STAFF REPORT
City Utilities

Title:	2024 Drinking Water Annual and Summary Report
Report Number:	IPPW2025-007
Author:	Jaclyn Varga
Council Date:	February 24, 2025
File:	N/A
Attachments:	Appendix 'A': 2024 Annual Report; Appendix 'B': 2024 Summary Report
Ward No.:	All

Recommendations:

1. That Council receives the 2024 Annual and Summary Reports pursuant to Ontario Regulation 170/03 of the Safe Drinking Water Act (2002).
2. That Council approves IPPW2025-007.

A. Executive Summary

The 2024 Annual and Summary Reports have been prepared in accordance with the *Safe Drinking Water Act* (2002) and must be received by Council.

The 2024 Annual Report (Appendix 'A') must be prepared no later than February 28, 2025 and must include a brief description of the drinking water system, a summary of adverse water quality results, a summary of results of required tests, a description of corrective actions taken, a description of major expenses incurred, and the location of the Summary Report.

In addition to the Annual Report, a Summary Report (Appendix 'B') must also be prepared and provided to the owner of the drinking water system not later than March 31, 2025. The Summary Report includes information regarding applicable legislation, a statement of compliance, including a summary of latest inspection results, and a summary of water consumption and flow rates.

B. Financial Implications

None

C. Technology Implications

None

D. Link to Strategic Plan

(Strategic Priorities: Reconciliation, Equity, Accessibility, Diversity and Inclusion; Environmental Sustainability and Climate Action; Complete Community; Infrastructure and Transportation Systems; Innovation and Future-Ready)

(Guiding Principles: Equity and Inclusion; Sustainability; Integrity; Workplace Wellbeing; Community-centred; Operational Excellence)

The Annual and Summary Reports provide assurances to the City of Waterloo's owner and its customers that safe, high quality water is being provided and safely managed which supports the strategic priorities of Environmental Sustainability and Climate Action and Infrastructure and Transportation Systems. The continued commitment to providing safe drinking water showcases the guiding principles of Operational Excellence and Sustainability.

E. Previous Reports on this Topic

A report has been sent to Council every year since 2003; the most recent report is IPPW2024-007.

2024 Drinking Water Annual and Summary Report
IPPW2025-007

2024 Annual Report

The 2024 Annual Report, attached in Appendix 'A', has been prepared in accordance with the terms and requirements set out in the Safe Drinking Water Act (2002), Ontario Regulation 170/03, Section 11. It covers the period from January 1 to December 31, 2024 and the owner (City of Waterloo Mayor and Council) must ensure that the annual report is prepared no later than February 28, 2025. As per Section 11 of the regulation, the report includes:

a) Brief Description of the Drinking Water System;
b) Summary of Adverse Water Quality Results;
c) Summary of Results of Required Tests;
d) Description of Corrective Actions Taken;
e) Description of Major Expenses Incurred; and
f) Location of Summary Report.

Copies of the City of Waterloo's Annual Report are available, free of charge, at the Waterloo Service Centre, 265 Lexington Court, by contacting Customer Service at (519) 886-2310, extension 30239. An electronic copy can also be downloaded from the City of Waterloo website at www.waterloo.ca.

2024 Summary Report

In addition to the Annual Report, Ontario Regulation 170/03, Schedule 22 requires large municipal residential systems to complete a Summary Report. The Summary Report, attached in Appendix 'B', covers the same time period as the annual report and must be prepared and given to the owner of the drinking water system not later than March 31, 2025. The report follows the requirements prescribed in Schedule 22 of the regulation 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 and includes:

a) Applicable Legislation;
b) Statement of Compliance;
c) Summary of Quantities and Flow Rates; and,
d) Communication.

Drinking water inspection results are included in the Statement of Compliance of the Summary Report.

Ontario

Drinking Water Systems Regulation (O. Reg. 170/03)

Appendix 'A' – 2024 Annual Report

Drinking-Water System Number:	260002473
Drinking-Water System Name:	City of Waterloo Distribution System
Drinking-Water System Owner:	City of Waterloo
Drinking-Water System Category:	Large Municipal Residential
Period being reported:	January 1, 2024 – December 31, 2024

For Large Municipal Residential Systems:

Does your Drinking-Water System serve more than 10,000 people?
Yes

Is your annual report available to the public at no charge on a web site on the Internet?
Yes

Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection:

- Available on the City website at www.waterloo.ca or by calling City Utilities, Customer Service at (519) 886-2310 ext.30239

1. **List all Drinking-Water Systems (if any), which receive all of their drinking water from your system:**

Drinking Water System Name	Drinking Water System Number
None	N/A

2. **Did you provide a copy of your annual report to all Drinking-Water System owners that are connected to you and to whom you provide all of its drinking water?**
   N/A

3. **Indicate how you notified system users that your annual report is available, and is free of charge:**
   [X] Public access/notice via the web
   [X] Public access/notice via Government Office
   [ ] Public access/notice via a newspaper

4. Describe your Drinking-Water System:

The City of Waterloo owns the water distribution system; City Utilities is responsible for the operation of the Class 2 water distribution system, including pipes, valves, and hydrants. According to the Region of Waterloo 2023 Year End Population Estimates, the City's water distribution system serves a population of 154,440 people, including temporary non-resident students (34,550). The water distribution system consists of the following (2023 year end data):

- 442.03 kilometres of distribution main,
- 31,813 water connections (active accounts),
- 2,599 hydrants (not including private hydrants), and
- 5,080 valves (not including curbstop service valves, or control valves).

The City of Waterloo's distribution system dates back to 1899; extensive replacement and extension of the distribution system has occurred since that time. The water distribution system watermains range in size from 25 mm to 450 mm in diameter and are constructed of cast iron, ductile iron, asbestos-cement (AC), high-density-polyethylene (HDPE) or polyvinyl chloride (PVC). Any alteration to the City's distribution system requires completion of the Form 1 - Record of Watermains Authorized as a Future Alteration.

There are 7.8 kilometres of dual mains (owned by both the City of Waterloo and the Region of Waterloo) that function as both transmission and distribution. The dual mains are shared with the Region but are maintained by City of Waterloo, City Utilities. Any alterations to dual mains require completion of the Form 1 under the Drinking Water Works Permit by the initiating municipality, and the Form 1 is to be signed off by both the City of Waterloo and the Region. The role of Overall Responsible Operator for dual mains is the responsibility of the City of Waterloo.

The City of Waterloo's distribution system does not provide treatment to the water; therefore, there is no chlorine boosting, ultraviolet (UV) irradiation, secondary disinfection, and pressure boosting or pressure control within the control of the water distribution system. The Region of Waterloo is responsible for the water supply and water treatment. The City shares responsibility with the Region to regularly test water and ensure that the standards set out by the Ontario Ministry of Environment, Conservation and Parks are being met or exceeded.

The water distribution system also provides source distribution to neighbourhoods in three adjacent municipalities: the City of Kitchener's community of Falconridge; the Township of Woolwich's commercial development at the St. Jacobs Outlets; and the Community of St. Agatha within the Wilmot Township. The City of Waterloo does not provide treatment to the water, boost pressure or operate the distribution systems in these neighbourhoods. The distribution system also services numerous properties at the City of Kitchener border and Township of Woolwich border.

5. List all water treatment chemicals used over this reporting period:

Water treatment is the responsibility of the Region of Waterloo. The Region of Waterloo reports all the treatment chemicals used via their annual Water Quality Reports for the Integrated Urban System.

The City of Waterloo disinfects all parts, material and pipe during new installation and repair work using NSF 60 certified chlorine solution.

6. Were any significant expenses incurred to:

[ ] Install required equipment
[X] Repair required equipment
[X] Replace required equipment

7. Please provide a brief description and a breakdown of monetary expenses incurred:

- Repair and maintenance of the distribution system (operating) = $2,027,289
- Replacement of watermains and valves (capital) = $2,937,231

8. Provide details on the notices submitted in accordance with subsection 18(1) of the Safe Drinking-Water Act or section 16-4 of Schedule 16 of O.Reg.170/03 and reported to Spills Action Centre:

AWQI#	Parameter	Incident Date	Result	Unit of Measure	Corrective Action	Corrective Action Resolution Date
164297	TC	2024-01-04	P	P/A	• Flushed and resampled adverse site • Flushed and sample upstream and downstream sites	2024-01-06
164559	Lead – Distribution	2024-02-23	20.3	µg/L	• Flushed and resampled adverse site • Hydrant replaced	2024-03-06
165622	TC	2024-07-16	P	P/A	• Flushed and resampled adverse site	2024-07-22
165644	TC	2024-07-17	P	P/A	• Flushed and resampled adverse site	2024-07-24
165651	TC	2024-07-17	71	CFU	• Flushed and resampled adverse site for two rounds • Flushed and resampled upstream and downstream sites • Plumbing fixture replaced	2024-07-22
165720	TC	2024-07-23	P	P/A	• Flushed and resampled adverse site • Flushed and sampled upstream site (no downstream location)	2024-07-26
165844	CR	2024-07-31	TCR = 0.24 FCR = 0.03 CCR = 0.21	mg/L	• Flushed and resampled at adverse site • Flushed and sampled at downstream location	2024-07-31

AWQI#	Parameter	Incident Date	Result	Unit of Measure	Corrective Action	Corrective Action Resolution Date
165860	TC	2024-07-31	P	P/A	• Flushed and resampled adverse site • Flushed and sampled upstream and downstream	2024-08-06
165862	TC	2024-07-31	P	P/A	• Flushed and resampled adverse site • Flushed and sampled upstream and downstream sites	2024-08-06
165865	TC	2024-07-31	P	P/A	• Flushed and resampled adverse site • Flushed and sampled upstream and downstream sites	2024-08-06
165949	TC	2024-08-08	P	P/A	• Flushed and resampled adverse site • Flushed and sampled upstream and downstream sites	2024-08-13
166068	TC	2024-08-21	P	P/A	• Flushed and resampled adverse site • Flushed and sampled upstream and downstream sites	2024-08-26
166088	TC	2024-08-22	18	CFU	• Flushed and resampled adverse site • Flushed and sampled upstream and downstream sites	2024-08-26
166110	Lead (Private)	2024-08-28	19.6	µg/L	• Resampled at adverse site • Service investigation by vac dig	2024-09-20
166203	CR	2024-09-05	TCR=0.21 FCR=0.03 CCR=0.18	mg/L	• Flushed and resampled at adverse site • Flushed and sampled at downstream site	2024-09-05
166318	Lead (Private)	2024-09-16	20.0	µg/L	• Service investigation confirmed lead components on private side to satisfaction of Public Health	2024-09-20
166364	TC	2024-09-18	P	P/A	• Flushed and resampled at adverse site • Flushed and samples at upstream and downstream sites	2024-09-23
166881	CR	2024-11-14	TCR=0.23 FCR=0.03 CCR=0.21	mg/L	• Flushed and resampled adverse site • Flushed and sampled downstream site	2024-11-14
166890	TC	2024-11-14	P	P/A	• Flushed and resampled adverse site • Flushed and sampled upstream and downstream sites	2024-11-18
166923	TC	2024-11-21	P	P/A	• Flushed and resampled adverse site • Flushed and sampled upstream and downstream sites	2024-11-25

AWQI#	Parameter	Incident Date	Result	Unit of Measure	Corrective Action	Corrective Action Resolution Date

CR=Chlorine Residual
TC=Total Coliform
A=Absent
P=Present
TCR=Total Chlorine Residual
FCR=Free Chlorine Residual
CCR=Combined Chlorine Residual
CFU=Colony Forming Unit

9. Microbiological testing done under the Schedule 10 of Regulation 170/03, during this reporting period:

Sample Source	Number of Samples	Range of E.Coli or Fecal Results (min - max)	Range of Total Coliform Results (min - max)	Number of HPC Samples	Range of HPC Results (min - max)
Distribution	1675	Absent 0	Absent - Present 0 - 71	574	0 - 500 CFU/mL

CFU=Colony forming units

10. Operational testing done under Schedule 7 of Regulation 170/03 during the period covered by this Annual Report:

Parameter	Number of Grab Samples	Range of Results (min - max)	Unit
Total Chlorine	3627	0.21 – 1.98	mg/L
Free Chlorine	3627	0 – 0.77	mg/L

11. Summary of additional testing and sampling carried out in accordance with the requirement of an approval, order or other legal instrument:

Date of legal instrument issued	Parameter	Date Sampled	Result	Unit of Measure
N/A				

12. Summary of Inorganic parameters tested during this reporting period or the most recent sample results:

Parameter	Sample Date	Result Value Range (min - max)	Unit of Measure	Number of Exceedances
Antimony	As a distribution system only testing is not required by the City of Waterloo; see Region of Waterloo Annual Report for source water results.			
Arsenic				
Barium				
Cadmium				
Fluoride				
Lead*	N/A	N/A	N/A	N/A
Mercury	As a distribution system only testing is not required by the City of Waterloo; see Region of Waterloo Annual Report for source water results.			
Nitrate				
Nitrite				
Selenium				
Sodium				
Uranium				

* Lead samples taken outside of mandated timeframe as per Schedule 15.1

13. Summary of lead testing under Schedule 15.1** during this reporting period:

Location Type	Number of Samples	Range of Lead Results (min#) - (max #)	Unit of Measure	Number of Exceedances
Plumbing	390	ND – 20	µg/L	2
Distribution	111	ND – 20.3	µg/L	1
Alkalinity	111	197 – 313	mg/L	-
pH	228	6.89 – 7.95	pH	-

ND = Not Detected

**Schedule 15.1 samples taken December 15 to April 15 and June 15 to October 15. Lead samples taken outside these mandated timeframes are reported in section 12 above

14. Summary of Organic parameters sampled during this reporting period or the most recent sample results:

Parameter	Sample Date	Result Value	Unit of Measure	Number of Exceedances
HAA (NOTE: year-end running average)	February 14, 2024 May 16, 2024 August 14, 2024 November 15, 2024	9.82	µg/L	0
THM (NOTE: year-end running average)	February 15, 2024 May 14, 2024 August 14, 2024 November 14, 2024	4.47	µg/L	0
NDMA	February 15, 2024 May 14, 2024 August 14, 2024 November 14, 2024	ND ND ND ND	µg/L	0

ND = Not Detected

15. List any Inorganic or Organic parameter(s) that exceeded half the standard prescribed in Schedule 2 of Ontario Drinking Water Quality Standards:

Parameter	Result Value	Unit of Measure	Date of Sample
Chloramines	1.54	mg/L	January 2, 2024
Chloramines	1.57	mg/L	January 5, 2024
Chloramines	1.51	mg/L	January 9, 2024
Chloramines	1.58	mg/L	January 9, 2024
Chloramines	1.62	mg/L	January 9, 2024
Chloramines	1.53	mg/L	January 9, 2024
Chloramines	1.57	mg/L	January 9, 2024
Chloramines	1.57	mg/L	January 11, 2024
Chloramines	1.55	mg/L	January 16, 2024
Chloramines	1.54	mg/L	January 16, 2024
Chloramines	1.68	mg/L	January 16, 2024
Chloramines	1.57	mg/L	January 17, 2024
Chloramines	1.51	mg/L	January 17, 2024
Chloramines	1.52	mg/L	January 17, 2024
Chloramines	1.54	mg/L	January 18, 2024
Chloramines	1.57	mg/L	January 23, 2024
Chloramines	1.74	mg/L	January 23, 2024

Parameter	Result Value	Unit of Measure	Date of Sample
Chloramines	1.69	mg/L	January 23, 2024
Chloramines	1.67	mg/L	January 23, 2024
Chloramines	1.69	mg/L	January 23, 2024
Chloramines	1.76	mg/L	January 23, 2024
Chloramines	1.74	mg/L	January 23, 2024
Chloramines	1.58	mg/L	January 24, 2024
Chloramines	1.61	mg/L	January 24, 2024
Chloramines	1.56	mg/L	January 24, 2024
Chloramines	1.57	mg/L	January 24, 2024
Chloramines	1.51	mg/L	January 24, 2024
Chloramines	1.61	mg/L	January 24, 2024
Chloramines	1.58	mg/L	January 24, 2024
Chloramines	1.53	mg/L	January 24, 2024
Chloramines	1.62	mg/L	January 24, 2024
Chloramines	1.69	mg/L	January 25, 2024
Chloramines	1.70	mg/L	January 30, 2024
Chloramines	1.75	mg/L	January 30, 2024
Chloramines	1.84	mg/L	January 30, 2024
Chloramines	1.58	mg/L	January 30, 2024
Chloramines	1.66	mg/L	January 30, 2024
Chloramines	1.51	mg/L	January 30, 2024
Chloramines	1.60	mg/L	January 31, 2024
Chloramines	1.57	mg/L	January 31, 2024
Chloramines	1.52	mg/L	February 1, 2024
Chloramines	1.70	mg/L	February 1, 2024
Chloramines	1.53	mg/L	February 1, 2024
Chloramines	1.56	mg/L	February 1, 2024
Chloramines	1.55	mg/L	February 1, 2024
Chloramines	1.54	mg/L	February 1, 2024
Chloramines	1.52	mg/L	February 1, 2024
Chloramines	1.68	mg/L	February 6, 2024
Chloramines	1.67	mg/L	February 6, 2024
Chloramines	1.67	mg/L	February 6, 2024
Chloramines	1.62	mg/L	February 6, 2024
Chloramines	1.73	mg/L	February 6, 2024
Chloramines	1.51	mg/L	February 7, 2024
Chloramines	1.54	mg/L	February 8, 2024
Chloramines	1.65	mg/L	February 8, 2024
Chloramines	1.77	mg/L	February 8, 2024
Chloramines	1.62	mg/L	February 13, 2024
Chloramines	1.55	mg/L	February 13, 2024
Chloramines	1.68	mg/L	February 13, 2024
Chloramines	1.80	mg/L	February 13, 2024
Chloramines	1.51	mg/L	February 13, 2024
Chloramines	1.72	mg/L	February 13, 2024
Chloramines	1.79	mg/L	February 13, 2024
Chloramines	1.52	mg/L	February 13, 2024
Chloramines	1.62	mg/L	February 13, 2024
Chloramines	1.73	mg/L	February 15, 2024
Chloramines	1.63	mg/L	February 15, 2024
Chloramines	1.52	mg/L	February 15, 2024
Lead – Private Plumbing	5.69	µg/L	February 15, 2024

Parameter	Result Value	Unit of Measure	Date of Sample
Chloramines	1.79	mg/L	February 20, 2024
Chloramines	1.74	mg/L	February 20, 2024
Chloramines	1.74	mg/L	February 20, 2024
Chloramines	1.72	mg/L	February 20, 2024
Chloramines	1.53	mg/L	February 20, 2024
Chloramines	1.68	mg/L	February 20, 2024
Chloramines	1.81	mg/L	February 20, 2024
Chloramines	1.57	mg/L	February 21, 2024
Chloramines	1.56	mg/L	February 22, 2024
Chloramines	1.51	mg/L	February 22, 2024
Chloramines	1.57	mg/L	February 22, 2024
Chloramines	1.74	mg/L	February 22, 2024
Lead – Private Plumbing	7.95	µg/L	February 23, 2024
Lead – Distribution	20.3	µg/L	February 23, 2024
Lead – Distribution	5.29	µg/L	February 26, 2024
Chloramines	1.68	mg/L	February 27, 2024
Chloramines	1.77	mg/L	February 27, 2024
Chloramines	1.68	mg/L	February 27, 2024
Chloramines	1.63	mg/L	February 27, 2024
Chloramines	1.63	mg/L	February 27, 2024
Chloramines	1.76	mg/L	February 27, 2024
Chloramines	1.69	mg/L	February 29, 2024
Lead – Private Plumbing	5.96	µg/L	March 4, 2024
Lead – Private Plumbing (at same address)	9.37 5.29	µg/L	March 4, 2024
Chloramines	1.56	mg/L	March 5, 2024
Chloramines	1.56	mg/L	March 5, 2024
Chloramines	1.73	mg/L	March 5, 2024
Chloramines	1.81	mg/L	March 5, 2024
Chloramines	1.52	mg/L	March 6, 2024
Chloramines	1.56	mg/L	March 6, 2024
Chloramines	1.70	mg/L	March 12, 2024
Chloramines	1.55	mg/L	March 12, 2024
Chloramines	1.59	mg/L	March 12, 2024
Chloramines	1.59	mg/L	March 13, 2024
Chloramines	1.63	mg/L	March 13, 2024
Lead – Distribution	6.34	µg/L	March 13, 2024
Chloramines	1.76	mg/L	March 14, 2024
Chloramines	1.53	mg/L	March 14, 2024
Chloramines	1.58	mg/L	March 14, 2024
Chloramines	1.66	mg/L	March 19, 2024
Chloramines	1.93	mg/L	March 19, 2024
Chloramines	1.71	mg/L	March 19, 2024
Chloramines	1.76	mg/L	March 19, 2024
Chloramines	1.60	mg/L	March 19, 2024
Chloramines	1.72	mg/L	March 19, 2024
Chloramines	1.53	mg/L	March 20, 2024
Chloramines	1.63	mg/L	March 20, 2024
Chloramines	1.66	mg/L	March 20, 2024
Chloramines	1.62	mg/L	March 20, 2024
Chloramines	1.86	mg/L	March 21, 2024
Chloramines	1.79	mg/L	March 26, 2024

Parameter	Result Value	Unit of Measure	Date of Sample
Chloramines	1.57	mg/L	March 26, 2024
Chloramines	1.71	mg/L	March 26, 2024
Chloramines	1.74	mg/L	March 26, 2024
Chloramines	1.60	mg/L	March 26, 2024
Chloramines	1.54	mg/L	March 26, 2024
Chloramines	1.52	mg/L	March 27, 2024
Chloramines	1.70	mg/L	March 28, 2024
Chloramines	1.53	mg/L	April 2, 2024
Chloramines	1.58	mg/L	April 2, 202
Chloramines	1.82	mg/L	April 4, 2024
Chloramines	1.55	mg/L	April 4, 2024
Chloramines	1.62	mg/L	April 4, 2024
Lead – Distribution	5.7	µg/L	April 4, 2024
Chloramines	1.73	mg/L	April 9, 2024
Chloramines	1.86	mg/L	April 9, 2024
Chloramines	1.72	mg/L	April 9, 2024
Chloramines	1.77	mg/L	April 9, 2024
Chloramines	1.58	mg/L	April 9, 2024
Chloramines	1.80	mg/L	April 9, 2024
Chloramines	1.58	mg/L	April 10, 2024
Chloramines	1.59	mg/L	April 10, 2024
Chloramines	1.59	mg/L	April 10, 2024
Chloramines	1.55	mg/L	April 10, 2024
Chloramines	1.82	mg/L	April 11, 2024
Chloramines	1.51	mg/L	April 15, 2024
Chloramines	1.74	mg/L	April 16, 2024
Chloramines	1.83	mg/L	April 16, 2024
Chloramines	1.54	mg/L	April 16, 2024
Chloramines	1.63	mg/L	April 16, 2024
Chloramines	1.72	mg/L	April 16, 2024
Chloramines	1.71	mg/L	April 16, 2024
Chloramines	1.84	mg/L	April 18, 2024
Chloramines	1.54	mg/L	April 18, 2024
Chloramines	1.55	mg/L	April 22, 2024
Chloramines	1.58	mg/L	April 22, 2024
Chloramines	1.51	mg/L	April 23, 2024
Chloramines	1.54	mg/L	April 24, 2024
Chloramines	1.60	mg/L	April 24, 2024
Chloramines	1.51	mg/L	April 25, 2024
Chloramines	1.53	mg/L	April 29, 2024
Chloramines	1.56	mg/L	May 1, 2024
Chloramines	1.91	mg/L	May 2, 2024
Chloramines	1.75	mg/L	May 2, 2024
Chloramines	1.58	mg/L	May 7, 2024
Chloramines	1.69	mg/L	May 7, 2024
Chloramines	1.64	mg/L	May 7, 2024
Chloramines	1.68	mg/L	May 7, 2024
Chloramines	1.54	mg/L	May 7, 2024
Chloramines	1.75	mg/L	May 7, 2024
Chloramines	1.60	mg/L	May 7, 2024
Chloramines	1.59	mg/L	May 7, 2024
Chloramines	1.52	mg/L	May 9, 2024

Parameter	Result Value	Unit of Measure	Date of Sample
Chloramines	1.52	mg/L	May 14, 2024
Chloramines	1.56	mg/L	May 14, 2024
Chloramines	1.58	mg/L	May 14, 2024
Chloramines	1.56	mg/L	May 15, 2024
Chloramines	1.51	mg/L	May 15, 2024
Chloramines	1.52	mg/L	May 21, 2024
Chloramines	1.56	mg/L	May 23, 2024
Chloramines	1.53	mg/L	May 28, 2024
Chloramines	1.53	mg/L	May 28, 2024
Chloramines	1.58	mg/L	May 28, 2024
Chloramines	1.53	mg/L	June 6, 2024
Chloramines	1.63	mg/L	June 6, 2024
Chloramines	1.56	mg/L	June 18, 2024
Chloramines	1.56	mg/L	June 18, 2024
Lead – Private Plumbing (at same address)	5.31 5.18	µg/L	August 12, 2024
Lead – Private Plumbing (at same address)	7.08 8.09 5.22 6.13 19.6	µg/L	August 13, 2024
Lead – Private Plumbing	5.22	µg/L	August 13, 2024
Chloramines	1.63	mg/L	August 14, 2024
Lead – Private Plumbing	5.88	µg/L	August 16, 2024
Lead – Private Plumbing (at same address)	7.79 6.89	µg/L	August 20, 2024
Lead – Private Plumbing	6.31	µg/L	August 21, 2024
Chloramines	1.51	mg/L	September 4, 2024
Chloramines	1.55	mg/L	September 10, 2024
Chloramines	1.58	mg/L	September 10, 2024
Lead – Private Plumbing (at same address)	6.45 6.26 8.74 20 5.07	µg/L	September 16, 2024
Chloramines	1.61	mg/L	September 17, 2024
Chloramines	1.58	mg/L	September 24, 2024
Chloramines	1.53	mg/L	October 4, 2024
Chloramines	1.53	mg/L	October 10, 2024
Chloramines	1.68	mg/L	October 15, 2024
Chloramines	1.51	mg/L	October 15, 2024
Chloramines	1.55	mg/L	October 21, 2024
Chloramines	1.61	mg/L	October 22, 2024
Chloramines	1.52	mg/L	October 28, 2024
Chloramines	1.51	mg/L	October 28, 2024
Chloramines	1.55	mg/L	October 30, 2024
Chloramines	1.61	mg/L	November 5, 2024
Chloramines	1.57	mg/L	November 5, 2024
Chloramines	1.53	mg/L	November 12, 2024
Chloramines	1.63	mg/L	November 19, 2024
Chloramines	1.51	mg/L	November 19, 2024
Chloramines	1.58	mg/L	November 22, 2024
Chloramines	1.52	mg/L	November 26, 2024

Parameter	Result Value	Unit of Measure	Date of Sample
Chloramines	1.63	mg/L	November 26, 2024
Chloramines	1.56	mg/L	November 27, 2024
Chloramines	1.52	mg/L	December 3, 2024
Chloramines	1.70	mg/L	December 3, 2024
Chloramines	1.57	mg/L	December 4, 2024
Chloramines	1.66	mg/L	December 5, 2024
Chloramines	1.61	mg/L	December 10, 2024
Chloramines	1.59	mg/L	December 11, 2024
Chloramines	1.57	mg/L	December 12, 2024
Chloramines	1.73	mg/L	December 12, 2024
Chloramines	1.51	mg/L	December 12, 2024
Chloramines	1.64	mg/L	December 17, 2024
Chloramines	1.52	mg/L	December 17, 2024
Chloramines	1.53	mg/L	December 17, 2024
Chloramines	1.52	mg/L	December 17, 2024
Chloramines	1.60	mg/L	December 17, 2024
Chloramines	1.61	mg/L	December 17, 2024
Chloramines	1.53	mg/L	December 23, 2024
Chloramines	1.60	mg/L	December 24, 2024
Chloramines	1.60	mg/L	December 24, 2024
Chloramines	1.52	mg/L	December 30, 2024
Chloramines	1.59	mg/L	December 30, 2024

Appendix 'B' – 2024 Summary Report for Drinking Water Systems

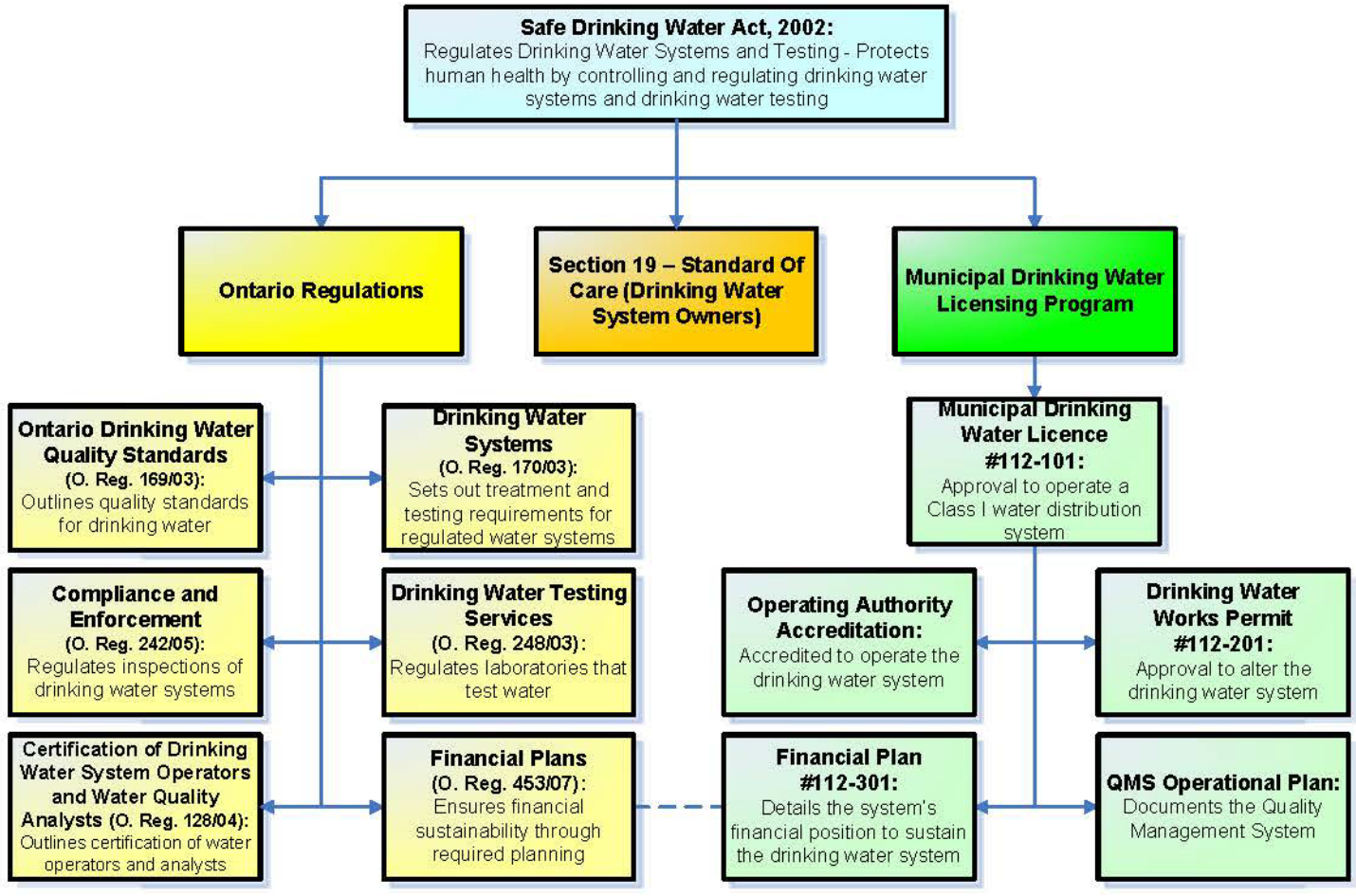
1.0 Introduction

Schedule 22 of Ontario Regulation 170/03 requires, for large municipal residential systems, that a Summary Report be prepared and submitted to members of municipal council by March 31, 2025 for the period of January 1 to December 31, 2024.

2.0 Applicable Legislation

Requirements for owning and operating Waterloo's drinking water system are identified within the Safe Drinking Water Act, 2002 (SDWA), its applicable regulations and its approval mechanisms, as seen in the figure below.

Figure 1: Applicable Legislation



Ontario maintains the most recent version of the SDWA and its associated regulations on the e-laws website.

3.0 Municipal Drinking Water Licensing Program

The City of Waterloo was issued its first Municipal Drinking Water License (MDWL), #112-101, and Drinking Water Works Permit (DWWP), #112-201, in August 2011. A license is valid for five years, the most recent was issued in June 2021 and will expire in June 2026. City Utilities will submit a renewal application in 2025. The DWWP does not expire, but a new permit may be issued by the Ministry if the provincial permit template is updated. The most recent permit was issued in June 2021. The MDWL authorizes the City of Waterloo to operate the distribution system and sets conditions for the maintenance of the system and drinking water quality, while the Drinking Water Works Permit sets the description of the distribution system and allows for pre-authorization to add, modify, replace and extend the system in certain cases.

Per the requirements of Ontario Regulation 453/07 and the MDWL, a financial plan must be approved and submitted, #112-301, which will be updated in 2025 in tandem with the license renewal application.

Further to these requirements, the City must maintain an accredited Drinking Water Quality Management System (DWQMS) Operational Plan against the provincial Drinking Water Quality Management Standard v2.0. The DWQMS demonstrates the City's commitment to the provision of safe drinking water and continual improvement, as all compliance preventative and corrective measures are documented through the DWQMS. Council receives information on an annual basis on updates to the DWQMS Operational Plan and the results of the DWQMS Management Review; the most recent report was IPPW2024-040.

4.0 Statement of Compliance

The Ministry of the Environment, Conservation and Parks (MECP) aims to inspect every drinking water system annually. The MECP conducted a remote inspection, with an onsite component, of the drinking water distribution system from February 8 to March 26, 2024. The primary focus of this inspection was to confirm compliance with MECP legislation as well as evaluate conformance with ministry drinking water policies and guidelines during the inspection period. The Ministry utilizes a comprehensive, multi-barrier approach in the inspection of water systems that focuses on the source, treatment, and distribution components as well as management practices. The inspection covered the period of January 1, 2023 to January 31, 2024.

There were no non-compliances with regulatory requirements, nor did the Ministry identify any best management practices. All past inspection recommendations have been addressed. The City of Waterloo received a final inspection rating of 100%.

The inspection for the 2024 year has not been conducted to date.

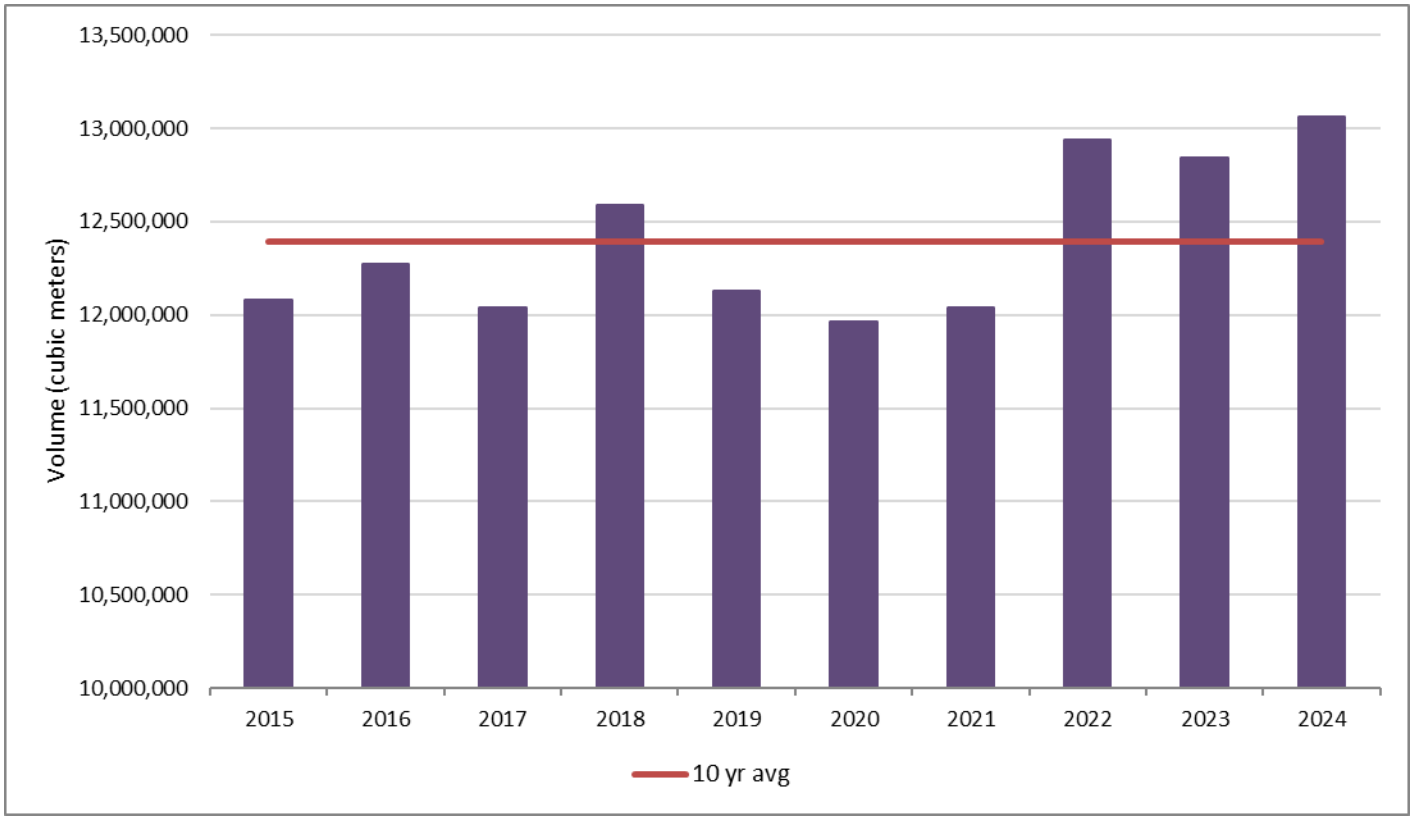
5.0 Summary of Water Consumption

5.1 Total Water Consumption

From January 1 to December 31, 2024, the City received 13,062,922 cubic meters of water from the Region of Waterloo, a 1.69% increase from 2023. This is the highest consumption seen since tracking began in 2005. This could be attributed to population growth and development within the City, as there is a marked trend for the past three years of record high consumption. Based on available statistics from the Region of Waterloo Year End Population reports, population growth within the City from 2021-2022 was 2.7% and 2022-2023 was 3.7%, while the previous five year increases ranged from 0.1% to 2.1%. 2024 Year End Population data is not currently available. Further, industrial and commercial consumption is trending upwards towards pre-COVID 19 levels in both volume and number of users.

Figure 1 below, depicts the last ten years of total consumption against the average.

Figure 1: Total Water Consumption for the Past Ten Years

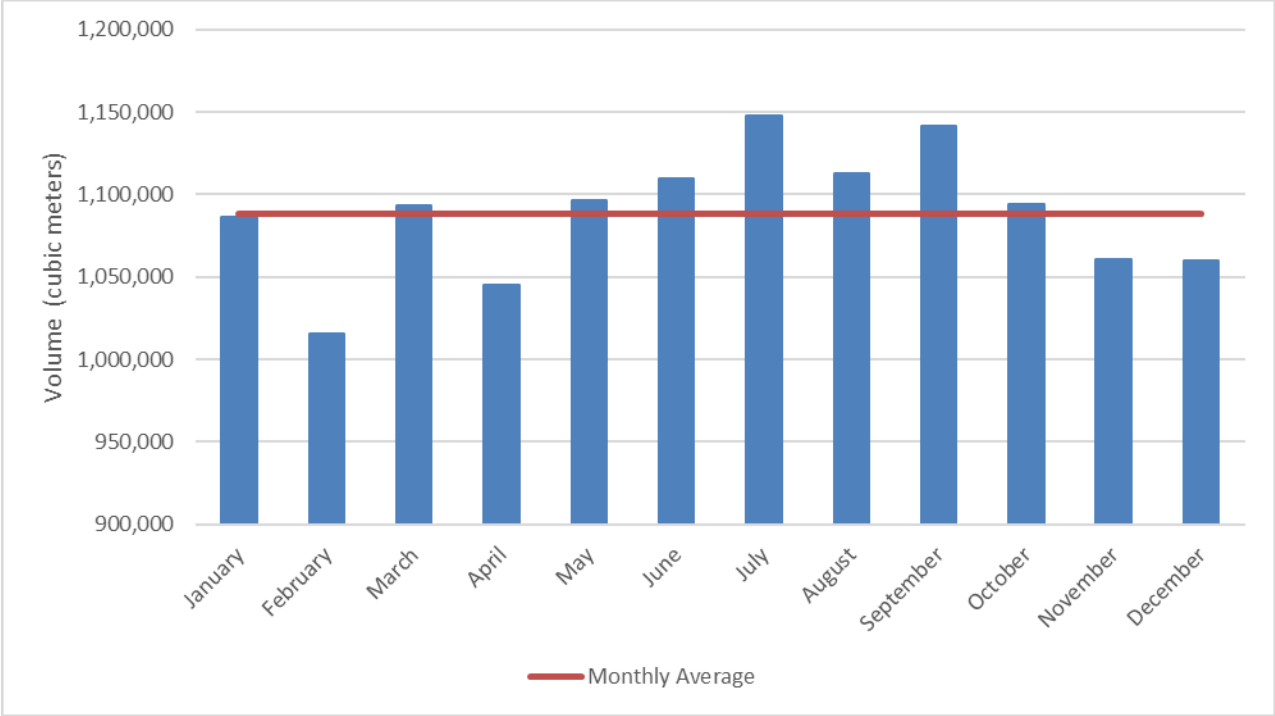


5.2 Monthly Water Consumption

The average monthly consumption in 2024 was 1,088,577 cubic meters, an increase from the monthly average of 1,070,452 cubic meters in 2023. July saw the highest consumption for the year, which was 5.4% above the monthly average. February saw the lowest consumption of 2024; February's consumption was 6.7% below the monthly average.

Figure 2 shows the City's actual water consumption by month.

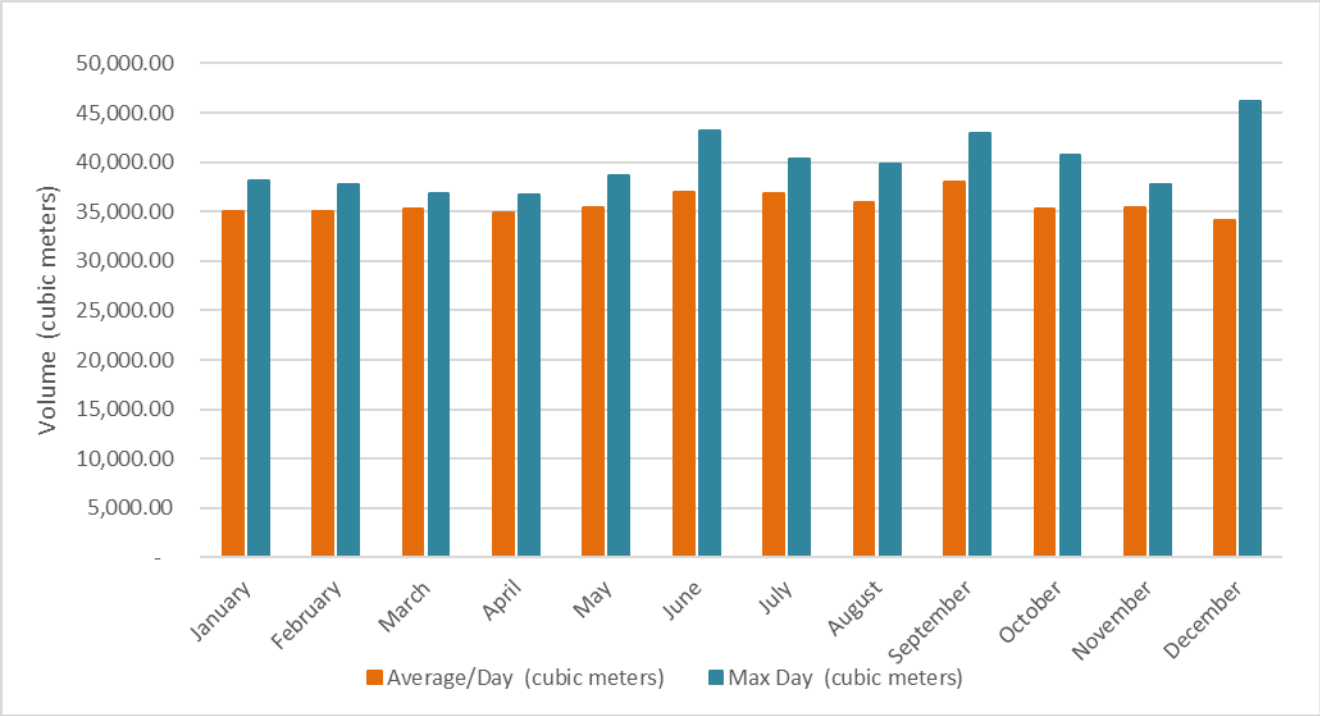
Figure 2: Monthly Total Water Consumption



5.3 Average Daily and Maximum Daily Usage

Figure 3 shows the average daily and maximum daily usage for each month. September had the highest average day usage, while December had the lowest. December had the highest daily peak (max day), while April had the lowest.

Figure 3: Average Daily and Maximum Daily Usage per Month



6.0 Flow Rates

Rated capacity and flow rates refer to treatment subsystems. The City of Waterloo owns and operates the distribution system; therefore, these parameters do not apply. The Region of Waterloo is required to report on the rated capacity and flow rates of the supply system via the Summary Report to Regional Council. As per the regulation, a copy is provided to the City of Waterloo.

7.0 Communication

Since the City's distribution system supplies drinking water to portions of the City of Kitchener, the Township of Woolwich and Wilmot Township, each municipality will be provided a copy of the 2024 Summary Report. Additionally, the Region of Waterloo will receive a copy for their records. All copies will be provided by March 31, 2025.