

Municipality of North Perth
2018 Summary Report
For the
Listowel Drinking Water System

DWS Name: Listowel Drinking Water System
DWS #: 220000512
Category: Large Municipal Residential
Reporting Year January 1 – December 31, 2018

Date Prepared: January 25th, 2019

On June 1, 2003, the Safe Drinking Water Act and supporting regulations came into force in the Province of Ontario. As part of the requirements of Section 22-2 of O. Reg. 170/03, Drinking Water Systems Regulation of the *Safe Drinking Water Act, 2002*, a Summary Report must be given to members of the municipal council by March 31st of each year. According to the regulations, the Summary Report must:

“(a) list the requirements of the Act, the regulations, the system’s approval, drinking water works permit, municipal drinking water licence, and any orders applicable to the system that were not met at any time during the period covered by the report; and

(b) for each requirement referred to in clause (a) that was not met, specify the duration of the failure and the measures that were taken to correct the failure.

The report must also include the following information for the purpose of enabling the owner of the system to assess the capability of the system to meet existing and planned uses of the system:

1. A summary of the quantities and flow rates of the water supplied during the period covered by the report, including monthly average and maximum daily flows.

2. A comparison of the summary referred to in paragraph 1 to the rated capacity and flow rates approved in the system’s approval, drinking water works permit or municipal drinking water licence.”

This report was prepared to meet the above requirements.

In operating water systems, the Municipality of North Perth makes every effort to ensure that it complies with all applicable laws, regulations, operating procedures and generally accepted industry practices. Best efforts have been made to comply with all of the terms and conditions of the Safe Drinking Water Act, its regulations, approvals and orders.

We have conducted a search and review of the records relating to the operation of the system and to the best of our knowledge, the following report truthfully and accurately reflects any and all matters of non-compliance regarding the ownership and operation of the Facility during the reporting period.

A. System Description

The Listowel Drinking Water System consists of three (3) ground water wells automatically controlled by a Supervisory Control and Data Acquisition (SCADA) system. System pressure is maintained by the water tower located at 580 Main St. West. Predetermined water level set points automatically start and stop the well pumps. Two chemical feed pumps at each well also start automatically adding sodium hypochlorite and sodium silicate to the water.

The first chemical added is sodium hypochlorite (liquid chlorine). It is used to kill any disease-causing organisms (disinfect) that may be present in the water. It is important to add enough of this chemical to maintain a free chlorine residual throughout the water distribution system. The second chemical added is Sodium Silicate. It is used as a sequestering agent to prevent iron from oxidizing thereby minimizing the amount of rust formation in the water.

B. Non-Compliance with Legislations, Regulations, Approvals & Orders

The Listowel Drinking Water System is governed by, and must operate in accordance with, the following Acts and Regulations:

- Safe Drinking Water Act 2002;
 - O. Reg 128/04 – Certification of Drinking Water System Operators
 - O. Reg 170/03 – Drinking Water Systems
 - O. Reg 169/03 – Ontario Drinking Water Quality Standards
- Environmental Protection Act, where applicable;
- Clean Water Act, where applicable;
- Municipal Drinking Water Licence - 091-103;
- Drinking Water Works Permit - 091-203;
- Permit to Take Water – 6463-8NWM5A.

During this period, the Facility was operated in full compliance with the Act, the regulations and the Facility's approval, save and except for the following:

Requirement	Duration of Failure	Measures to Correct the Failure
No non-compliances in 2018		

C. System Capability

Comparison of Flow Rates

Well 4						
Month	Average Flow (m³/d)	Maximum Flow (m³/d)	Total Monthly Flow (m³)	Maximum Flow Rate (L/min)	System Capacity	Approved Flow Rate
January	654.67	886.79	20294.64	1850.91	3,273.1 m ³ /day	2,273 L/min
February	634.32	757.6	17760.86	1881.09		
March	649.18	833.05	20124.73	1881.45		
April	672.28	828.5	20168.53	2483.51		
May	730.01	1185.6	22630.2	1878.54		
June	703.64	909.2	21109.2	1813.34		
July	751.38	1107.5	23292.7	1813.26		
August	660.42	763.9	20472.9	1814.1		
September	644.8	1192.2	19344	1813.8		
October	681.8	1223.9	21135.9	1809.97		
November	669.21	880.2	20076.4	1814.09		
December	658.51	751.4	20413.7	1813.33		
Average	675.85		20568.65	1888.95		
Maximum		1223.9	23292.7	2483.51		
% of Capacity	20.65	37.39				

Well 5						
Month	Average Flow (m³/d)	Maximum Flow (m³/d)	Total Monthly Flow (m³)	Maximum Flow Rate (L/min)	System Capacity	Approved Flow Rate
January	644.30	784.04	19973.19	1933.81	3,273.1 m ³ /day	2,273 L/min
February	637.87	784.00	17860.29	1910.84		
March	647.17	828.45	20062.38	1900.40		
April	670.91	822.89	20127.41	1886.69		
May	740.63	1187.20	22959.50	1884.41		
June	701.54	860.90	21046.20	1816.69		
July	749.53	1107.40	23235.50	1815.32		
August	660.52	762.90	20476.20	1817.33		
September	660.85	1192.50	19825.40	1816.28		
October	683.49	1228.40	21188.20	1818.24		
November	657.51	952.97	19725.28	1880.56		
December	660.84	758.04	20486.02	1887.20		
Average	676.26		20580.46	1863.98		
Maximum		1228.40	23235.50	1933.81		
% of Capacity	20.66	37.53				

Well 6						
Month	Average Flow (m³/d)	Maximum Flow (m³/d)	Total Monthly Flow (m³)	Maximum Flow Rate (L/min)	System Capacity	Approved Flow Rate
January	619.02	937.11	19189.65	1828.44	3,273.1 m ³ /day	2,273 L/min
February	629.60	769.80	17628.90	1916.70		
March	632.92	786.40	19620.43	1879.43		
April	663.09	770.46	19892.83	1874.77		
May	720.94	1185.00	22349.14	1872.97		
June	705.98	867.50	21179.40	1816.54		
July	742.62	951.40	23021.10	1818.23		
August	660.07	766.30	20462.20	1818.80		
September	664.08	1193.40	19922.40	1818.05		
October	686.30	1230.60	21275.30	1816.65		
November	648.34	862.58	19450.05	1843.61		
December	647.19	748.89	20062.89	1854.39		
Average	668.35		20337.86	1846.55		
Maximum		1230.60	23021.10	1916.70		
% of Capacity	20.42	37.60				

LISTOWEL WELL SUPPLY – ALL WELLS					
Month	Average Flow (m³/d)	Maximum Flow (m³/d)	Total Monthly Flow (m³)	System Capacity	Approved Flow Rate
January	1918.0	2372.9	59457.5	9,819 m ³ /day	Well 4: 2,273 L/min Well 5: 2,273 L/min Well 6: 2,273 L/min
February	1901.8	2311.4	53250.1		
March	1929.3	2357.9	59807.5		
April	2006.3	2324.1	60188.8		
May	2191.6	3557.8	67938.8		
June	2111.2	2603.3	63334.8		
July	2243.5	3131.6	69549.3		
August	1981.0	2293.1	61411.3		
September	1969.7	3578.1	59091.8		
October	2051.6	3682.9	63599.4		
November	1975.1	2695.8	59251.7		
December	1966.5	2257.2	60962.6		
Average	2020.5		61487.0		
Maximum		3682.9	69549.3		
% of Capacity	20.58	37.51			