



DRINKING WATER SYSTEM REPORT

TO: CAO, Council & Public Works Manager
FROM: Claus Trost, Quality Management System Representative
DATE: February, 2017
SUBJECT: 2016 Annual Report

Background

Laurentian Valley Water Works manages just over 14 kilometres of water main and branch lines in the Township. Laurentian Valley Water Works received its Certificate #2893 as a Water Distribution System Class 1 in November of 2000. On May 31, 2011 Drinking Water Works Permit 192-201 and License Number 192-201 was issued by the Ministry of Environment for the Laurentian Valley Distribution System. On March 30, 2016 the License & Permit were renewed. The Drinking Water System Information number for Laurentian Valley Water Works is W260007465. This is the fourth report for 2016.

Laurentian Valley Township has a water servicing agreement with the City of Pembroke. The water is purchased from the City and distributed in the Stafford Village area, part of Pembroke Street East and part of Pembroke Street West. The City treats and tests the water at the Pembroke Filtration Plant on Riverside Drive and tests the water in their distribution system. The Municipality tests the water in its distribution system.

This report and the Certificates of Analysis are available to the general public at the front counter of the Municipal Office at 460 Witt Road during office hours. These quarterly reports are also available on the internet at www.lvtownship.ca Information on the City Water Works can be accessed at www.pembroke.ca

Ownership

Laurentian Valley Water Works is owned by the Corporation of the Township of Laurentian Valley.

Operating Authority

Laurentian Valley Water Works is operated by the Corporation of the Township of Laurentian Valley.

Sampling and Testing

The weekly water samples were sent to Caduceon Laboratories Inc. in Ottawa for analysis. Caduceon is an ODWS Accredited laboratory. The results of the analysis are emailed to the Municipality. The following chart is a summary of those test results.

Analysis for the period of January 1, 2016 - December 31, 2016

Parameter Tested	MAC, IMAC or Standard	# of Samples	# of Adverse Results	Normal Range	Note #
E, Coli	Nil	114	0	Absent	
Total Coliforms	Nil	114	0	< 1/100ml	
Heterotrophic Plate Count	500 CFU/ ml	10	0	<2 CFU/ml - 26 CFU/ml	
Residual Chlorine	.05 mg/ml	485	0	0.05 - 1.27 mg/l	
Trihalomethanes	0.10 mg/liter	1	1	.0986 mg/liter	#1
alkalinity - distribution		4	0	26 - 41 mg/l	
Lead - distribution	.01 mg/l	4	0	0.0006 – 0.000011	
pH – distribution & residential		11	0	6.62 - 7.23	
Lead - residential	.01 mg/l	10	0	<.00002 mg/l - 0.00079 mg/l	
Lead - commercial	.01 mg/l	4	0	0.00026 mg/l - 0.00202 mg/l	

Note #1 The annual average for THM's (*Trihalomethanes are a group of four chemicals that are formed along with other disinfection by-products when chlorine or other disinfectants used to control microbial contaminants in drinking water react with naturally occurring organic and inorganic matter in water.*) is over the .10 mg/litre permitted by the Drinking Water Quality Standard. The operators have been instructed to flush the east end main more often. (*4/4 average, means the average of the last 4 samples analysed*)

In 2017, the municipality paid Caduceon \$5,060.66 for laboratory services.

Complaints

There was one customer service call in the first quarter of 2016; on March 15th, the resident of 520 Roy Street called about discoloured water. The water main was flushed and the colour improved. It was thought that while fighting the fire at 510 Roy, some scale on the pipes may have been loosened. There was a follow up call on March 29th, the WQA attended, the water was clear, also spoke to the neighbor at 518 Roy Street, he had not had any issues.

Staffing & Training

Laurentian Valley Waterworks has 1 Water Quality Analyst, 4 operators certified Water Distribution 1 and two Operators in Training. In early April the QMS Rep attended a Quality Management Workshop in Barrie and at the end of April, the QMS Rep and 3 Operators attended the mandatory Drinking Water Course, in Pembroke. In October, two operators and the QMS Rep attended the Eastern Ontario Water Workers Conference in Kingston. In December, an Operator in Training wrote the Level One Exam and passed, an application has been made for his Level One Certificate.

Construction

There were no major construction projects on the water works in 2016. The Roy Street rehabilitation was deferred in 2016, camera work of the sewer system revealed that it will require replacement also, so more engineering will be required. The focus has been shifted to complete the Joe Street replacement in 2017, and then come back to Roy Street.

Maintenance

There was one water main break, on December 18, in front of 639 Joe Street, the cast iron water main broke, the water was throttled down from midnight until 4:00 AM when the repair was completed. There were two service repairs; on March 22nd the curb stop was replaced at 638 Joe Street and on May 31st the service saddle at 533 Roy Street was replaced.

The hydrants were flushed and the valves were exercised in the second and fourth quarters. In 2016 the works department completed 413 locate requests, of which 142 identified water infrastructure.

In 2016, 4 service connections were turned off, and 5 were turned on for a net gain of one new metered service connection.

The chlorine meters and the ph meter were verified/calibrated in June.

We have been monitoring the loss of water on the Pembroke Street West watermain, in 2016 there was 2,424,000 gallons unaccounted for. There are no visible signs of a leak and the water meters were calibrated and found to be accurate.

Ministry of the Environment

The MOECC completed their annual inspection on September 27, 2016, we received the Drinking Water System Inspection Report on November 28th, as previously circulated. There were no non-compliance with regulatory requirements and actions required.

Drinking Water Quality Management System

NSF-ISR, our accreditation agency, conducted their on-site audit of our system on January 12, 2016, a copy of their report was previously circulated, there were two corrective action requests. We submitted the proposed changes to address the corrective action requests in early March, they were subsequently amended and were accepted on June 29, 2016.

The Management Review was completed on December 7, 2016; Report previously submitted. The Internal Audit of the Drinking Water System was conducted in the third quarter, the Report was submitted to the QMS Rep, in the fourth quarter.

Asset Management and Financial Plan

In 2016 no assets were replaced. The current Financial Plan is valid until 2020.

Accreditation & Licensing

The Water Works continues to be accredited with NSF, the fifth audit is to be conducted off-site by NSF and is scheduled for January 17th 2017.

On March 30, 2016 the License & Permit were renewed, for another 5 year term.

Summary

In 2016, the water works purchased 54,366,950 gallons of water from the City of Pembroke and distributed it to 647 homes and businesses. There was one water quality incident; the THM issue on the Pembroke Street East watermain.

Respectfully Submitted
Township of Laurentian Valley

“Original Signed”

Claus Trost
Quality Management System Representative

Total and Average Water Use Statistics

	1st quarter	2nd quarter	3rd quarter	4th quarter	Total	% Deviation from Average
2001	10,535,760	11,324,510	16,272,410	10,524,230	48,656,910	-7.912
2002	9,671,790	10,794,534	18,639,816	16,868,052	55,974,192	6.195
2003	16,029,978	11,442,884	12,584,000	10,390,540	50,447,402	-4.082
2004	10,825,780	13,887,440	15,103,060	12,084,070	51,900,350	-1.168
2005	12,193,850	13,770,494	16,571,806	11,808,070	54,344,220	3.381
2006	10,725,906	12,470,040	14,573,900	11,572,310	49,342,156	-6.413
2007	12,102,020	14,869,070	17,366,521	13,244,381	57,581,992	8.814
2008	11,422,781	12,488,412	15,781,786	13,085,730	52,778,709	0.516
2009	11,400,822	13,200,202	14,142,370	12,821,490	51,564,884	-1.826
2010	11,422,415	15,108,830	15,838,621	12,040,820	54,410,686	3.500
2011	9,941,822	13,916,683	13,807,640	14,068,538	51,734,683	-1.492
2012	10,123,738	13,635,875	16,143,424	12,109,409	52,012,446	-0.950
2013	11,012,707	13,002,165	12,844,073	9,267,694	46,126,639	-13.831
2014	8,572,421	10,951,915	13,112,594	13,004,686	45,641,616	-15.041
2015	13,457,180	16,916,645	16,032,685	12,440,670	58,847,180	10.775
2016	11,976,910	14,558,170	15,791,380	12,040,490	54,366,950	3.422
10 yearAverage	11,143,282	13,864,797	15,086,109	12,412,391	52,506,579	

Gallons