

July 21, 2016

Report To: Mayor & Council

From: Travis Rob, Manager of Operations & Facilities

SUBJECT: June 2016 Drinking Water Systems Monthly Summary Report

Please find attached the June 2016 Summary Report on the drinking water systems, prepared by Randy White, Senior WTP Operator.

Your Administration recommends that Operations & Facilities Executive Committee accept the June 2016 report as presented.

Respectfully submitted,
Operations & Facilities Division

Travis Rob, E.I.T.
Manager of Operations & Facilities

<p>Council approval of this report will accept the June 2016 Drinking Water Systems Monthly Summary Report and approve the report prior to it being made available to the general public.</p>
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c.c. – Doug Herr, Environmental & Facilities Supt.
Randy White, Senior WTP Operator

03CouncilwaterreportMarch 2015

June, 2016

**Monthly Summary Report
Water Systems**

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

Dated: July 20, 2016

1) **Introduction:**

This report contains the major maintenance activities and operational events that occurred during the month of June 2016 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.

Water distribution samples taken at the following locations:

1. 901 Wright Ave.	2. 810 King's Hwy.	3. Olde Shambles Rd.	4. W. Tower
5. 604 Third St. E.	6. 1111 First St. E.	7. 901 Wright Ave.	8. W. Tower
9. 720 Scott St.	10. 1050 Portage Ave.	11. 901 Wright Ave.	12. W. Tower
13. 720 Scott St.	14. 1050 Portage Ave.	15. 901 Wright Ave.	16. W. Tower

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:

- June 02nd - shutdown plant - ran generator.
 - changed plant main breaker (Galbraith Electric)
 - calibrated distribution chlorine analyzer
 - cleaned top and bottom tanks on poly unit.
 - cleaned all 4 checks valves on poly pumps
- June 04th - calibrated distribution chlorine analyzer.
- June 09th - painted plant floor - main level.
- June 22nd - cleaned turbidity meter on Filter No. 3
- June 28th - cleaned in-line mixer
- June 30th - cleaned top and bottom tanks on poly unit.
 - cleaned all 4 checks valves on poly pumps

8) Water Complaints:

- Poor Pressure – 0 complaints
- Water Quality – 3 complaints

May 17, 2016 - 661 First St. E. - discoloured water - flushed water main through hydrant by the Arena until clear.

May 19 & 20, 2016 - 317 Butler Ave. - Discoloured water. Town sanitary sewer main cleaning/CCTV contractor was using the hydrant to fill their truck. Caused water to discolour. Owner told to run their water until clear.

May 22, 2016 - 660 First St. E. - discoloured water - flushed water main through hydrant by the Arena until clear.

9) Other Miscellaneous Information:

- June 06th - took weekly routine bacti samples.
 - new water main tie-in - bacti samples - Legion Park - 1st set.
- June 07th - capping of existing water mains - bacti samples - Colonization Rd.
 E. at Front St./Scott St. - 1st set.
 - new water main tie-in - bacti samples - Legion Park - 2nd set.
- June 08th - QMS meeting.
 - capping of existing water mains - bacti samples - Colonization Rd.
 E. at Front St./Scott St. - 2nd set.
- June 09th - took grab samples off filters.
- June 13th - took weekly routine bacti samples.
- June 15th - took microbiological water samples at Sunny Cove.
- June 20th - took weekly routine bacti samples.
 - hydrant replacement (Minnie Ave. at Front St.) and new water main
 (Colonization Rd. E. - Phase 1) - bacti samples - 1st set.
- June 21st - hydrant replacement (Minnie Ave. at Front St.) and new water main
 (Colonization Rd. E. - Phase 1) - bacti samples - 2nd set.
- June 27th - took weekly routine bacti samples.
 - water service repair - bacti sample - 353 Church St. - 1st set.
- June 28th - took grab samples off filters.
 - tie-in of existing water mains to new mains - bacti samples -
 Colonization Rd. E. at Front St./Scott St. - 1st set.
 - water service repair - bacti sample - 353 Church St. - 2nd set.
- June 29th - tie-in of existing water mains to new mains - bacti samples -
 Colonization Rd. E. at Front St./Scott St. - 2nd set.

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.: _____
- Travis Rob, Manager of Operations & Facilities: _____
- Doug Brown, CAO: _____
- Paul Ryan, Chair O& F Exec Committee: _____
- Roy Avis, Mayor: _____
- June Caul, Councillor: _____
- John Albanese, Councillor: _____
- Wendy Brunetta, 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.

Monthly Report June 2016

Town of Fort Frances - Water treatment Plant - Water Works # 220000978
Monitoring Record
June 2016

Operating Data	Units	*MAC	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
		or Range																																
Flow rates																																		
Raw Water	10^3 M^3	17	5.39	5.39	4.62	5.37	5.39	5.45	5.45	5.27	5.53	5.96	6.21	5.56	5.75	6.06	5.59	5.53	5.71	5.69	5.47	5.32	5.49	5.51	5.56	5.60	5.51	5.55	5.63	5.46	5.36	5.33	165.71	5.52
Peak Instantaneous - Raw Water	L/s	n/a	63.14	62.78	63.38	63.16	63.13	63.25	63.32	63.35	63.31	72.12	74.08	73.87	65.40	65.31	65.29	65.42	65.29	64.84	64.38	64.18	64.41	64.41	64.88	65.14	65.29	65.26	65.15	64.74	63.87	63.82	1955.97	65.20
Treated Water	10^3 M^3	17	4.01	4.05	3.58	4.29	3.52	3.62	4.00	3.50	5.97	4.10	4.17	3.97	3.70	4.12	4.15	3.84	4.41	3.67	3.35	3.59	4.22	4.40	4.53	4.32	4.54	3.46	3.73	4.04	4.08	3.26	120.19	4.01
Peak Instantaneous - Treated Water	L/s	n/a	80.81	66.98		#####	60.56	63.39	76.75	64.61	104.27	84.82	84.05	81.80	80.38	92.72	84.56	79.58	81.69	82.32	78.84	80.58	85.24	86.09	82.55	85.78	85.30	80.59	91.15	78.41	73.82	61.46	2352.33	81.11
BackWash Water	10^3 M^3	n/a	0.240	0.218	0.225	0.240	0.145	0.221	0.239	0.343	0.225		0.239	0.238	0.224	0.237	0.163	0.222		0.237	0.174	0.222	0.239	0.245	0.377	0.228	0.263	0.221	0.233	0.258	0.215	0.178	6.509	0.232
Fluoride Information																																		
Fluoride Residual - Treated Water	mg/l	0.5 to 0.8	0.68	0.72	0.70	0.61	0.55	0.53	0.63	0.67	0.66	0.76	0.72	0.70	0.70	0.55	0.56	0.52	0.53	0.70	0.68	0.53	0.59	0.56	0.55	0.52	0.60	0.64	0.53	0.61	0.67	0.72	18.69	0.62
Turbidity Information																																		
Raw Water	NTU	n/a	1.23	1.19	1.22	1.38	1.27	1.17	1.23	1.21	1.17	1.13	1.16	1.19	1.21	1.68	1.51	1.67	1.73	1.75	1.69	1.63	1.57	1.53	1.47	1.55	1.59	1.65	1.68	1.57	1.63	1.64	43.30	1.44
Settled Water	NTU	n/a	0.11	0.14	0.16	0.12	0.14	0.13	0.17	0.14	0.16	0.18	0.16	0.12	0.11	0.10	0.13	0.17	0.16	0.12	0.12	0.18	0.20	0.16	0.13	0.15	0.11	0.14	0.19	0.17	0.16	0.14	4.37	0.15
Treated Water	NTU	1	0.09	0.09	0.08	0.10	0.09	0.09	0.08	0.09	0.08	0.09	0.08	0.06	0.06	0.08	0.09	0.08	0.09	0.11	0.09	0.09	0.08	0.10	0.09	0.08	0.08	0.08	0.09	0.08	0.10	0.08	2.57	0.09
Other Operating Parameters																																		
pH - Treated Water	no units	6.5 to 8.5	7.43	7.39	7.20	7.33	7.36	7.34	7.21	7.36	7.36	7.52	7.49	7.47	7.42	7.31	7.16	7.19	7.22	7.25	7.31	7.11	7.14	7.21	7.23	7.21	7.19	7.15	7.14	7.29	7.27	7.29	218.55	7.29
pH - Settled water	no units	n/a	5.92	5.87	5.85	5.98	5.98	5.97	6.02	6.02	5.96	6.05	6.06	6.01	6.11	5.97	5.87	5.93	5.94	5.86	5.89	5.90	5.98	5.93	5.93	5.96	5.94	5.97	5.84	5.93	6.02	6.11	178.77	5.96
pH - Raw Water	no units	n/a	7.14	7.08	7.19	7.26	7.85	7.24	7.21	7.25	7.23	7.28	7.27	7.29	7.26	7.19	7.11	7.11	7.05	7.09	7.12	7.01	7.07	7.10	7.14	7.11	7.04	7.05	7.01	7.16	7.18	7.20	215.29	7.18
FAC - Treated Water	mg/l	0.2 to 4	1.88	1.77	2.36	2.03	2.20	2.16	2.34	1.89	1.93	1.96	2.01	2.10	2.15	2.20	2.19	2.18	2.13	1.89	1.99	2.05	2.01	2.10	2.09	2.09	1.96	2.03	2.00	2.18	2.22	2.04	62.13	2.07
Total Chlorine Residual Treated	mg/l	0.3 to 7	2.26	2.10	2.58	2.46	2.50	2.62	2.64	2.26	2.18	2.32	2.36	2.44	2.56	2.70	2.44	2.44	2.56	2.11	2.15	2.52	2.52	2.60	2.62	2.56	2.48	2.36	2.44	2.54	2.56	2.49	73.37	2.45
Temperature	C	15	15.0	15.0	15.0	15.0	15.0	15.0	15.0	16.0	15.0	17.0	17.0	17.0	16.0	17.0	17.0	17.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	19.0	18.0	18.0	18.0	17.0	17.0	18.0	505.0	16.8
Fluoride used (Total Daily Consumption)	kg	n/a	15.0	14.0	20.0	15.0	15.0	15.00	13.0	14.0	16.0	20.0	20.0	18.0	18.0	18.0	17.0	17.0	16.0	17.0	15.0	14.0	14.0	15.0	14.0	14.0	17.0	19.0	19.0	20.0	19.0	18.0	496.0	16.5
Chlorine used (Total Daily Consumption)	kg	n/a	24.0	22.0	22.0	25.0	26.00	26.0	27.0	25.0	27.0	28.0	29.0	28.0	29.0	27.0	28.0	27.0	28.0	27.0	26.0	27.0	27.0	28.0	27.0	28.0	27.0	28.0	27.0	26.0	27.0	801.0	26.7	
Soda ash (Total Daily Consumption)	kg	n/a	188.7	188.7	161.7	188.0	188.7	190.8	190.8	184.5	193.6	208.6	217.4	194.6	201.3	212.1	195.7	193.6	199.9	199.2	191.5	186.2	192.2	192.9	194.6	196.0	192.9	194.3	197.1	191.1	187.6	186.6	5799.9	193.3
Soda Ash - Dosage	mg/l	n/a	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	1050.0	35.0
Alum residual - (Total Daily Consumption)	kg	n/a	188.7	188.7	161.7	188.0	188.7	190.8	190.8	184.5	193.6	208.6	217.4	194.6	201.3	212.1	195.7	193.6	199.9	199.2	191.5	186.2	192.2	192.9	194.6	196.0	192.9	194.3	197.1	191.1	187.6	186.6	5799.9	193.3
Alum residual - Dosage	mg/l	n/a	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	1050.0	35.0
Alum residual - Treated Water	mg/l	0.1	0.02	0.03	0.06	0.02	0.03	0.02	0.02	0.02	0.02	0.02	0.04	0.03	0.02	0.02	0.01	0.03	0.02	0.01	0.05	0.01	0.01	0.03	0.03	0.02	0.02	0.04	0.03	0.03	0.02	0.04	0.77	0.03
Poly bags added (25 kg bags)	kg				0.5			0.5			0.5					0.5			0.5				0.5			0.5					0.5		100.0	

Town of Fort Frances - WTP - 220000978
June 2014/2015 vs. June 2016
Flow and Operating Data

Flow Data JUNE	Units	2014		2015		2016	
		Day of the Month		Day of the Month		Day of the Month	
Total Raw Water	m ³		161770		168110		165710
Raw Maximum Day	m ³	Monday 02nd	6620	Saturday 13th	5950	Saturday 11th	6210
Raw Minimum Day	m ³	Saturday 21st	4750	Monday 22nd	5270	Friday 03rd	4620
Raw Average Daily Consumption	m ³		5390		5600		5330
Total Treated Water	m ³		123240		116430		120190
Treated Water Maximum Day Consumption	m ³	Tuesday 17th	6250	Thursday 18th	4560	Thursday 09th	5970
Treated Water Minimum Day Consumption	m ³	Sunday 29th	3330	Tuesday 09th	3390	Thursday 30th	3260
Treated Water Average Day Consumption	m ³		4110		3880		3880
Daily Average Per Household Consumption Rate	m ³		1.086		1.026		1.026
* Daily Average Per Person Consumption Rate	m ³		0.515		0.486		0.486
Monthly Averages - Operating Parameters WTP:							
FAC Residual - Treated Water	mg/L		1.68		1.90		2.07
Total Chlorine Residual - Treated Water	mg/L		1.97		2.29		2.45
Aluminum Sulphate - Raw Water	mg/L		34.8		35.0		35.0
Aluminum Sulphate - Treated Water Residual	mg/L		0.04		0.03		0.03
Fluoride - Treated Water	mg/L		0.62		0.60		0.62
Soda Ash - Raw Water	mg/L		34.8		35.0		35.0
PH - Adjusted	mg/L		7.18		7.28		7.29
Temperature	C		15.2		16.7		16.8
Quantity of Chemical Used:	kg						
Aluminum Sulphate	kg		5619.8		5883.9		5799.9
Polyelectrolyte	kg		75.0		75.0		100.0
Chlorine Gas	kg		686.0		764.0		801.0
Soda Ash - Used for PH Adjustment	kg		5633.6		5883.9		5799.9
Fluoride	kg		406.0		385.0		493.0

* The Canadian Average is 450 Litres (0.45 m³) per day.

* Population is 7986

* Number of Households is 3783