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March 1<sup>st</sup>, 2025

Dear Water Consumer,

The Water Division is pleased to provide the 2024 Annual Summary Report for the City of Stratford Drinking Water System.

The attached report is in accordance with Schedule 22 of O. Reg 170/03, under the Safe Drinking Water Act.

As identified under Section 12 of O. Reg. 170/03, it is required that the Annual Report as per Section 11 of O. Reg. 170/03 and the Summary Report be made available for inspection by any member of the public during normal business hours, without charge. This report can be viewed at Infrastructure and Developmental Services, City Annex, 82 Erie Street, 3<sup>rd</sup> Floor, Stratford.

The report can also be found on the City of Stratford website at:  
<https://www.stratford.ca/en/live-here/waterannualreports.aspx>

This report will also be provided to members of council by March 31, 2025.

For any questions or additional information regarding the report, please contact me at (519) 271-0250 ext. 5222.

Yours truly,

A handwritten signature in black ink, appearing to read "S Beech".

Sean Beech  
Manager of Environmental Services



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**2024**

# Annual Summary Report

City of Stratford Drinking Water System

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## **Quality Management System Policy**

The City of Stratford as the owner and operator of the treatment and distribution drinking water system is committed to developing a high level of trust, commitment, and accountability by consistently delivering high quality and safe drinking water to the consumers.

The City of Stratford, Water Division is committed to:

- Providing safe and reliable drinking water services to our consumers, by managing potential risks, promoting resource stewardship and source water protection,
- Complying with applicable legislation, regulations, guidelines, and standards as related to the provision of safe drinking water.
- Maintaining and continually improving the effectiveness of the Quality Management System; and
- Establish and maintain a Quality Management System that is consistent with the Quality Management System Policy.

## **The City of Stratford Quality Management System Summary**

The City of Stratford Quality Management System (QMS) is legislated under the Drinking Water Quality Management Standard (DWQMS) through the Safe Drinking Water Act. To maintain operating authority accreditation, the Ministry of the Environment, Conservation and Parks (MECP) mandate tasks that must be completed annually. These activities include:

- Conducting an internal audit of the Quality Management System.
- Conducting a Management Review meeting.
- Participating in an external audit conducting by a third-party Accreditation Body.
- Updating the Quality Management System Operational Plan.
- Updating Council of the status of the Quality Management System.

Internal audits were completed with support from Water operational staff and Acclaims Environmental. No non-conformities were identified as a result of the internal audit. The audit report did note five areas for opportunities for improvement which are all being addressed by staff.

The City of Stratford must receive accreditation annually to operate the drinking water system. Through a qualified third-party auditor, the City must demonstrate that its QMS meets the requirements of the DWQMS (Drinking Water Quality Management Standard). SAI Global conducted an external surveillance audit on April 11th, 2024, by Janet McKenzie. There were no non-conformances and one OFI identified.

Staff are required to conduct an annual Management Review meeting to evaluate the effectiveness of the QMS. Deficiencies and opportunities for improvement are identified and action items are developed to ensure follow-up. The City of Stratford held their management review meeting on December 19th, 2024. All requirements were met in 2024.

## **1.0 System Overview**

This annual summary for the City of Stratford Drinking Water System was published in accordance with Schedule 22 of Ontario's Drinking Water Systems Regulation for the reporting period of January 1, 2024, to December 31, 2024. The City of Stratford Drinking Water System (waterworks number 220000530) is categorized as a Large Municipal Residential Drinking Water System.

This report was prepared by the City of Stratford on behalf of The Corporation of the City of Stratford and must be supplied to the municipal council by March 31, 2025.

## **2.0 Compliance with Regulations**

The City of Stratford Drinking Water System is operated and maintained to ensure that safe drinking water supplied to the consumers and serviced by the system satisfy requirements within the Safe Drinking Water Act, the regulations, the Municipal Drinking Water License (074-101) and Drinking Water Works Permit (074-201).

The Ministry of the Environment, Conservation and Parks (MECP) conducted the routine annual inspection on May 22nd, 2024. The inspecting officer, Neville Rising, identified three non-compliances with the regulatory requirements. Two of them were administrative in nature, and the third involved modifications to our well supply infrastructure. All were corrected immediately following the inspection. Updates were sent to Mr. Rising during this process to show our progress on the corrective actions.

There was one Adverse Drinking Water Quality Incident (AWQI) reported during this reporting period. It occurred with a distribution sample taken on December 19, 2024, at 882 Ontario St. Two total coliforms were identified during sampling with a result of 2 cfu/100mL. This was reported to SACC and the MECP as required. Resamples were taken at the source and the upstream and downstream on December 20, 2024. All resamples passed.

Water quality exceedances for Fluoride and Sodium were observed in samples taken in 2024. The Fluoride and Sodium levels continue to be an issue in the system due to them occurring naturally. Annual notification is provided to property owners on their water bill as well as notification on the Huron Perth Public Health website of the Fluoride levels.

Fluoride & Sodium exceedances are reportable every 57 months. Next reportable exceedances will be in 2027 and 2028.

- Next reporting requirement for Fluoride, for all treated entry locations, is March 8, 2028.
- Next reporting requirement for Sodium, for all treated entry locations, is December 8, 2027.

### **3.0 Corrective Actions**

The routine MECP Inspections have an Inspection Rating Record, which evaluates the system to provide information for the owner/operator on areas that need to be improved. The particular areas that were evaluated for the City of Stratford Drinking Water System were: Treatment Process, Operations Manuals, Water Quality Monitoring, Reporting and Corrective Actions and Other Inspection Findings. This system received 43 out of 497 non-compliance risk ratings and as such received 91.35% for the Final Inspection Rating.

### **4.0 Summary of Quantity of Water Supplied**

#### **Production Wells and Treated Flows**

Within the City of Stratford Drinking Water System is a total of 11 confined artesian wells. Of the 11 wells in the system, five are considered remote facilities that are located throughout the city. The distribution system has over 180 kilometers of cast iron, ductile, steel and PVC water main, varying in size from 100mm to 400mm. Additionally, The City of Stratford's water system is 100% metered, with more than 12,537 service connections.

There are also two water towers within the distribution system that provide both storage and pressure stability. The City's topography is moderately level which allows for a single pressure zone throughout the distribution system.

Attached as Appendix A is a summary the flow rates for 2024, which include Municipal Drinking Water License Schedule C rated capacity, total and average daily flows, and raw water peak flows.

#### **Monitoring Wells**

As per section 4.2 (4) of the Permit to Take Water, all data collected under the monitoring well program shall be analyzed, interpreted, and summarized in an annual report by a qualified person. The 2024 final report was prepared by ARL Groundwater Resources Ltd. on February 25th, 2025. Reports can be viewed at 82 Erie Street, 3rd Floor Engineering.

General comments include:

- Total pumpage from all wells was approximately 17% lower in 2024 compared with 2023.
- The Romeo Street well field accounted for approximately 55% of the total well production in 2024, followed by O'Loane (14%), Chestnut and Dunn (both at 11%), and Lorne Avenue and Mornington St. (both at 4%), respectively.

- The hydrographs of water level measurements recorded at the city multilevel monitoring wells in 2024 are generally consistent with measurements recorded in recent years.
- There is evidence that water levels have a general decline.
- There is no evidence available to indicate that water taking by the city in 2024 had an adverse effect on other private wells or the natural environment.

Recommendations:

- That water level monitoring at the multilevel monitoring wells continues with some changes in methodology including a shift to more automated monitoring using dataloggers and transducers.
- That a more comprehensive review and interpretation of the monitoring data be performed in 2025, to update and improve on the effectiveness of the monitoring program in understanding how the aquifer system responds to pumping.



## Appendix "A" – Flow Data

### Chestnut Street Well and Pumphouse

Month	Raw Peak Flow Rate (Max = 2500 L/min)	Treated Water (MDWL Limit = 3600 m <sup>3</sup> /day)	Monthly Average (m <sup>3</sup> /day)
January	1634	1727	805
February	1639	1708	866
March	1632	1702	801
April	1631	1750	1522
May	1621	1737	731
June	1625	1749	1393
July	1607	1721	1542
August	1478	1641	1626
September	1604	1703	1046
October	1633	1779	1044
November	1620	1661	415
December	1629	1777	319
<b>Average</b>	-	-	<b>1009</b>
<b>Maximum</b>	<b>1639</b>	<b>1779</b>	-

### Mornington Street Well and Pumphouse

Month	Raw Peak Flow Rate (Max = 3410 L/min)	Treated Water (MDWL Limit = 4910 m <sup>3</sup> /day)	Monthly Average (m <sup>3</sup> /day)
January	2404	614	297
February	2658	1097	305
March	2325	625	176
April	2323	475	336
May	2304	2770	1154
June	2284	814	345
July	2301	561	221
August	2275	504	115
September	2286	1014	294
October	2262	1935	380
November	2293	2670	249
December	2278	2554	239
<b>Average</b>	-	-	<b>343</b>
<b>Maximum</b>	<b>2658</b>	<b>2770</b>	-

## Appendix "A" – Flow Data

### Lorne Avenue Well and Pumphouse

Month	<b>Raw Peak Flow Rate</b> (Max = 1370 L/min)	<b>Treated Water</b> (MDWL Limit = 1973 m <sup>3</sup> /day)	<b>Monthly Average</b> (m <sup>3</sup> /day)
January	1128	683	156
February	1121	910	145
March	1123	291	51
April	4278	1472	1256
May	1115	1463	1201
June	1105	1453	1037
July	1097	299	85
August	1115	145	40
September	1126	392	122
October	1212	348	81
November	1131	1446	92
December	1164	1401	92
<b>Average</b>	-	-	<b>363</b>
<b>Maximum</b>	<b>4278</b>	<b>1472</b>	-

\*April 12, 2024 – Flushing to Waste, extended our PTTW L/min due to no back pressure during flushing.

### Dunn Road Well and Pumphouse

Month	<b>Raw Peak Flow Rate</b> (Max = 5000 L/min)	<b>Treated Water</b> (MDWL Limit = 7200 m <sup>3</sup> /day)	<b>Monthly Average</b> (m <sup>3</sup> /day)
January	4972	2659	973
February	2445	2661	1323
March	2361	2684	1288
April	1992	2657	130
May	0	0	0
June	6969	3293	596
July	2794	3279	1477
August	2817	1611	1251
September	2757	1975	1440
October	2743	1917	1256
November	2781	1597	556
December	2828	1546	1242
<b>Average</b>	-	-	<b>961</b>
<b>Maximum</b>	<b>6969</b>	<b>3293</b>	-

\*June 25, 2024 – Flushing to waste, extended our PTTW L/min due to no back pressure during flushing.

## Appendix "A" – Flow Data

### O'Loane Avenue Well and Pumphouse

Month	Raw Peak Flow Rate (Max = 3406 L/min)	Treated Water (MDWL Limit = 4905 m <sup>3</sup> /day)	Monthly Average (m <sup>3</sup> /day)
January	3096	2277	1734
February	3222	2295	1264
March	2989	701	124
April	3067	2409	1060
May	3055	3982	1743
June	3094	2537	1404
July	2991	2219	1434
August	3113	2050	1569
September	3107	2395	1697
October	3102	2454	1522
November	3032	1951	669
December	3146	1835	1475
<b>Average</b>	-	-	<b>1308</b>
<b>Maximum</b>	<b>3222</b>	<b>3982</b>	-

### Romeo Street Pumping Station

Month	Raw Peak Flow Rate (see individual flow rates FW 1, 2, 3, 4, 6, 7)	Treated Water (MDWL Limit = 17012 m <sup>3</sup> /day)	Monthly Average (m <sup>3</sup> /day)
January	-	5490	4922
February	-	6450	5243
March	-	4610	2613
April	-	6390	4990
May	-	6620	4984
June	-	6610	5402
July	-	6180	5429
August	-	6040	5470
September	-	6570	5931
October	-	6070	5378
November	-	6020	2907
December	-	6010	5609
<b>Average</b>	-	-	<b>4907</b>
<b>Maximum</b>	-	<b>6620</b>	-

## Appendix "A" – Flow Data

### **Romeo Street Pumping Station Raw Peak Flows**

Field Wells 1, 2, 3, 4, 6, 7 (PTTW allowable water taking is per individual field well)

Month	<b>FW1</b> (L/min)	<b>FW2</b> (L/min)	<b>FW3</b> (L/min)	<b>FW4</b> (L/min)	<b>FW6</b> (L/min)	<b>FW7</b> (L/min)
January	1092	1102	904	1079	3032	2576
February	1092	1097	902	1086	3077	2589
March	1096	1102	911	1101	3306	2607
April	1098	1105	908	1061	3116	2576
May	1098	1107	902	1067	3218	2598
June	2002	1996	1999	1065	3039	4994
July	1091	1103	914	1055	3047	2546
August	1087	1102	932	1072	2954	2491
September	1088	1105	937	1043	2963	2530
October	1087	1102	947	1051	3588	2612
November	1086	1094	941	1085	2988	2576
December	1091	1104	943	1061	3009	2376
<b>Average</b>	-	-	-	-	-	-
<b>Maximum</b>	<b>2002</b>	<b>1996</b>	<b>1999</b>	<b>1101</b>	<b>3588</b>	<b>4994</b>
<b>Max Limit</b>	<b>1136</b>	<b>1136</b>	<b>1136</b>	<b>1136</b>	<b>3858</b>	<b>3410</b>

\* High peak flows for FW1-3 & 7 due to yearly flow meter calibrations.