

THE TOWN OF FORT FRANCES



October 7, 2014

Report To: Mayor & Council

From: Doug Brown, Manager of Operations & Facilities

SUBJECT: September 2014 Drinking Water Systems Monthly Summary Report

Please find attached the September 2014 Summary Report on the drinking water systems, prepared by Randy White, Senior WTP Operator.

Your Administration recommends that Operations & Facilities Executive Committee accept the September 2014 report as presented.

Respectfully submitted,
Operations & Facilities Division

Doug Brown

Doug Brown, P. Eng.
Manager of Operations & Facilities

Council approval of this report will accept the September 2014 Drinking Water Systems Monthly Summary Report and approve the report prior to it being made available to the general public.

c.c. – Doug Herr, Environmental & Facilities Supt.
Randy White, Senior WTP Operator

09Council Water ReportSeptember 2014.doc

RECOMMENDED

OCT 22 2014

DIV. MNG.

Doug Brown

EXECUTIVE COMM.

R. Widenberg



September, 2014

**Monthly Summary Report
Water Systems**

**Prepared by: Randy White, ORO
Senior Water Treatment Plant Operator**

Dated: October 06, 2014

1) Introduction -

This report contains the major maintenance activities and operational events that occurred during the month of September 2014 at the Water Treatment Plant - Water Works # 220000978 and the Airport Groundwater Well Water Works # 26002736. This information report has been prepared for Council to better understand how the water systems they own and operate are maintained on a monthly basis. Also, this report will assist Council as Directors of the Corporation in exercising its obligation to meet a reasonable Standard of Care as outlined in Section 19 of the Safe Drinking Water Act.

2) Flow Data

Water Treatment Plant: See attached spreadsheet. No flow data for Airport groundwater well.

3) Microbiological (Health Related) Water Analysis– Main Water System # 220000978

Water Treatment Plant (treated): 4 samples taken no adverse results

Water Treatment Plant (raw): 4 samples taken no adverse results

Water Distribution System: 16 samples taken where 25% of samples were tested for heterotrophic plate count HPC no adverse results

We take microbiological samples on a weekly basis, which includes 1 raw sample, 1 treated sample and 4 distribution samples. The 4 distribution samples are taken at different locations throughout the distribution system.

4) Microbiological (Health Related) Water Analysis– Airport Groundwater Well # 26002736

No samples taken.

The Airport has signs posted in the men's and women's washroom stating that the water has not been tested or treated for drinking purpose in accordance with the Health Protection and Promotion Act – Section 7 of the Small Drinking Water Systems Regulation, O. Reg. 318/08 (*Amended to Safe Drinking Water Act, 2002 - Section 6 of Ontario Regulation 252/05*). The operators do a visual inspection of the warning notices at a minimum of once per week to ensure that they are legible and comply with Ontario Regulation 318/08, Section 7(5).

**5) Free Available Chlorine Residual (FAC) – Main Water System –
220000978**

FAC residuals are taken at a minimum daily at both the Water Treatment Plant and within the Water Distribution System.

**6) Free Available Chlorine residual (FAC) – Airport Groundwater Well
System # 26002736**

Signs posted, exempt from testing.

7) Maintenance Activities at the WTP

- Sept. 02nd - replaced the dust collector motor.
 - repaired silo fan.
- Sept. 03rd - cleaned the plant.
- Sept. 04th - cleaned the four (4) check valves on the poly unit.
 - cleaned the top and bottom tank on the poly unit.
- Sept 09th - worked on low lift # 3.
 - flushed # 1 poly lines to the clarifier.
 - calibrated chemical feeders.
 - calibrated dist chlorine analyzer.
- Sept 10th - flushed # 2 poly lines to the clarifier.
 - greased soda ash auger and elevator and air scour.
 - greased air compressor motors.
- Sept 11th - greased poly unit.
- Sept 15th - worked on Low Lift No. 3.
- Sept 24th - worked on Low Lift No. 3.
- Sept 25th - calibrated chemical feeders.
 - cleaned the four (4) check valves on the poly unit.
 - cleaned the top and bottom tank on the poly unit.

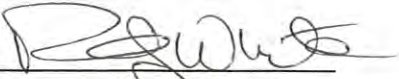
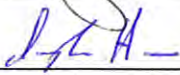
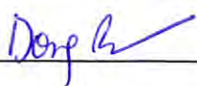



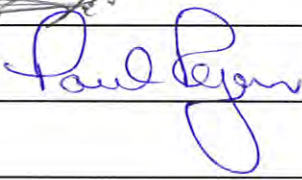
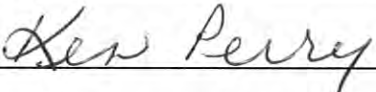
8) Water Complaints –

- Poor Pressure – 0 complaint.
- Water quality – 0 complaints.

9) Other Miscellaneous Information:

- Sept. 02nd - took weekly routine bacteria samples
- took quarterly samples at Water Treatment Plant and Tower.
- Sept. 08th - took weekly routine bacteria samples.
- Sept. 09th - valve replacement samples - Third St. East and Frenette Ave.– 1st set.
- new water main samples -Third St. East – 1st set.
- Sept. 10th - valve replacement samples -Third St. East and Frenette Ave.– 2nd set.
- new water main samples -Third St. East – 2nd set.
- Sept. 11th - seasonal samples at sorting gap marina.
- Sept. 15th - took weekly routine bacteria samples.
- Sept. 16th - took bacteria samples at Sunny Cove.
- Sept. 18th - reviewed chlorine S.O.P. (Draft)
- Sept. 22nd - took weekly routine bacteria samples.
- Sept. 25th - Q.M.S. meeting.
- received a load of alum.

10) In order to acknowledge that all levels of responsibility within the Corporation of the Town of Fort Frances have received and reviewed this monthly report, it is necessary to sign-off in the appropriate location below:

- Randy White, ORO, Senior WTP Operator: 
- Doug Herr, Environmental & Facilities Supt.: 
- Doug Brown, Manager of Operations & Facilities: 
- Mark McCaig, CAO: 
- Rick Wiedenhoeft, Chair O & F Exec Committee: 
- Roy Avis, Mayor: 
- Paul Ryan, Councillor: 
- John Albanese, Councillor: _____
- Andrew Hallikas, Councillor: _____
- Doug Kitowski, Councillor: _____
- Ken Perry, Councillor: 

Note: Once all signatures have been obtained, the report will be distributed and made available to the public. If you have any questions, please feel free to contact myself or Randy White, Senior WTP Operator at 274-2325.

Flow Data	SEPTEMBER	Units	2012		2013		2014	
			Day of the Month		Day of the Month		Day of the Month	
Total Raw Water	m ³			180550		151120		142440
Raw Maximum Day	m ³		Tuesday 04th	7240	Saturday 07th	6390	Monday 01st	6270
Raw Minimum Day	m ³		Sunday 30th	5070	Saturday 21st	4370	Monday 29th	3290
Raw Average Daily Consumption	m ³			6020		5040		4750
Total Treated Water	m ³			129620		117050		106940
Treated Water Maximim Day Consumption	m ³		Tuesday 04th	5640	Sunday 08th	4390	Tuesday 16th	4700
Treated Water Minimim Day Consumption	m ³		Saturday 22nd	3600	Saturday 21st	3310	Monday 22nd	3000
Treated Water Average Day Consumption	m ³			4320		3900		3560
Daily Average Per Household Consumption Rate	m ³			1.14		1.03		0.94
* Daily Average Per Person Consumption Rate	m ³			0.54		0.49		0.45
Monthly Averages - Operating Parameters WTP:								
FAC Residual - Treated Water	mg/L			1.73		1.81		1.72
Total Chlorine Residual - Treated Water	mg/L			2.06		2.18		2.04
Aluminum Sulphate - Raw Water	mg/L			33.9		34.0		36.8
Aluminum Sulphate - Treated Water Residual	mg/L			0.05		0.06		0.04
Fluoride - Treated Water	mg/L			0.62		0.58		0.62
Soda Ash - Raw Water	mg/L			34.0		34.0		36.6
PH - Adjusted	mg/L			7.38		7.15		7.25
Temperature	C			17.5		19.3		16.8
Quantity of Chemical Used:								
Aluminum Sulphate	kg			6133.1		5138.1		5246.1
Polyelectrolyte	kg			75		62.5		50
Chlorine Gas	kg			717		475		653
Soda Ash - Used for PH Adjustment	kg			6138.7		5138.1		5210.9
Fluoride	kg			570		578		439

* The Canadian Average is 450 Litres (0.45 m³) per day.
* Population is 7986
* Number of Households is 3783

Operating Data			Units	*MAC or Randle	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	Total	Average		
Flow rates																																						
Raw Water			10 ³ M ³	17	6.27	6.26	6.00	5.34	5.19	5.04	5.29	5.18	5.18	5.04	5.17	5.04	5.13	5.47	4.80	4.82	4.76	4.76	4.57	4.34	4.45	4.25	4.06	4.26	4.23	4.18	3.44	4.40	3.49	3.29	4.24	142.44	4.75	
Peak Instantaneous - Raw Water			L/s	n/a	71.55	71.37	71.41	71.3	60.9	60.59	60.5	60.3	60.2	60.21	60.11	59.96	59.99	59.8	59.8	59.7	55.89	55.7	55.6	55.7	55.6	55.0	50.2	50	49.9	49.9	49.6	49.6	48.9	40.1	40	39.92	1692.99	58.43
Treated Water			10 ³ M ³	17	3.49	3.73	4.16	3.68	3.49	3.52	3.30	3.89	4.23	3.93	4.08	3.38	3.56	3.66	3.25	4.70	3.40	3.56	3.54	3.27	3.49	3.00	3.45	3.19	3.45	3.32	3.14	3.72	3.06	3.30	106.94	3.56		
Peak Instantaneous - Treated Water			L/s	n/a	83.27	84.23	117.83	88.03	74.15	75.38	72.88	72.63	77.60	77.74	75.83	73.47	72.60	73.1	73.03	73.40	73.77	74.12	72.88	73.25	72.16	72.23	73.08	74.34	73.14	71.71	71.09	73.71	71.56	72.76	2285.61	76.19		
Backwash Water			10 ³ M ³	n/a	0.459	0.489	0.231	0.216	0.261	0.472	0.476	0.461	0.214	0.263	0.233	0.231	0.475	0.468	0.478	0.233	0.445	0.263	0.230	0.445	0.231	0.263	0.235	0.236	0.273	0.263	0.229	0.245	0.210	0.253	9.481	0.316		
Fluoride Information																																						
Fluoride Residual - Treated Water			mg/l	0.5 to 0.8	0.65	0.62	0.63	0.64	0.62	0.66	0.87	0.85	0.56	0.80	0.58	0.51	0.55	0.39	0.69	0.65	0.82	0.63	0.65	0.67	0.65	0.68	0.67	0.65	0.67	0.65	0.82	0.63	0.65	0.80	18.74	0.62		
Turbidity Information																																						
Raw Water			NTU	n/a	1.42	1.61	1.57	1.59	1.51	1.46	1.42	1.37	1.68	3.13	1.96	1.70	1.65	1.56	1.68	1.55	1.44	1.37	1.31	1.32	1.31	1.32	1.31	1.35	1.41	1.32	1.35	1.39	1.27	1.29	1.31	1.56	45.86	1.53
Settled Water			NTU	0.11	0.08	0.07	0.08	0.10	0.08	0.07	0.09	0.06	0.09	0.08	0.09	0.08	0.09	0.07	0.08	0.08	0.09	0.09	0.08	0.09	0.08	0.09	0.08	0.09	0.08	0.10	0.09	0.09	0.08	0.09	0.09	2.54	0.08	
Treated Water			NTU	1	0.03	0.04	0.03	0.03	0.04	0.03	0.06	0.05	0.05	0.06	0.03	0.04	0.04	0.04	0.04	0.04	0.05	0.04	0.03	0.05	0.03	0.05	0.03	0.05	0.02	0.05	0.04	0.05	0.04	0.03	0.05	0.03	1.21	0.04
Other Operating Parameters																																						
pH - Treated Water			no units	6.5 to 8.5	7.19	7.14	7.17	7.36	7.21	7.24	7.17	7.10	7.35	7.4	7.39	7.36	7.43	7.33	7.40	7.29	7.15	7.01	7.06	7.10	7.17	7.20	7.15	7.20	7.11	7.37	7.55	7.42	7.37	7.13	217.52	7.25		
pH - Settled water			no units	n/a	6.32	6.42	6.45	6.36	6.25	6.29	6.29	6.35	6.10	6.47	6.49	6.51	6.55	6.23	6.24	56.57	6.41	6.50	6.43	6.41	6.37	6.15	6.21	6.31	6.41	6.37	6.41	6.37	6.41	6.45	6.31	6.31	240.94	8.03
pH - Raw Water			no units	n/a	6.90	6.87	6.89	6.97	6.98	7.00	6.98	7.09	6.66	6.78	6.89	6.70	6.69	6.99	7.01	7.05	7.00	7.04	7.04	7.00	7.00	7.05	7.05	7.07	7.10	7.05	7.10	7.09	7.00	6.56	208.60	6.95		
FAC - Treated Water			mg/l	0.2 to 4	1.89	2.02	1.99	1.76	1.55	1.65	1.68	1.9	1.74	1.86	1.64	1.65	1.88	1.90	1.97	1.46	1.49	1.74	1.95	1.80	1.75	1.57	1.63	1.75	1.70	1.47	1.35	1.47	1.54	1.76	51.67	1.72		
Total Chlorine Residual Treated			mg/l	0.3 to 7	2.16	2.20	2.17	2.11	2.09	2.03	2.09	2.15	2.14	2.17	1.99	2.20	2.24	2.27	2.31	1.99	2.00	2.13	2.17	2.10	2.12	1.72	1.89	1.97	2.00	1.69	1.59	1.63	1.71	2.14	61.17	2.04		
Temperature			C	15	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	18.0	17.0	16.0	16.0	16.0	16.0	16.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	504.0	16.8		
Fluoride used (Total Daily Consumption)			kg	n/a	18.0	20.0	21.0	19.0	17.0	17.0	18.0	17.0	17.0	12.0	11.0	11.0	11.0	12.0	17.0	17.0	16.0	16.0	14.0	15.0	14.0	13.0	14.0	13.0	11.0	10.0	11.0	10.0	13.0	439.0	14.6			
Chlorine used (Total Daily Consumption)			kg	n/a	33.0	32.0	31.0	26.0	25.0	24.0	26.0	25.0	23.0	24.0	24.0	24.0	24.0	26.0	23.0	23.0	18.0	21.0	19.0	18.0	17.0	19.0	18.0	18.0	13.0	14.0	14.0	14.0	19.0	653.0	21.8			
Soda ash (Total Daily Consumption)			kg	n/a	242.6	225.4	216.0	192.2	186.8	181.4	190.4	186.5	200.5	197.8	200.1	189.5	192.9	205.7	181.2	172.8	171.4	156.2	160.2	153.0	146.2	153.4	152.3	150.5	123.8	122.4	125.6	118.4	152.6	5127.8	5210.9	339.2		
Soda Ash - Dosage			mg/l	n/a	38.7	36.0	36.0	36.0	36.0	36.0	36.0	36.0	38.7	38.7	38.7	37.6	37.6	37.6	37.6	36.3	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	1097.5	36.6		
Alum residual - (Total Daily Consumption)			kg	n/a	225.7	225.4	216.0	192.2	186.8	181.4	190.4	186.5	195.8	193.2	194.8	190.5	193.9	206.8	182.2	177.5	176.1	160.6	164.7	157.3	150.2	157.8	156.5	154.7	125.6	124.1	127.4	120.1	154.8	5199.1	5246.1	342.3		
Alum residual - Dosage			mg/l	n/a	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	37.8	37.8	37.8	37.8	37.8	37.3	37.3	37.0	37.0	37.0	37.0	37.0	37.0	37.0	37.0	37.0	36.5	36.5	36.5	36.5	36.5	1104.9	36.8		
Alum residual - Treated Water			mg/l	0.1	0.06	0.04	0.03	0.05	0.05	0.05	0.05	0.04	0.02	0.07	0.06	0.03	0.06	0.07	0.03	0.04	0.04	0.03	0.03	0.02	0.04	0.03	0.03	0.03	0.04	0.03	0.03	0.04	0.02	0.03	0.05	1.21	0.04	
Poly bags added (25 kg bags)			kg		0.5		0.5								0.5																				50.0			