewater Treatment Plant
Monthly Operations Summary

2018	Raw Sewage				Final Effluent												
	Raw Flow: Sum (m3/d)	BOD5 (mg/L)	Total Phosphorus (mg/L)	SS (mg/L) IH	Final Eff. Flow: Sum (m3/d)	Final Eff. Flow: Max. (L/s)	CBOD5 (mg/L)	NH3 + NH4 as N (mg/L)	Nitrite - N (mg/L)	Nitrate-N(mg/L)	Total Phosphorus (mg/L)	Suspended Solids (mg/L)	SS (mg/L) IH	Temperature (C)	pH	E. Coli. (cfu/100 mL)	Bypass Volume (m3)
01/03/2018	5,190.00			170	5,190.00	89					0.15		6.8	8	7.3		
02/03/2018	5,197.00			150	5,197.00	90					0.15		7.6	8	7.3		
03/03/2018	5,608.00			144	5,608.00	94					0.16		3.6	8	7.2		
04/03/2018	5,501.00			147	5,501.00	97					0.24		12	8	7.1		
05/03/2018	5,345.00	111	2.66	155	5,345.00	94	4.6	7.06	0.206	3.14	0.19	13.1	14	8	7	10	
06/03/2018	5,250.00			130	5,250.00	87					0.13		4.8	8	7.2		
07/03/2018	5,433.00			133	5,433.00	92					0.08		4.4	8	6.9		
08/03/2018	5,278.00			145	5,278.00	97					0.06		4	8	7		
09/03/2018	5,262.00			157	5,262.00	87					0.07		5.2	8	7.1		
10/03/2018	5,526.00			139	5,526.00	94					0.09		5.6	8	7.1		
11/03/2018	5,020.00			153	5,020.00	85					0.08		2	8	7		
12/03/2018	5,301.00	105	3.55	195	5,301.00	89	2	6.88	0.461	3.33	0.1	2.8	6.4	8	6.9	20	
13/03/2018	5,303.00			151	5,303.00	88					0.08		4	8	7		
14/03/2018	5,587.00			160	5,587.00	93					0.09		7.6	8	7		
15/03/2018	5,285.00			166	5,285.00	87					0.23		12	7.5	7.3		
16/03/2018	5,166.00			152	5,166.00	86					0.17		8	7.5	7.1		
17/03/2018	5,671.00			151	5,671.00	93					0.25		8	7.5	7.2		
18/03/2018	5,563.00			165	5,563.00	90					0.2		9.6	7.5	7.2		
19/03/2018	5,330.00	102	2.3	139	5,330.00	85	3.8	6.9	0.256	3	0.16	6.4	5.6	7.5	7.3	10	
20/03/2018	5,320.00			155	5,320.00	88					0.21		7.6	7.5	7.4		
21/03/2018	5,439.00			145	5,439.00	88					0.21		7.2	7.5	7.3		
22/03/2018	5,295.00			196	5,295.00	93					0.16		9.6	7.5	7.4		
23/03/2018	5,219.00			147	5,219.00	90					0.19		8	8	7		
24/03/2018	5,567.00			146	5,567.00	96					0.2		10	8	7.2		
25/03/2018	5,477.00			144	5,477.00	90					0.22		4.8	8	7.1		
26/03/2018	5,348.00	100	2.39	132	5,348.00	96	2.1	6.29	0.142	4.2	0.25	4.7	12.4	8	7.5	20	
27/03/2018	5,630.00			154	5,630.00	89					0.21		8.8	8	7.2		
28/03/2018	6,024.00			190	6,024.00	96					0.25		16.8	8	6.9		
29/03/2018	5,541.00				5,541.00	93											
30/03/2018	5,440.00				5,440.00	92											
31/03/2018	5,591.00			228	5,591.00	96					0.02		4.4	8	7		
Total	167,707.00				167,707.00												0.00
Average	5,409.90	104.50	2.73	156.52	5,409.90	91.10	3.13	6.78	0.27	3.42	0.16	6.75	7.61	7.86	7.14	14.14	0.00
Minimum	5,020.00	100.00	2.30	130.00	5,020.00	85.00	2.00	6.29	0.14	3.00	0.02	2.80	2.00	7.50	6.90	10.00	0.00
Maximum	6,024.00	111.00	3.55	228.00	6,024.00	97.00	4.60	7.06	0.46	4.20	0.25	13.10	16.80	8.00	7.50	20.00	0.00
Count	31	4	4	29	31	31	4	4	4	4	29	4	29	29	29	4	0

Fort Frances Wastewater Treatment Plant
Monthly Operations Summary

2018	Raw Sewage				Final Effluent												
	Raw Flow: Sum (m3/d)	BOD5 (mg/L)	Total Phosphorus (mg/L)	SS (mg/L) IH	Final Eff. Flow: Sum (m3/d)	Final Eff. Flow: Max. (L/s)	CBOD5 (mg/L)	NH3 + NH4 as N (mg/L)	Nitrite - N (mg/L)	Nitrate-N(mg/L)	Total Phosphorus (mg/L)	Suspended Solids (mg/L)	SS (mg/L) IH	Temperature (C)	pH	E. Coli. (cfu/100 mL)	Bypass Volume (m3)
01/04/2018	5,683.00			122	5,683.00	96					0.04		4	8	0.04		
02/04/2018	5,369.00			168	5,369.00	92					0.16		8	8	0.16		
03/04/2018	5,248.00			150	5,248.00	92					0.09		5.6	8	0.09		
04/04/2018	5,470.00	95	2.73	214	5,470.00	93	2.7	8.4	0.059	4.14	0.13	3.9	4	8	0.13	10	
05/04/2018	5,147.00			182	5,147.00	89					0.21		5.6	7.5	0.21		
06/04/2018	5,151.00			175	5,151.00	85					0.16		9.6	7.5	0.16		
07/04/2018	5,347.00			175	5,347.00	95					0.17		7.2	7	0.17		
08/04/2018	5,200.00			176	5,200.00	86					0.21		5.6	7.5	0.21		
09/04/2018	5,143.00	108	3.43	170	5,143.00	89	2.3	6.84	0.128	4.71	0.14	5.6	5.2	7.5	0.14	30	
10/04/2018	5,168.00			166	5,168.00	92					0.14		6	7.5	0.14		
11/04/2018	5,254.00			180	5,254.00	92					0.14		4.8	7.5	0.14		
12/04/2018	5,083.00			163	5,083.00	89					0.19		6.8	7.5	0.19		
13/04/2018	5,091.00			238	5,091.00	90					0.12		2.4	7.5	0.12		
14/04/2018	5,409.00			170	5,409.00	90					0.17		9.6	7.5	0.17		
15/04/2018	5,373.00			172	5,373.00	90					0.12		8	7.5	0.12		
16/04/2018	5,338.00	110	2.79	181	5,338.00	92	14.5	6.23	0.097	5.19	0.24	7.6	5.6	8	0.24	63	
17/04/2018	5,308.00			168	5,308.00	89					0.16		2.8	8	0.16		
18/04/2018	5,604.00			151	5,604.00	102					0.14		5.2	8	0.14		
19/04/2018	5,323.00			172	5,323.00	89					0.05		1.2	8	0.05		
20/04/2018	5,378.00			161	5,378.00	87					0.07		4	8	0.07		
21/04/2018	5,795.00			144	5,795.00	94					0.1		4.4	8	0.1		
22/04/2018	5,949.00			182	5,949.00	98					0.09		4	8	0.09		
23/04/2018	5,898.00	105	2.81	187	5,898.00	98	2.5	5.08	0.08	4.67	0.21	4.1	6	8	0.21	50	
24/04/2018	6,136.00			191	6,136.00	98					0.15		4	8	0.15		
25/04/2018	6,269.00			184	6,269.00	101					0.13		7.2	8.5	0.13		
26/04/2018	6,013.00			145	6,013.00	97					0.15		7.2	7.5	0.15		
27/04/2018	6,149.00			118	6,149.00	102					0.15		8	7.5	0.15		
28/04/2018	6,199.00			146	6,199.00	101					0.22		6.8	7.5	0.22		
29/04/2018	5,969.00			140	5,969.00	95					0.34		8.8	8	0.34		
30/04/2018	5,828.00	100	2.21	126	5,828.00	98	3.7	5.3	0.285	3.3	0.25	9.5	8.8	8	0.25	40	
Total	166,292.00				166,292.00												0.00
Average	5,543.07	103.60	2.79	167.23	5,543.07	93.37	5.14	6.37	0.13	4.40	0.15	6.14	5.88	7.77	0.15	32.77	0.00
Minimum	5,083.00	95.00	2.21	118.00	5,083.00	85.00	2.30	5.08	0.06	3.30	0.04	3.90	1.20	7.00	0.04	10.00	0.00
Maximum	6,269.00	110.00	3.43	238.00	6,269.00	102.00	14.50	8.40	0.29	5.19	0.34	9.50	9.60	8.50	0.34	63.00	0.00
Count	30	5	5	30	30	30	5	5	5	5	30	5	30	30	30	5	0

Fort Frances Wastewater Treatment Plant
Monthly Operations Summary

2018	Raw Sewage				Final Effluent												
	Raw Flow: Sum (m3/d)	BOD5 (mg/L)	Total Phosphorus (mg/L)	SS (mg/L) IH	Final Eff. Flow: Sum (m3/d)	Final Eff. Flow: Max. (L/s)	CBOD5 (mg/L)	NH3 + NH4 as N (mg/L)	Nitrite - N (mg/L)	Nitrate-N(mg/L)	Total Phosphorus (mg/L)	Suspended Solids (mg/L)	SS (mg/L) IH	Temperature (C)	pH	E. Coli. (cfu/100 mL)	Bypass Volume (m3)
01/05/2018	6,172.00			139	6,172.00	100					0.15		7.6	8	7.6		
02/05/2018	6,321.00			144	6,321.00	113					0.21		12.8	8	7.6		
03/05/2018	5,946.00			183	5,946.00	108					0.24		4	8	7.7		
04/05/2018	5,777.00			165	5,777.00	92					0.14		7.8	8	7.6		
05/05/2018	5,977.00			129	5,977.00	100					0.2		8	8.5	7.6		
06/05/2018	5,726.00			132	5,726.00	90					0.1		5.6	8.5	7.6		
07/05/2018	5,621.00	86	2.32	157	5,621.00	96	2.1	6.82	0.15	3.01	0.22	4.5	9.2	9	7.8	60	
08/05/2018	6,300.00			170	6,300.00	102					0.29		8.8	9	7.6		
09/05/2018	6,831.00			114	6,831.00	108					0.21		10.8	9	7.7		
10/05/2018	6,332.00			127	6,332.00	104					0.14		4	9	7.5		
11/05/2018	6,140.00			144	6,140.00	96					0.12		4.4	9	7.5		
12/05/2018	6,143.00			161	6,143.00	100					0.14		4.8	9	7.6		
13/05/2018	5,959.00			173	5,959.00	96					0.21		6	8.5	7.6		
14/05/2018	5,900.00	100	3.09		5,900.00	95	3	6.18	0.248	3.05	0.16	9.3	5.2	8.5	7.5	130	
15/05/2018	5,790.00			154	5,790.00	93					0.19		7.8	8.5	7.5		
16/05/2018	5,843.00			139	5,843.00	94					0.11		5.2	9	7.5		
17/05/2018	5,863.00			169	5,863.00	96					0.2		10	8.5	7.8		
18/05/2018	8,189.00			187	8,189.00	136					0.22		12.8	8.5	7.6		
19/05/2018	9,505.00			115	9,505.00	138					0.2		13.2	8.5	7.6		
20/05/2018	7,351.00			105	7,351.00	108					0.29		10.8	8.5	7.3		
21/05/2018	6,919.00			104	6,919.00	103					0.19		7.6	9	7.4		
22/05/2018	6,919.00	56	2.29	154	6,919.00	92	2.8	3.48	0.25	2.39	0.25	8.1	8.4	9	7.6	90	
23/05/2018	6,900.00			142	6,900.00	101					0.16		9.6	9	7.5		
24/05/2018	13,977.00			421	13,977.00	109					0.11		4.8	9	7.5		
25/05/2018	7,926.00			153	7,926.00	124					0.29		11.2	10.5	7.3		
26/05/2018	7,312.00			107	7,312.00	111					0.29		7.8	10.5	7.7		
27/05/2018	6,708.00			136	6,708.00	100					0.33		14.8	10.5	7.6		
28/05/2018	6,273.00			181	6,273.00	124					0.26		9.2	10.5	7.6		
29/05/2018	6,424.00	77	2.28	119	6,424.00	106	2.3	4.84	0.169	3.43	0.28	8.9	9.2	10.5	7.7	30	
30/05/2018	6,821.00			180	6,821.00	131					0.22		10.4	11	7.6		
31/05/2018	7,067.00			144	7,067.00	107					0.1		2.8	11	7.5		
Total	210,932.00				210,932.00												0.00
Average	6,804.26	79.75	2.50	154.93	6,804.26	105.58	2.55	5.33	0.20	2.97	0.20	7.70	8.21	9.10	7.57	67.74	0.00
Minimum	5,621.00	56.00	2.28	104.00	5,621.00	90.00	2.10	3.48	0.15	2.39	0.10	4.50	2.80	8.00	7.30	30.00	0.00
Maximum	13,977.00	100.00	3.09	421.00	13,977.00	138.00	3.00	6.82	0.25	3.43	0.33	9.30	14.80	11.00	7.80	130.00	0.00
Count	31	4	4	30	31	31	4	4	4	4	31	4	31	31	31	4	0

Fort Frances Wastewater Treatment Plant
Monthly Operations Summary

2018	Raw Sewage				Final Effluent												
	Raw Flow: Sum (m3/d)	BOD5 (mg/L)	Total Phosphorus (mg/L)	SS (mg/L) IH	Final Eff. Flow: Sum (m3/d)	Final Eff. Flow: Max. (L/s)	CBOD5 (mg/L)	NH3 + NH4 as N (mg/L)	Nitrite - N (mg/L)	Nitrate-N(mg/L)	Total Phosphorus (mg/L)	Suspended Solids (mg/L)	SS (mg/L) IH	Temperature (C)	pH	E. Coli. (cfu/100 mL)	Bypass Volume (m3)
01/06/2018	6,813.00			122	6,813.00	104					0.25		12.8	11	7.5		
02/06/2018	9,454.00			196	9,454.00	183					0.24		11.6	11	7.5		
03/06/2018	10,382.00			85	10,382.00	143					0.23		10	11	7.6		
04/06/2018	8,965.00	54	1.43	99	8,965.00	134	5	3.55	0.124	3.2	0.1	12.5	6	11	7.6	110	
05/06/2018	8,033.00			81	8,033.00	119					0.1		6	11	7.6		
06/06/2018	7,662.00			123	7,662.00	124					0.25		17.6	11.5	7.9		
07/06/2018	6,997.00			126	6,997.00	112					0.17		7.6	11.5	7.7		
08/06/2018	7,100.00			135	7,100.00	131					0.11		4.8	11.5	7.6		
09/06/2018	7,501.00			182	7,501.00	114					0.18		9.2	11.5	7.7		
10/06/2018	6,577.00			142	6,577.00	136					0.18		8.8	11.5	7.8		1410
11/06/2018	6,776.00			153	6,776.00	103					0.16		5.2	12	7.7		
12/06/2018	6,676.00	60	2.38	168	6,676.00	107	2.3	3.11	0.079	4.76	0.1	3.5	7.2	12	7.7	10	
13/06/2018	6,447.00			154	6,447.00	107					0.19		5.2	12	7.8		
14/06/2018	6,269.00			208	6,269.00	112					0.15		2	12	7.7		
15/06/2018	6,398.00			149	6,398.00	102					0.16		6	13.5	7.7		
16/06/2018	6,651.00			121	6,651.00	102					0.16		4	13	7.6		
17/06/2018	7,664.00			107	7,664.00	118					0.09		5.6	12.5	7.8		
18/06/2018	6,803.00	60	1.84	108	6,803.00	110	2.5	0.91	0.067	5.27	0.09	5.2	7.8	13	7.5	10	
19/06/2018	6,470.00			124	6,470.00	106					0.07		2.8	13	7.4		
20/06/2018	6,439.00			161	6,439.00	112					0.19		6.4	13	7.3		
21/06/2018	6,007.00			140	6,007.00	102					0.11		8	13	7.3		
22/06/2018	5,928.00			154	5,928.00	104					0.2		10	13	7.3		
23/06/2018	6,068.00			145	6,068.00	95					0.09		2.8	13	7.4		
24/06/2018	6,016.00			127	6,016.00	92					0.1		4	13	7.3		
25/06/2018	5,944.00	83	2.44	133	5,944.00	95	2	0.417	0.013	6.52	0.03	2	2.8	13	7.3	20	
26/06/2018	5,867.00			142	5,867.00	93					0.06		3.6	13	7.4		
27/06/2018	5,966.00			148	5,966.00	98					0.07		4.4	13	7.4		
28/06/2018	5,775.00			145	5,775.00	102					0.1		3.2	13	7.3		
29/06/2018	6,047.00			157	6,047.00	111					0.07		8.8	15	7.7		
30/06/2018	6,123.00			129	6,123.00	98					0.11		1.6	14.5	7.4		
Total	205,818.00				205,818.00												1,410.00
Average	6,860.60	64.25	2.02	138.80	6,860.60	112.30	2.95	2.00	0.07	4.94	0.14	5.80	6.53	12.40	7.55	21.66	0.00
Minimum	5,775.00	54.00	1.43	81.00	5,775.00	92.00	2.00	0.42	0.01	3.20	0.03	2.00	1.60	11.00	7.30	10.00	1,410.00
Maximum	10,382.00	83.00	2.44	208.00	10,382.00	183.00	5.00	3.55	0.12	6.52	0.25	12.50	17.60	15.00	7.90	110.00	1,410.00
Count	30	4	4	30	30	30	4	4	4	4	30	4	30	30	30	4	1

Fort Frances Wastewater Treatment Plant
Monthly Operations Summary

2018	Raw Sewage				Final Effluent												
	Raw Flow: Sum (m3/d)	BOD5 (mg/L)	Total Phosphorus (mg/L)	SS (mg/L) IH	Final Eff. Flow: Sum (m3/d)	Final Eff. Flow: Max. (L/s)	CBOD5 (mg/L)	NH3 + NH4 as N (mg/L)	Nitrite - N (mg/L)	Nitrate-N(mg/L)	Total Phosphorus (mg/L)	Suspended Solids (mg/L)	SS (mg/L) IH	Temperature (C)	pH	E. Coli. (cfu/100 mL)	Bypass Volume (m3)
01/07/2018	5,862.00			131	5,862.00	95					0.07		2	14	7.5		
02/07/2018	5,949.00			110	5,949.00	101					0.15		6	14.5	7.5		
03/07/2018	5,639.00	58	2.13	129	5,639.00	94	2	0.288	0.033	6.6	0.08	4.8	2.4	14.5	7.7	10	
04/07/2018	8,623.00			187	8,623.00	171					0.09		4	14.5	7.8		
05/07/2018	7,205.00			144	7,205.00	108					0.07		1.6	14.5	7.6		
06/07/2018	6,695.00			162	6,695.00	161					0.08		2.8	14.5	7.6		
07/07/2018	6,806.00			182	6,806.00	107					0.11		5.2	14.5	7.8		
08/07/2018	6,374.00			157	6,374.00	104					0.1		4.4	14.5	7.8		
09/07/2018	5,937.00	78	2.17	153	5,937.00	96	2	0.548	0.058	5.87	0.07	5.2	2.8	15	7.7	10	
10/07/2018	5,706.00			148	5,706.00	94					0.06		2.4	15	7.7		
11/07/2018	7,052.00			151	7,052.00	141					0.1		3.6	15	7.6		
12/07/2018	6,413.00			121	6,413.00	105					0.12		2.8	15	7.7		
13/07/2018	5,852.00			205	5,852.00	98					0.09		2.4	15	7.6		
14/07/2018	5,866.00			176	5,866.00	99					0.11		3.6	15	7.7		
15/07/2018	6,255.00			137	6,255.00	96					0.05		2.8	15	7.7		
16/07/2018	5,965.00	86	2.22	130	5,965.00	95	2	0.119	0.019	5.7	0.03	2	4.8	15	7.6	10	
17/07/2018	5,756.00			154	5,756.00	92					0.02		2.8	15	7.6		
18/07/2018	5,861.00			126	5,861.00	101					0.01		2.4	15.5	7.7		
19/07/2018	5,683.00			131	5,683.00	93					0.02		2.8	15.5	7.6		
20/07/2018	5,609.00			141	5,609.00	89					0.12		1.6	16.5	7.7		
21/07/2018	5,669.00			134	5,669.00	95					0.08		2.4	16	7.8		
22/07/2018	5,369.00			142	5,369.00	93					0.08		4	16	7.4		
23/07/2018	5,209.00	85	2.44	140	5,209.00	88	2	0.22	0.025	7.16	0.11	2	4.4	16	7.6	2	
24/07/2018	5,316.00			139	5,316.00	89					0.05		3.2	16	7.6		
25/07/2018	5,462.00			164	5,462.00	92					0.08		1.6	16	7.6		
26/07/2018	5,464.00			157	5,464.00	90					0.07		2	15.5	7.5		
27/07/2018	5,195.00			160	5,195.00	85					0.05		2	16	7.8		
28/07/2018	5,366.00			158	5,366.00	98					0.08		1.6	16	7.7		
29/07/2018	5,177.00			143	5,177.00	84					0.04		0.8	16.5	7.4		
30/07/2018	5,039.00	115	2.76	162	5,039.00	90	2	0.443	0.05	7.71	0.08	2	1.2	16.5	7.7	10	
31/07/2018	5,091.00			182	5,091.00	84					0.11		1.6	16.5	7.7		
Total	183,465.00				183,465.00												0.00
Average	5,918.23	84.40	2.34	150.19	5,918.23	100.90	2.00	0.32	0.04	6.61	0.08	3.20	2.84	15.32	7.65	7.25	0.00
Minimum	5,039.00	58.00	2.13	110.00	5,039.00	84.00	2.00	0.12	0.02	5.70	0.01	2.00	0.80	14.00	7.40	2.00	0.00
Maximum	8,623.00	115.00	2.76	205.00	8,623.00	171.00	2.00	0.55	0.06	7.71	0.15	5.20	6.00	16.50	7.80	10.00	0.00
Count	31	5	5	31	31	31	5	5	5	5	31	5	31	31	31	5	0

Fort Frances Wastewater Treatment Plant
Monthly Operations Summary

2018	Raw Sewage				Final Effluent												
	Raw Flow: Sum (m3/d)	BOD5 (mg/L)	Total Phosphorus (mg/L)	SS (mg/L) IH	Final Eff. Flow: Sum (m3/d)	Final Eff. Flow: Max. (L/s)	CBOD5 (mg/L)	NH3 + NH4 as N (mg/L)	Nitrite - N (mg/L)	Nitrate-N(mg/L)	Total Phosphorus (mg/L)	Suspended Solids (mg/L)	SS (mg/L) IH	Temperature (C)	pH	E. Coli. (cfu/100 mL)	Bypass Volume (m3)
01/08/2018	5,602.00			234	5,602.00	94					0.1		2.8	16.5	7.8		
02/08/2018	5,358.00			226	5,358.00	99					0.07		2.8	16.5	7.8		
03/08/2018	5,159.00			211	5,159.00	90					0.09		3.6	16.5	7.7		
04/08/2018	5,333.00			161	5,333.00	93					0.06		2.8	16.5	7.7		
05/08/2018	4,876.00			168	4,876.00	82					0.06		1.6	16.5	7.6		
06/08/2018	4,870.00			197	4,870.00	83					0.05		1.2	16.5	7.6		
07/08/2018	4,918.00	123	3.55	186	4,918.00	90	2	0.061	0.033	7.46	0.03	2	2	17	7.7	12	
08/08/2018	5,048.00			177	5,048.00	96					0.13		3.2	17	7.7		
09/08/2018	4,636.00			157	4,636.00	83					0.08		1.2	17	7.5		
10/08/2018	4,595.00			164	4,595.00	81					0.13		1.6	17.5	7.7		
11/08/2018	4,780.00			172	4,780.00	82					0.15		1.6	18	7.7		
12/08/2018	4,652.00			160	4,652.00	78					0.15		0.8	17.5	7.3		
13/08/2018	4,823.00			164	4,823.00	85					0.23		2.8	17	7.8		
14/08/2018	4,729.00			151	4,729.00	81					0.19		2	17	7.7		
15/08/2018	4,972.00	86	2.56	165	4,972.00	91	2	0.1	0.061	7.7	0.18	2.9	3.2	17.5	7.7	10	
16/08/2018	4,765.00			168	4,765.00	82					0.14		3.2	17.5	7.8		
17/08/2018	4,779.00			165	4,779.00	84					0.19		2.8	17.5	7.8		
18/08/2018	4,962.00			182	4,962.00	88					0.21		2.8	17.5	7.8		
19/08/2018	5,106.00			187	5,106.00	86					0.18		2.4	17.5	7.9		
20/08/2018	5,023.00	104	2.82	179	5,023.00	88	2	0.028	0.059	7.7	0.17	3.3	3.6	17	7.8	10	
21/08/2018	4,907.00			199	4,907.00	87					0.21		3.6	17	7.9		
22/08/2018	4,923.00			175	4,923.00	86					0.21		5.6	17.5	8		
23/08/2018	4,812.00			183	4,812.00	86					0.22		2.8	17.5	7.8		
24/08/2018	4,938.00			177	4,938.00	93					0.2		4	17.5	7.8		
25/08/2018	5,493.00			163	5,493.00	124					0.23		4.4	17.5	7.9		
26/08/2018	5,488.00			231	5,488.00	98					0.23		3.6	17.5	7.9		
27/08/2018	6,250.00	139	2.97	222	6,250.00	122	2	0.12	0.106	6.67	0.21	2.1	5.6	17.5	7.9	60	
28/08/2018	5,444.00			177	5,444.00	92					0.19		4	17.5	7.8		
29/08/2018	5,444.00			162	5,444.00	93					0.21		4.4	17.5	7.8		
30/08/2018	5,243.00			186	5,243.00	92					0.2		4	17.5	7.9		
31/08/2018	5,198.00			168	5,198.00	84					0.24		3.6	17.5	7.7		
Total	157,126.00				157,126.00												0.00
Average	5,068.58	113.00	2.98	181.19	5,068.58	90.10	2.00	0.08	0.06	7.38	0.16	2.58	3.02	17.21	7.76	16.38	0.00
Minimum	4,595.00	86.00	2.56	151.00	4,595.00	78.00	2.00	0.03	0.03	6.67	0.03	2.00	0.80	16.50	7.30	10.00	0.00
Maximum	6,250.00	139.00	3.55	234.00	6,250.00	124.00	2.00	0.12	0.11	7.70	0.24	3.30	5.60	18.00	8.00	60.00	0.00
Count	31	4	4	31	31	31	4	4	4	4	31	4	31	31	31	4	0

Fort Frances Wastewater Treatment Plant
Monthly Operations Summary

2018	Raw Sewage				Final Effluent												
	Raw Flow: Sum (m3/d)	BOD5 (mg/L)	Total Phosphorus (mg/L)	SS (mg/L) IH	Final Eff. Flow: Sum (m3/d)	Final Eff. Flow: Max. (L/s)	CBOD5 (mg/L)	NH3 + NH4 as N (mg/L)	Nitrite - N (mg/L)	Nitrate-N(mg/L)	Total Phosphorus (mg/L)	Suspended Solids (mg/L)	SS (mg/L) IH	Temperature (C)	pH	E. Coli. (cfu/100 mL)	Bypass Volume (m3)
01/09/2018	5,207.00			171	5,207.00	96					0.22		4.4	17.5	7.8		
02/09/2018	4,949.00			163	4,949.00	85					0.2		3.6	17.5	7.7		
03/09/2018	4,991.00			209	4,991.00	86					0.11		2	17.5	7.8		
04/09/2018	5,222.00	134	3.69	220	5,222.00	87	2	0.07	0.05	7.14	0.1	2	4.8	17.5	7.8	10	
05/09/2018	5,389.00			230	5,389.00	97					0.1		3.6	17.5	7.8		
06/09/2018	5,082.00			223	5,082.00	90					0.1		4.4	17.5	7.9		
07/09/2018	4,885.00			182	4,885.00	92					0.1		2.4	17.5	7.9		
08/09/2018	5,048.00			187	5,048.00	92					0.11		2	17.5	7.8		
09/09/2018	4,994.00			207	4,994.00	88					0.11		2.4	17.5	7.9		
10/09/2018	5,023.00	116	2.99	172	5,023.00	91	2	0.168	0.019	7.91	0.11	2.4	2.4	17.5	7.9	10	
11/09/2018	4,903.00			165	4,903.00	90					0.14		1.2	17.5	7.8		
12/09/2018	6,096.00			165	6,096.00	148					0.15		8	17.5	7.6		
13/09/2018	3,629.00			185	3,629.00	135					0.3		15.2	17	7.7		
14/09/2018	4,762.00			177	4,762.00	85					0.12		4.4	17	7.7		
15/09/2018	5,030.00			168	5,030.00	89					0.1		3.6	17	7.6		
16/09/2018	5,496.00			161	5,496.00	87					0.1		2	17	7.6		
17/09/2018	5,063.00	102	3.92	173	5,063.00	92	2	0.956	0.023	1.84	0.11	2	2.4	16.5	7.8	2	
18/09/2018	4,902.00			186	4,902.00	90					0.06		1.6	17.5	7.8		
19/09/2018	5,088.00			199	5,088.00	89					0.12		4.4	17.5	7.7		
20/09/2018	5,254.00			221	5,254.00	100					0.16		2.4	16.5	7.9		
21/09/2018	8,044.00			190	8,044.00	143					0.14		5.6	16.5	7.9		
22/09/2018	6,303.00			169	6,303.00	104					0.15		3.2	16.5	7.9		
23/09/2018	6,382.00			150	6,382.00	104					0.12		2.8	16.5	7.8		
24/09/2018	7,378.00	99	2.47	153	7,378.00	121	3	0.42	0.013	6.6	0.15	2.9	5.2	17	7.7	10	
25/09/2018	7,196.00			125	7,196.00	111					0.14		3.2	17	7.8		
26/09/2018	7,095.00			125	7,095.00	107					0.12		2.4	17	7.8		
27/09/2018	6,751.00			126	6,751.00	105					0.14		2	17	7.8		
28/09/2018	6,320.00			132	6,320.00	103					0.11		2.4	17	7.8		
29/09/2018	6,706.00			112	6,706.00	109					0.13		3.6	17	7.7		
30/09/2018	6,377.00				6,377.00	144											
Total	169,565.00				169,565.00												0.00
Average	5,652.17	112.75	3.27	174.00	5,652.17	102.00	2.25	0.40	0.03	5.87	0.13	2.33	3.71	17.16	7.78	6.69	0.00
Minimum	3,629.00	99.00	2.47	112.00	3,629.00	85.00	2.00	0.07	0.01	1.84	0.06	2.00	1.20	16.50	7.60	2.00	0.00
Maximum	8,044.00	134.00	3.92	230.00	8,044.00	148.00	3.00	0.96	0.05	7.91	0.30	2.90	15.20	17.50	7.90	10.00	0.00
Count	30	4	4	29	30	30	4	4	4	4	29	4	29	29	29	4	0

Fort Frances Wastewater Treatment Plant
Monthly Operations Summary

2018	Raw Sewage				Final Effluent												
	Raw Flow: Sum (m3/d)	BOD5 (mg/L)	Total Phosphorus (mg/L)	SS (mg/L) IH	Final Eff. Flow: Sum (m3/d)	Final Eff. Flow: Max. (L/s)	CBOD5 (mg/L)	NH3 + NH4 as N (mg/L)	Nitrite - N (mg/L)	Nitrate-N(mg/L)	Total Phosphorus (mg/L)	Suspended Solids (mg/L)	SS (mg/L) IH	Temperature (C)	pH	E. Coli. (cfu/100 mL)	Bypass Volume (m3)
01/10/2018	6,244.00			126	6,244.00	101					0.09		1.6	17	7.7		
02/10/2018	6,235.00	78	2.13	151	6,235.00	104	2	0.034	0.025	5.97	0.07	2	2	16.5	7.8	10	
03/10/2018	7,390.00			136	7,390.00	123					0.06		1.2	16.5	7.8		
04/10/2018	6,971.00			110	6,971.00	106					0.18		4.8	16.5	7.7		
05/10/2018	6,900.00			128	6,900.00	131					0.13		2	16	8		
06/10/2018	7,443.00			119	7,443.00	112					0.13		1.2	16	7.8		
07/10/2018	6,964.00			156	6,964.00	110					0.14		1.6	15.5	7.9		
08/10/2018	7,738.00			141	7,738.00	121					0.13		2.8	15.5	7.7		
09/10/2018	8,462.00	95	1.9	111	8,462.00	158	2	0.078	0.031	5.66	0.19	3.5	6.4	15.5	8	10	
10/10/2018	8,706.00			130	8,706.00	130					0.25		9.2	15	7.8		
11/10/2018	8,272.00			103	8,272.00	123					0.16		2	15	7.6		
12/10/2018	8,715.00			113	8,715.00	129					0.15		2.8	15	7.7		
13/10/2018	9,271.00			131	9,271.00	135					0.14		3.6	14.5	7.9		
14/10/2018	9,123.00			132	9,123.00	132					0.11		5.2	14.5	8		
15/10/2018	8,826.00	62	1.46	130	8,826.00	133	2	0.133	0.022	5.13		3.5	1.6	14.5	7.8	10	
16/10/2018	8,499.00			108	8,499.00	128					0.1		2.8	14.5	7.9		
17/10/2018	8,260.00			126	8,260.00	123					0.2		2.4	14.5	7.8		
18/10/2018	7,987.00			125	7,987.00	140					0.07		1.6	14.5	7.8		
19/10/2018	7,676.00			111	7,676.00	126					0.09		1.2	14.5	7.8		
20/10/2018	7,581.00			119	7,581.00	117					0.12		4	14.5	7.8		
21/10/2018	7,395.00			131	7,395.00	114					0.1		1.6	14.5	7.8		
22/10/2018	7,177.00			170	7,177.00	118					0.03		1.2	14.5	7.6		
23/10/2018	6,960.00	72	1.88	128	6,960.00	108	2	0.366	0.07	5.46	0.03	2	0.8	14	7.6	10	
24/10/2018	7,162.00			161	7,162.00	113					0.06		2.4	14	7.6		
25/10/2018	6,948.00			116	6,948.00	109					0.08		2.4	14	7.8		
26/10/2018	7,154.00			107	7,154.00	113					0.05		1.2	14	8		
27/10/2018	7,575.00			132	7,575.00	117					0.08		1.2	14	8		
28/10/2018	8,120.00			109	8,120.00	118					0.14		1.6	14	7.9		
29/10/2018	7,748.00	77		112	7,748.00	118	2	0.107	0.01	5.06	0.16	2	1.2	14	7.9	10	
30/10/2018	8,015.00			123	8,015.00	122					0.07		2.4	14	7.8		
31/10/2018	7,977.00			108	7,977.00	129					0.13		2.8	14	8		
Total	239,494.00				239,494.00												0.00
Average	7,725.61	76.80	1.84	125.90	7,725.61	121.32	2.00	0.14	0.03	5.46	0.11	2.60	2.54	14.87	7.82	10.00	0.00
Minimum	6,235.00	62.00	1.46	103.00	6,235.00	101.00	2.00	0.03	0.01	5.06	0.03	2.00	0.80	14.00	7.60	10.00	0.00
Maximum	9,271.00	95.00	2.13	170.00	9,271.00	158.00	2.00	0.37	0.07	5.97	0.25	3.50	9.20	17.00	8.00	10.00	0.00
Count	31	5	4	31	31	31	5	5	5	5	30	5	31	31	31	5	0

Fort Frances Wastewater Treatment Plant
Monthly Operations Summary

2018	Raw Sewage				Final Effluent												
	Raw Flow: Sum (m3/d)	BOD5 (mg/L)	Total Phosphorus (mg/L)	SS (mg/L) IH	Final Eff. Flow: Sum (m3/d)	Final Eff. Flow: Max. (L/s)	CBOD5 (mg/L)	NH3 + NH4 as N (mg/L)	Nitrite - N (mg/L)	Nitrate-N(mg/L)	Total Phosphorus (mg/L)	Suspended Solids (mg/L)	SS (mg/L) IH	Temperature (C)	pH	E. Coli. (cfu/100 mL)	Bypass Volume (m3)
01/11/2018	7,700.00			118	7,700.00	116					0.01		2	13.5	7.6		
02/11/2018	7,522.00			126	7,522.00	113					0.04		2.4	13.5	7.7		
03/11/2018	7,641.00			135	7,641.00	114					0.07		4	13.5	7.7		
04/11/2018	7,840.00			153	7,840.00	118					0.01		1.2	13.5	7.6		
05/11/2018	7,332.00	86		140	7,332.00	114	2	1.23	0.01	5.58	0.02	2	0.8	13.5	7.6	10	
06/11/2018	7,228.00			119	7,228.00	113					0.08		4.4	13.5	7.6		
07/11/2018	7,229.00			184	7,229.00	112					0.17		5.2	13.5	8		
08/11/2018	6,970.00			136	6,970.00	110					0.1		3.6	13	8.1		
09/11/2018	7,008.00			171	7,008.00	116					0.1		3.2	13	8		
10/11/2018	7,182.00			166	7,182.00	115					0.15		3.2	12.5	8		
11/11/2018	6,902.00			149	6,902.00	106					0.16		4	12.5	7.9		
12/11/2018	6,664.00			136	6,664.00	99					0.12		2.8	13	7.9		
13/11/2018	6,699.00	85	2.14	137	6,699.00	103	2	0.283	0.01	7.17	0.12	4.1	3.6	12.5	8	10	
14/11/2018	6,837.00			129	6,837.00	114					0.14		4	12.5	7.7		
15/11/2018	6,574.00			111	6,574.00	104					0.13		2	12.5	7.9		
16/11/2018	6,376.00			133	6,376.00	101					0.11		4	12.5	7.7		
17/11/2018	6,516.00			126	6,516.00	108					0.13		3.2	12.5	7.8		
18/11/2018	6,390.00			144	6,390.00	100					0.09		2	12.5	7.8		
19/11/2018	6,285.00	84	3.14	136	6,285.00	102	2	0.448	0.01	7.58	0.1	2	2.4	12.5	7.7	20	
20/11/2018	6,254.00			139	6,254.00	98					0.05		2.4	12.5	7.7		
21/11/2018	6,414.00			120	6,414.00	115					0.06		2	12	7.5		
22/11/2018	6,243.00			142	6,243.00	103					0.14		3.2	12	7.9		
23/11/2018	6,186.00			138	6,186.00	96					0.15		1.2	12	8		
24/11/2018	6,278.00			126	6,278.00	102					0.11		4	12	8		
25/11/2018	6,131.00			139	6,131.00	98					0.12		2	11.5	7.9		
26/11/2018	6,192.00	72	2.17	163	6,192.00	102	2	0.074	0.028	8.73	0.1	2.8	3.6	11.5	7.9	10	
27/11/2018	6,227.00			170	6,227.00	102					0.12		2.4	11.5	7.5		
28/11/2018	6,251.00			157	6,251.00	109					0.17		3.6	11.5	7.2		
29/11/2018	5,936.00			159	5,936.00	98					0.12		1.2	11.5	7.2		
30/11/2018	5,738.00			139	5,738.00	99					0.11		1.6	11.5	7.2		
Total	200,745.00				200,745.00												0.00
Average	6,691.50	81.75	2.48	141.37	6,691.50	106.67	2.00	0.51	0.01	7.27	0.10	2.73	2.84	12.52	7.74	11.89	0.00
Minimum	5,738.00	72.00	2.14	111.00	5,738.00	96.00	2.00	0.07	0.01	5.58	0.01	2.00	0.80	11.50	7.20	10.00	0.00
Maximum	7,840.00	86.00	3.14	184.00	7,840.00	118.00	2.00	1.23	0.03	8.73	0.17	4.10	5.20	13.50	8.10	20.00	0.00
Count	30	4	3	30	30	30	4	4	4	4	30	4	30	30	30	4	0

Fort Frances Wastewater Treatment Plant
Monthly Operations Summary

2018	Raw Sewage				Final Effluent												
	Raw Flow: Sum (m3/d)	BOD5 (mg/L)	Total Phosphorus (mg/L)	SS (mg/L) IH	Final Eff. Flow: Sum (m3/d)	Final Eff. Flow: Max. (L/s)	CBOD5 (mg/L)	NH3 + NH4 as N (mg/L)	Nitrite - N (mg/L)	Nitrate-N(mg/L)	Total Phosphorus (mg/L)	Suspended Solids (mg/L)	SS (mg/L) IH	Temperature (C)	pH	E. Coli. (cfu/100 mL)	Bypass Volume (m3)
01/12/2018	5,935.00			151	5,935.00	99					0.08		4	11.5	7.2		
02/12/2018	5,761.00			146	5,761.00	96					0.06		2	11.5	7.2		
03/12/2018	5,619.00			139	5,619.00	92					0.01		1.2		7.1		
04/12/2018	5,638.00	83	2.39	133	5,638.00	93	2	0.461	0.019	8.54	0.05	2	2	11.5	7.1	10	
05/12/2018	5,668.00			124	5,668.00	95					0.11		4	11.5	7.2		
06/12/2018	5,536.00			132	5,536.00	98					0.1		3.6	11	7.1		
07/12/2018	5,516.00			132	5,516.00	92					0.12		2.4	11	7.2		
08/12/2018	5,888.00			169	5,888.00	107					0.13		2.8	11.5	7		
09/12/2018	5,698.00			164	5,698.00	91					0.11		2.8	11	7.1		
10/12/2018	5,502.00	106	2.49	150	5,502.00	91	2	0.048	0.019	8.21	0.13	2	2	11	7.1	10	
11/12/2018	5,424.00			156	5,424.00	89					0.11		2.4	11	7.1		
12/12/2018	5,705.00			133	5,705.00	103					0.09		3.6	11	7		
13/12/2018	5,393.00			146	5,393.00	93					0.12		2.4	11	7.1		
14/12/2018	5,478.00			197	5,478.00	94					0.14		4	11	7.1		
15/12/2018	5,658.00			188	5,658.00	92					0.11		2.8	11	7.1		
16/12/2018	5,463.00			154	5,463.00	90					0.08		1.2	11	7		
17/12/2018	5,265.00	106	2.41	150	5,265.00	92	2.6	0.524	0.035	7.28	0.07	2	0.8	11	7.2	10	
18/12/2018	5,313.00			149	5,313.00	88					0.2		7.6	11	6.9		
19/12/2018	5,497.00			152	5,497.00	99					0.16		6.4	10.5	7.1		
20/12/2018	5,356.00			160	5,356.00	87					0.18		2.8	10.5	6.9		
21/12/2018	5,236.00			158	5,236.00	92					0.2		3.6	10	7		
22/12/2018	5,571.00			158	5,571.00	96					0.17		4.8	10	7		
23/12/2018	5,283.00			141	5,283.00	87					0.12		3.2	10	7.3		
24/12/2018	5,262.00			147	5,262.00	95					0.11		2.8	10	7		
25/12/2018	5,053.00			193	5,053.00	83					0.12		2.4	10	7		
26/12/2018	5,389.00			148	5,389.00	91					0.1		2	10	7		
27/12/2018	5,252.00	86	2.81	152	5,252.00	88	2	0.172	0.063	9.27	0.13	2	3.6	10	7	10	
28/12/2018	5,147.00			161	5,147.00	89					0.09		2	10	7		
29/12/2018	5,372.00			156	5,372.00	91					0.06		3.6	10	7		
30/12/2018	5,243.00			167	5,243.00	90					0.08		1.6	10	7		
31/12/2018	5,142.00			124	5,142.00	91					0.1		4	9.5	7		
Total	169,263.00				169,263.00												0.00
Average	5,460.10	95.25	2.53	152.58	5,460.10	92.71	2.15	0.30	0.03	8.33	0.11	2.00	3.05	10.67	7.07	10.00	0.00
Minimum	5,053.00	83.00	2.39	124.00	5,053.00	83.00	2.00	0.05	0.02	7.28	0.01	2.00	0.80	9.50	6.90	10.00	0.00
Maximum	5,935.00	106.00	2.81	197.00	5,935.00	107.00	2.60	0.52	0.06	9.27	0.20	2.00	7.60	11.50	7.30	10.00	0.00
Count	31	4	4	31	31	31	4	4	4	4	31	4	31	30	31	4	0

Biosolids Quality Report

Ontario Clean Water Agency
Biosolids Quality Report - Liquid
Digestor Type: AEROBIC
Metals and Criteria

Facility: FORT FRANCES WASTEWATER TREATMENT FACILITY
Works: 1103
Period: 01/01/2018 to 12/01/2018

Note: all parameters in this report will be derived from the Bslq Station

Month	Arsenic (mg/kg)	Cadmium (mg/kg)	Cobalt (mg/kg)	Chromium (mg/kg)	Copper (mg/kg)	Mercury (mg/kg)	Molybdenum (mg/kg)	Nickel (mg/kg)	Lead (mg/kg)	Selenium (mg/kg)	Zinc (mg/kg)
Site	**Site Name**										
Station	**Bslq Station only**										
Parameter Short Name	**As**	**Cd**	**Co**	**Cr**	**Cu**	**Hg**	**Mo**	**Ni**	**Pb**	**Se**	**Zn**
T/s	**Lab Published Month Mean**	**Lab Published Month Mean**	**Lab Published Month Mean**	**Lab Published Month Mean**	**Lab Published Month Mean**	**Lab Published Month Mean**	**Lab Published Month Mean**	**Lab Published Month Mean**	**Lab Published Month Mean**	**Lab Published Month Mean**	**Lab Published Month Mean**
Jan											
Feb											
Mar											
Apr											
May											
Jun											
Jul	8.660	0.617	2.640	18.900	297.000	1.009	4.380	13.700	24.700	4.030	403.500
Aug	8.135	0.580	2.220	16.700	302.000	0.736	4.890	12.450	21.500	4.005	389.500
Sep	7.450	0.555	2.045	15.450	317.000	0.658	3.980	12.450	17.900	3.760	392.000
Oct											
Nov											
Dec											
Average	8.082	0.584	2.302	17.017	305.333	0.801	4.417	12.867	21.367	3.932	395.000
Max. Permissible Metal Concentrations (mg/kg of	170.000	34.000	340.000	2,800.000	1,700.000	11.000	94.000	420.000	1,100.000	34.000	4,200.000
Metal Concentrations in Sludge (mg/kg)											

Flow Meter Calibrations

Instrument Verification Report

Ontario Clean Water Agency, 200 McIrvine Road, Fort Frances, ON

Test Date: August 13, 2018

Device: Miltronics OCM III 25C TS-2, Identifier # 120296126 HM

For: Plant Final Effluent flow as measured using a 12 inch Parshal flume

Table 1: Verification Data for Miltronics OCM and Final Effluent Parshal Flume

Measured Effluent Head (mm)	Indicated flow on OCM (L/s)	Calculated flow (L/s)	Percent error
200	50.6	49.0	-3.2
260	88.5	89.3	0.9
300	110.8	111.0	-0.3
400	172.8	171	1.1
455	209.5	208	0.7

Notes: For the Parshal Flume: Flow rate, Q (ft^3/s) = $3.95*(Head/((12)*(25.4))^{1.522}$

Flow rate, Q (L/s) = Q (ft^3/s) * 28.31 (L/ft^3)

Summary:

The error in indicated values for final effluent flow rate is within the range of +/- 5%.

The alarm condition for flow in excess of UV capability operated at 208 L/sec.

Geoff Pearce

Aug 13, 2018

Ontario Clean Water Agency

Instrument Verification Report

Ontario Clean Water Agency, 200 McIrvine Road, Fort Frances, ON

Test Date: July 10, 2018

Device: Miltronics Multiranger Plus XPS 10, Identifier 04-235-96-432 MU

For: Plant influent Bypass Overflow Level, as measured in Manhole #8

Detail:

1) Influent water level of 1.5 m was simulated with a fixture in manhole #8.
   The bypass warning alarm (high level) was activated.
2) Influent water level of 1.96 m was simulated with a fixture in manhole #8.
   The bypass high-high alarm was activated and a bypass flow value 5.0 m^3 was indicated.

Summary:

The DeltaV alarms for bypass high and bypass high-high were tested and they both functioned as required.

Geoff Pearce

Geoff Pearce July 10, 2018

Ontario Clean Water Agency

Fort Frances, Ontario

ESA Inspections

Electrical Safety Authority

Phone: 1-877-854-0079
Fax: 905-712-7886
CSS.ContactUs@electricalsafety.on.ca

155 Matheson Blvd, West
Mississauga, Ontario, L5R 3L5

Continuous Safety Services
Site Visit Report

The electrical systems of the site listed below were inspected on 2018/12/03 by Electrical Inspector Brian Williams and the findings from that inspection are identified on this report. In addition, you will also find an Outstanding Defect Report attached that outlines any electrical defects that are still in our records as uncorrected. Please advise Brian Williams once you have corrected any defects that were found.

Customer Information	Site Information
TOWN OF FORT FRANCES 320 PORTAGE AVE FORT FRANCES, ON Attn: TRAVIS ROB	LIFT STATION CHURCH ST 1107 CHURCH ST FORT FRANCES, ON Attn: TRAVIS ROB

Issue Date: 2018/12/03
Purpose of Visit: Inspection
Visit Contact:

Inspector Name: Brian Williams
Inspector Cell #: 807-275-7658
Inspector Email: BRIAN.WILLIAMS@ELECTRICALSAFETY.ON.CA

Recommendations

	Risk Factor				Initial if corrected
1	N/A	**Notification #:** 20480428 **Rule Reference:** 02-004(a) No defects **Defect Location:**	**Issue Date:** 2018-12-03	**Defect Status:** Completed **Defect #:** 1	

Code Rule: No defects were identified.

Inspector Comments:

Thank you for giving us the opportunity to help you improve the safety of your facility. Your attention to these hazards, defects and recommendations will ensure continued safety on your premises. Should you have any questions regarding the items listed in this report, please do not hesitate to contact us.

Can your employees identify electrical hazards in the workplace? Do your electrical workers and maintenance staff understand the requirements of the OESC? ESA encourages supervisors and workers to continually improve their knowledge and follow safe work practices. Visit www.esasafe.com & choose "Safety and Technical Training" for dates and locations of workshops in your area or contact us at 1-877-854-0079.

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Outstanding Defect Summary Report

The following list of defects are still outstanding from our previous inspection visit(s). These items not only represent contraventions to the Ontario Electrical Safety Code but they also expose workers and employees to an electrical safety risk. As per Rule 2-018 of the Electrical Safety Code, all defects regardless of the risk factor assigned must be corrected as soon as possible. Please notify the Electrical Inspector by email indicating which defects have been corrected. Alternatively you can initial corrections and fax this report to 905-712-7886.

Customer Information	Site Information
TOWN OF FORT FRANCES 320 PORTAGE AVE FORT FRANCES, ON Attn: TRAVIS ROB	LIFT STATION CHURCH ST 1107 CHURCH ST FORT FRANCES, ON Attn: TRAVIS ROB

Outstanding Defects

There are currently no outstanding defects from previous visits. Please refer to the previous pages of this report to review any electrical deficiencies that were found on the most recent inspection visit.

Electrical Safety Authority

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Continuous Safety Services
Site Visit Report

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Customer Information	Site Information
TOWN OF FORT FRANCES 320 PORTAGE AVE FORT FRANCES, ON Attn: TRAVIS ROB	LIFT STATION PATCIN AV 936 KAITLYN DR FORT FRANCES, ON Attn: TRAVIS ROB

Issue Date: 2018/12/03
Purpose of Visit: Inspection
Visit Contact:

Inspector Name: Brian Williams
Inspector Cell #: 807-275-7658
Inspector Email: BRIAN.WILLIAMS@ELECTRICALSAFETY.ON.CA

Recommendations

	Risk Factor				Initial if corrected
1	N/A	**Notification #:** 20480429 **Rule Reference:** 02-004(a) No defects **Defect Location:**	**Issue Date:** 2018-12-03	**Defect Status:** Completed **Defect #:** 1	

Code Rule: No defects were identified.

Inspector Comments:

Thank you for giving us the opportunity to help you improve the safety of your facility. Your attention to these hazards, defects and recommendations will ensure continued safety on your premises. Should you have any questions regarding the items listed in this report, please do not hesitate to contact us.

Can your employees identify electrical hazards in the workplace? Do your electrical workers and maintenance staff understand the requirements of the OESC? ESA encourages supervisors and workers to continually improve their knowledge and follow safe work practices. Visit www.esasafe.com & choose "Safety and Technical Training" for dates and locations of workshops in your area or contact us at 1-877-854-0079.

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Outstanding Defect Summary Report

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Customer Information	Site Information
TOWN OF FORT FRANCES 320 PORTAGE AVE FORT FRANCES, ON Attn: TRAVIS ROB	LIFT STATION PATCIN AV 936 KAITLYN DR FORT FRANCES, ON Attn: TRAVIS ROB

Outstanding Defects

There are currently no outstanding defects from previous visits. Please refer to the previous pages of this report to review any electrical deficiencies that were found on the most recent inspection visit.

Electrical Safety Authority

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155 Matheson Blvd, West
Mississauga, Ontario, L5R 3L5

Report No. S20480432-N22-001

Continuous Safety Services
Site Visit Report

The electrical systems of the site listed below were inspected on 2018/12/03 by Electrical Inspector Brian Williams and the findings from that inspection are identified on this report. In addition, you will also find an Outstanding Defect Report attached that outlines any electrical defects that are still in our records as uncorrected. Please advise Brian Williams once you have corrected any defects that were found.

Customer Information	Site Information
TOWN OF FORT FRANCES 320 PORTAGE AVE FORT FRANCES, ON Attn: TRAVIS ROB	LIFT STATION WHITE PINE ST 780 SCOTT ST FORT FRANCES, ON Attn: TRAVIS ROB

Issue Date: 2018/12/03
Purpose of Visit: Inspection
Visit Contact:

Inspector Name: Brian Williams
Inspector Cell #: 807-275-7658
Inspector Email: BRIAN.WILLIAMS@ELECTRICALSAFETY.ON.CA

Recommendations

	Risk Factor				Initial if corrected
1	N/A	**Notification #:** 20480432 **Rule Reference:** 02-004(a) No defects **Defect Location:**	**Issue Date:** 2018-12-03	**Defect Status:** Completed **Defect #:** 1	

Code Rule: No defects were identified.

Inspector Comments:

Thank you for giving us the opportunity to help you improve the safety of your facility. Your attention to these hazards, defects and recommendations will ensure continued safety on your premises. Should you have any questions regarding the items listed in this report, please do not hesitate to contact us.

Can your employees identify electrical hazards in the workplace? Do your electrical workers and maintenance staff understand the requirements of the OESC? ESA encourages supervisors and workers to continually improve their knowledge and follow safe work practices. Visit www.esasafe.com & choose "Safety and Technical Training" for dates and locations of workshops in your area or contact us at 1-877-854-0079.

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Outstanding Defect Summary Report

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Customer Information	Site Information
TOWN OF FORT FRANCES 320 PORTAGE AVE FORT FRANCES, ON Attn: TRAVIS ROB	LIFT STATION WHITE PINE ST 780 SCOTT ST FORT FRANCES, ON Attn: TRAVIS ROB

Outstanding Defects

There are currently no outstanding defects from previous visits. Please refer to the previous pages of this report to review any electrical deficiencies that were found on the most recent inspection visit.

Electrical Safety Authority

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Continuous Safety Services
Site Visit Report

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Customer Information	Site Information
TOWN OF FORT FRANCES 320 PORTAGE AVE FORT FRANCES, ON Attn: TRAVIS ROB	LIFT STATION CENTRAL AV 712 CENTRAL AVE FORT FRANCES, ON Attn: TRAVIS ROB

Issue Date: 2018/12/03
Purpose of Visit: Inspection
Visit Contact:

Inspector Name: Brian Williams
Inspector Cell #: 807-275-7658
Inspector Email: BRIAN.WILLIAMS@ELECTRICALSAFETY.ON.CA

Recommendations

	Risk Factor				Initial if corrected
1	N/A	**Notification #:** 20480433 **Rule Reference:** 02-004(a) No defects **Defect Location:**	**Issue Date:** 2018-12-03	**Defect Status:** Completed **Defect #:** 1	

Code Rule: No defects were identified.

Inspector Comments:

Thank you for giving us the opportunity to help you improve the safety of your facility. Your attention to these hazards, defects and recommendations will ensure continued safety on your premises. Should you have any questions regarding the items listed in this report, please do not hesitate to contact us.

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Customer Information	Site Information
TOWN OF FORT FRANCES 320 PORTAGE AVE FORT FRANCES, ON Attn: TRAVIS ROB	LIFT STATION CENTRAL AV 712 CENTRAL AVE FORT FRANCES, ON Attn: TRAVIS ROB

Outstanding Defects

There are currently no outstanding defects from previous visits. Please refer to the previous pages of this report to review any electrical deficiencies that were found on the most recent inspection visit.

Electrical Safety Authority

Phone: 1-877-854-0079
Fax: 905-712-7886
CSS.ContactUs@electricalsafety.on.ca

155 Matheson Blvd, West
Mississauga, Ontario, L5R 3L5

Continuous Safety Services
Site Visit Report

The electrical systems of the site listed below were inspected on 2018/12/03 by Electrical Inspector Brian Williams and the findings from that inspection are identified on this report. In addition, you will also find an Outstanding Defect Report attached that outlines any electrical defects that are still in our records as uncorrected. Please advise Brian Williams once you have corrected any defects that were found.

Customer Information	Site Information
TOWN OF FORT FRANCES 320 PORTAGE AVE FORT FRANCES, ON Attn: TRAVIS ROB	LIFT STATION BOUNDARY RD 1713 COLONIZATION RD W FORT FRANCES, ON Attn: TRAVIS ROB

Issue Date: 2018/12/03
Purpose of Visit: Inspection
Visit Contact:

Inspector Name: Brian Williams
Inspector Cell #: 807-275-7658
Inspector Email: BRIAN.WILLIAMS@ELECTRICALSAFETY.ON.CA

Recommendations

	Risk Factor				Initial if corrected
1	N/A	**Notification #:** 20480434 **Rule Reference:** 02-004(a) No defects **Defect Location:**	**Issue Date:** 2018-12-03	**Defect Status:** Completed **Defect #:** 1	

Code Rule: No defects were identified.

Inspector Comments:

Thank you for giving us the opportunity to help you improve the safety of your facility. Your attention to these hazards, defects and recommendations will ensure continued safety on your premises. Should you have any questions regarding the items listed in this report, please do not hesitate to contact us.

Can your employees identify electrical hazards in the workplace? Do your electrical workers and maintenance staff understand the requirements of the OESC? ESA encourages supervisors and workers to continually improve their knowledge and follow safe work practices. Visit www.esasafe.com & choose "Safety and Technical Training" for dates and locations of workshops in your area or contact us at 1-877-854-0079.

Electrical Safety Authority

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Outstanding Defect Summary Report

The following list of defects are still outstanding from our previous inspection visit(s). These items not only represent contraventions to the Ontario Electrical Safety Code but they also expose workers and employees to an electrical safety risk. As per Rule 2-018 of the Electrical Safety Code, all defects regardless of the risk factor assigned must be corrected as soon as possible. Please notify the Electrical Inspector by email indicating which defects have been corrected. Alternatively you can initial corrections and fax this report to 905-712-7886.

Customer Information	Site Information
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Outstanding Defects

There are currently no outstanding defects from previous visits. Please refer to the previous pages of this report to review any electrical deficiencies that were found on the most recent inspection visit.