



**Annual Summary Report**

**For The**

**Aylmer Distribution System**

**2022**

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## Aylmer Distribution System – 2022 Summary Report

January 2023

### **Overview**

This Summary Report for the Aylmer Distribution System is generated in accordance with Schedule 22 of Ontario's Drinking Water Systems Regulation for the reporting period of January 1st, 2022, to December 31st, 2022. The Aylmer Distribution System (waterworks number 260002136) is categorized as Large Municipal Residential Drinking Water System. It is operated under the Municipal Drinking Water License (MDWL) #044-101 and Drinking Water Works Permit (DWWP) #044-201.

The Town of Aylmer is supplied water by the Aylmer Secondary System which delivers water from the Elgin Middlesex Pumping Station to the town limits by means of a 450 mm water main.

### **Compliance**

The annual audit of the Aylmer Distribution System's Drinking Water Quality Management Standard (DWQMS) was an off-site audit conducted on September 7<sup>th</sup>, 2022, by NSF auditor Rose Johnson. One minor nonconformity was identified for element 21, continual improvement. Tracking sheet 21-01 was not fully up to date. The most recent MECP system inspection was conducted on May 18<sup>th</sup>, 2022. There were no instances of non-compliance, resulting in an inspection rating of 100%.

### **Requirements**

The 2022 Summary Report for the Aylmer Distribution System is submitted to satisfy Schedule 22 of Ontario Regulation 170/03. As described in O.Reg 170.03, the report must:

- a) List the requirements of the Act, the regulations, the system's approval, drinking water works permit, municipal drinking water license and any orders applicable to the system that were not met at any time during the reporting period and
- b) For each requirement not met in part a), specify the duration of the failure and the measures that were taken to correct the failures

The Summary Report must also include the following information to assist the owner in assessing the capability of the system to meet existing and future uses:

- 1) A summary of the quantities and flow rates of the water supplied during this period covered by the report, including monthly average and maximum daily flows
- 2) A comparison of the summary results to the rated capacity and flow rates approved in the system's approval, drinking water works permit or municipal drinking water license or if the system is receiving all of its water from another system under an agreement, to the flow rates specified in that agreement

**Table 1** lists the requirements that the system failed to meet, and the measures taken to correct the failure

**Table 1**

Drinking Water Legislation	List of requirements the system failed to meet	Duration of the failure	Measures that were taken to correct problem	Status: (complete or incomplete)
Safe Drinking Water Act				
Ontario Regulations				
DWL #044-101. DWWP #044-201 Issue #2 (as of June 7/16)				
Provincial Officer's Order No.				
Works permit/ License				

**Water Quantity Summary**

**Table 2** provides an overview of the quantity of water entering the Aylmer Distribution System at Chamber 16 as recorded by the SCADA system.

**Table 2**

	<b>Total Flow (m3)</b>	<b>Average Daily Flow (m3/day)</b>	<b>Max Daily Flow (m3/day)</b>	<b>Min Daily Flow (m3/day)</b>	<b>Total Reverse Flow (m3)</b>
<b>January</b>	127250.6	4104.9	4742.6	3188.0	2541.0
<b>February</b>	117065.6	4180.9	4627.8	3820.1	2294.9
<b>March</b>	136473.3	4402.4	4930.1	3869.4	2424.4
<b>April</b>	118275.3	3942.5	4646.7	2135.7	2514.6
<b>May</b>	152772.1	4928.1	5781.3	4200.7	2248.1
<b>June</b>	162735.4	5424.5	6829.7	4828.2	1978.3
<b>July</b>	172279.6	5557.4	6289.4	4755.9	2150.7
<b>August</b>	161221.8	5200.7	5740.7	4394.8	2396.0
<b>September</b>	137176.6	4572.6	5719.6	2824.3	2492.1
<b>October</b>	151447.2	4885.4	5598.9	4403.8	2533.8
<b>November</b>	141633.9	4721.1	5275.3	4061.7	2464.5
<b>December</b>	136721.2	4410.4	4865.7	3985.6	2409.6
<b>Total</b>	1715052.6	4694.2	5420.7	3872.4	28448.0

Flow data for the period January 1, 2022, to December 31, 2022

The maximum daily flow to the system occurred on June 22, 2022, with a daily total of 6829.7 m<sup>3</sup>. The total flow from the EMPS to Aylmer averaged 4694.2 m<sup>3</sup>/day. Total flow for the year 2022 was 1715052.6 m<sup>3</sup>. The numbers change when one considers the reverse flow through the meter at Chamber 16. When the reverse flow is subtracted from the total flow, the annual flow drops to 1686604.6 m<sup>3</sup> for the year 2022. This also changes the average daily flow from 4694.2 m<sup>3</sup>/day to 4620.8 m<sup>3</sup>/day for 2021. Using the figure 130 l/sec as the EMPS pump capacity, the total daily flow capacity for the Aylmer Secondary line is 11232 m<sup>3</sup>/day. The current average daily flow (4694.2 m<sup>3</sup>/day) uses 42% of the system's capacity. This number has gone up from the previous year's total of 41% capacity. As expected, water usage was higher during the warmer months.

**Table 3** compares the flows from 2021 to those of 2022. There were considerable variations in water usage on a month to month basis. High water consumption in the months of May to September are a common trend as people complete more outdoor tasks that require water usage. Irrigation and exterior cleaning of property always increase the total volume of water used. Colder months saw less water consumption.

**Table 3**

<b>Month</b>	<b>Total Flow 2021 (m3)</b>	<b>Total Flow 2022 (m3)</b>	<b>Average Daily Flow 2021 (m3/day)</b>	<b>Average Daily Flow 2022 (m3/day)</b>	<b>Difference between 2021 and 2022 (%)</b>
<b>January</b>	118392.1	127250.6	3819.1	4104.9	+7.0
<b>February</b>	114968.5	117065.6	4106.0	4180.9	+1.8
<b>March</b>	141527.7	136473.3	4565.4	4402.4	-3.7
<b>April</b>	126757.3	118275.3	4225.2	3942.5	-7.2
<b>May</b>	155519.4	152772.1	5016.8	4928.1	-1.8
<b>June</b>	159373.5	162735.4	5312.5	5424.5	+2.1
<b>July</b>	155697.9	172279.6	5022.5	5557.4	+9.6
<b>August</b>	155616.2	161221.8	5019.9	5200.7	+3.5
<b>September</b>	153665.1	137176.6	5122.2	4572.6	-12.0
<b>October</b>	134683.3	151447.2	4344.6	4885.4	+11.1
<b>November</b>	136764.9	141633.9	4558.8	4721.1	+3.4
<b>December</b>	132183.8	136721.2	4264.0	4410.4	+3.3
<b>total flow (m3)</b>	1685149.7	1715052.6			+1.7
<b>Average (m3/day)</b>			4614.8	4694.2	+1.7

**Table 4** shows the various flow parameters for 2022 and compares the daily average flow rates for 2022 to those of 2021

**Table 4: Flow Rates**

<b>Month</b>	<b>2022 Daily Average Flow Rate (L/s)</b>	<b>Max Flow Rate/Day (L/s)</b>	<b>Min. Flow Rate/Day (L/s)</b>	<b>Highest Hourly Average (L/s)</b>	<b>2021 Daily Average Flow Rate (L/s)</b>
<b>January</b>	47.5	128.1	0	54.9	44.2
<b>February</b>	48.4	127.8	0	53.4	47.4
<b>March</b>	51.2	128.5	0	57.0	52.9
<b>April</b>	45.3	130.1	0	55.3	48.9
<b>May</b>	57.1	128.9	0	68.3	58.2
<b>June</b>	63.4	129.5	0	79.1	61.4
<b>July</b>	64.3	130.7	0	72.8	58.1
<b>August</b>	60.2	130.6	0	66.4	58.1
<b>September</b>	52.9	131.7	0	66.3	59.4
<b>October</b>	56.5	130.7	0	64.8	50.3
<b>November</b>	55.1	130.6	0	61.1	52.8
<b>December</b>	51.1	128.9	0	56.1	49.7

This information is collected in order to assist the owner in assessing the present capacity of the water system. A copy of this report shall be submitted to Council no later than March 31, 2023.