

OPTIONAL ANNUAL REPORT TEMPLATE

Drinking Water System Number:	220003421
Drinking Water System Name:	City of Windsor Drinking Water System
Drinking Water System Owner:	The Windsor Utilities Commission
Drinking Water System Category:	Large Municipal Residential
Period being reported:	Calendar Year 2025

<p><u>Complete if your Category is Large Municipal Residential or Small Municipal Residential</u></p> <p>Does your Drinking Water System serve more than 10,000 people? Yes [X] No []</p> <p>Is your annual report available to the public at no charge on a web site on the Internet? Yes [X] No []</p> <p>Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>The Windsor Utilities Commission 4545 Rhodes Dr. Windsor ON N8W 5T1</p> </div>	<p><u>Complete for all other Categories</u></p> <p>Number of Designated Facilities served: <input style="width: 100px; height: 20px;" type="text"/></p> <p>Did you provide a copy of your annual report to all Designated Facilities you serve? Yes [] No []</p> <p>Number of Interested Authorities you report to: <input style="width: 100px; height: 20px;" type="text"/></p> <p>Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility? Yes [] No []</p>
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List all Drinking Water Systems (if any), which receive all their drinking water from your system:

Drinking Water System Name	Drinking Water System Number
Town of Lasalle, ON	220004402
Town of Tecumseh, ON	260004969

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 drinking water? Yes [X] No []

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
 - [X] Public access/notice via Public Request
 - [] Public access/notice via a Public Library
 - [] Public access/notice via other method
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Description of the Drinking Water System

The City of Windsor Drinking Water System is owned by The Windsor Utilities Commission (WUC). It is maintained and operated by ENWIN Utilities Ltd. (ENWIN) as Operating Authority.

The City of Windsor Drinking Water System consists of the A.H. Weeks Water Treatment Plant (WTP), which is a Class IV water treatment subsystem and a Class III distribution system under Ontario Regulation 128/04 of the Safe Drinking Water Act, 2002. In addition, WUC operates the A.J. Brian Pumping Station, George Avenue Pumping Station, J.F. Cooke Reservoir, Pumping and Re-chlorination Station and one (1) water tower.

To treat the raw water, which is sourced from the Detroit River, the WTP employs screening, pre-chlorination (on an as needed basis), pH adjustment (utilizing CO₂), disinfection (utilizing ozone), coagulation, flocculation, sedimentation, dual-media filtration with post chlorination, fluoridation (utilizing fluorosilicic acid) and corrosion control adjustment (utilizing phosphoric acid). The WTP pumps sedimentation sludge and backwash water to the sanitary sewer.

Treated water from the WTP is routed to an on-site reservoir and another reservoir located near the WTP. The treated water is then pumped into the distribution system from two (2) pumping stations, which are located near the WTP. Water from the pumping stations satisfies demand for the greater Windsor area including the Towns of Tecumseh and LaSalle. A reservoir, pumping and re-chlorination station located further from the WTP provides system pressure and flow to the southwest portion of the system, while a centrally located water tower provides pressure and flow control to the downtown core.

The drinking water system is monitored continuously at various locations, both at the WTP and pumping stations as well as throughout the distribution system via a Supervisory Control and Data Acquisition (SCADA) system.

List all water treatment chemicals used over this reporting period

Chlorine gas, Sodium Hypochlorite, Carbon Dioxide (CO₂), Ozone (generated on-site using liquid oxygen), Calcium Thiosulfate (ozone quench agent), Polyaluminum Chloride (PaCl) (coagulant), Filter Aid Polymer, Phosphoric Acid (corrosion control agent) and Fluorosilicic Acid.

Were any significant expenses incurred to?

- Install required equipment
- Repair required equipment
- Replace required equipment

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

Capital Projects in the Distribution System,

WUC, with a capital expenditure of approximately \$39.8 million, in 2025 has:

- Installed 12.02 km of Watermain (<400 mm)
- Installed 5.66 km of Feedermain (>400 mm)
- Installed 707 New Water Services in the public Right the Way (ROW)
- Installed 297 New Valves in the public Right the Way (ROW)
- Installed 87 New Fire Hydrants in the public Right the Way (ROW)

- Removed 64 Old Fire Hydrants in the public Right the Way (ROW)
- Removed 140 Old Lead Water Services in the public Right the Way (ROW)

Capital Projects in the Treatment System encompasses:

Old Treatment Plant Demolition

This project involved the decommissioning and demolition of the treatment facility located adjacent to the A.H. Weeks Water Treatment Plant (A.H. Weeks WTP). The facility has been fully demolished, with the exception of the raw water intake and the low-lift pumping station on the northwest side. After demolition, the low-lift pumping station was reconnected to the A.H. Weeks WTP through a newly installed pipeline to maintain water supply. Site restoration is scheduled for completion in spring 2026. The total project cost was approximately \$6.2 million.

A H Weeks Generator Replacements

This project is for the replacement of the four 1.05 MW natural gas generators which provide backup power for the A H Weeks Water Treatment Plant and Pumping Stations. The new generators will be upsized to four 1.25 MW natural gas generators and will include new engines, alternators, control systems, exhaust and cooling systems. The project is currently in progress with delivery of the first two generators expected in late 2026 with an approximate cost of \$7 million. A fire suppression system will also be installed in the natural gas generator space to protect against potential fire damage.

A J Brian Pumping Station Upgrades

This project encompasses several upgrades to the A J Brian Pumping facility needed to support the new Central Corridor Feedermain (CCFM) and to add surge protection for both the water distribution system and CCFM pipeline. The CCFM pipeline will be connected to the south discharge header of the A J Brian Pumping Station and two high lift pumps will be replaced/repurposed to supply water to the pipeline. A surge protection system composed of hydropneumatic surge tanks will be added to the facility and connected to both the distribution system feeder mains and to the central corridor feeder main to provide transient protection to each system. Detailed design is proceeding in 2026 with start of construction schedule for 2027 with an approximate cost \$10 million.

Ozone Control System Upgrades

This project is for the upgrade to the existing ozone controls system to improve reliability and troubleshooting. It will include new Programmable Logic Controller (PLCs) and Human Machine Interfaces (HMIs) as well as an all new ethernet control loop to replace the outdated ControlNet system which connects all generator controls together. New PLC programming from the OEM will provide better control and troubleshooting capabilities to the A.H Weeks WTP operators. Total cost of the project is approximately \$700,000.

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.

The table below summarizes all Adverse Water Quality Incidents for the reporting year.

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
2025-03-12	Free Chlorine Residual - Distribution	0.01	mg/L	Flush and restore the Free Chlorine Residual. Location on the Dead-end flushing list. Suspected incorrect flushing.	2025-03-12
2025-11-18	Coagulant	Improper disinfection of the water	N/A	Restore coagulant feed. Improper disinfected water flushed to waste.	2025-11-18

Please refer to the colour chart below when reviewing the data summarized herein:

Green	Indicates results are in compliance
Yellow	Indicates results are in compliance however above the half Maximum Acceptable Concentration (MAC) or IMAC level.
Red	Indicates results are not in compliance or not within the operational guideline

1.1 Microbiological testing

Microbiological testing done under Schedule 10 of Regulation 170/03, during the period covered by this Annual Report.

	Number of Samples	Range of E.Coli or fecal (min#)-(max#)	Range of Total Coliform (min#)-(max#)	Number of HPC Samples	Range of HPC (min#)-(max#)
Raw	249	0 - 4000 ⁽¹⁾	9 - 14100 ⁽¹⁾	249	10 - >2000 ⁽¹⁾
Treated	1540	0 - 0 ⁽²⁾	0 - 0 ⁽²⁾	1540	<10 - 1070 ⁽³⁾
Distribution	1956	0 - 0 ⁽²⁾	0 - 0 ⁽²⁾	1014	<10 - 170 ⁽³⁾

- (1) No standard available – Results indicate the overall Raw Water Quality
 - (2) Not Detectable – Standard expressed as maximum
 - (3) < 500 – Internal Target as Best Management Practice
- Note – CFU – Colony Forming Units, HPC – Heterotrophic Plate Counts

In December, a single treated water test result was higher than normal and was attributed to contamination of the sample during collection, rather than an issue with the treated water.

1.2 Operational Testing

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

	Number of Samples	Target	Range of Results (min#)-(max#)	Average Results	Unit of Measure
Turbidity	365	< 1 BMP ⁽⁴⁾	0.02 - 0.07	0.04	NTU
Chlorine	365	>= 0.05	1.47 - 1.73	1.56	mg/L

(4) Best Management Practices

1.3 Additional Testing Required

Summary of additional testing and sampling carried out in accordance with the requirement of an approval, order or other legal instrument, during the period covered by this Annual Report.

Parameter	Date Sampled	Running Annual Average	Unit of Measure	In compliance
Bromate - Treated	1-Jan-2025 to 31 Dec-2025	0.006	mg/L	Yes
Bromate - AJ Brian Pumping Station	1-Jan-2025 to 31 Dec-2025	0.006	mg/L	Yes
Bromate - George Ave Pumping Station	1-Jan-2025 to 31 Dec-2025	0.006	mg/L	Yes
Bromate - JF Cook Pumping Station	1-Jan-2025 to 31 Dec-2025	0.004	mg/L	Yes

Due to a missed sample in January 2025, the running average has been calculated using the highest observed value within the reporting period. In October 2025, the primary monthly sample was collected and was in compliance – this value is included in the annual average above. However, the secondary sample, scheduled as a buffer should the primary sample be missed, was not collected.

1.4 Inorganic Parameters

Summary of Inorganic parameters tested during the period covered by this Annual Report, or the most recent sample results.

Parameter	MAC or IMAC	Sample Date	Result Value	Unit of Measure	In Compliance
Antimony (Sb)	0.006	October 8, 2025	<0.0006	mg/l	Yes
Arsenic	0.01	October 8, 2025	0.0004	mg/l	Yes
Barium	1	October 8, 2025	0.0134	mg/l	Yes
Boron	5	October 8, 2025	0.015	mg/l	Yes
Cadmium	0.005	October 8, 2025	0.000003	mg/l	Yes
Chromium	0.05	October 8, 2025	<0.00008	mg/l	Yes
Lead ⁽⁵⁾	0.01	October 8, 2025	0.00001	mg/l	Yes
Mercury	0.001	October 8, 2025	<0.00001	mg/l	Yes
Selenium	0.05	October 8, 2025	0.00011	mg/l	Yes
Sodium	20	October 8, 2025	5.54	mg/l	Yes
Uranium	0.02	October 8, 2025	0.000055	mg/l	Yes
Nitrite ⁽⁵⁾	1	October 8, 2025	<0.003	mg/l	Yes
Nitrate ⁽⁵⁾	10	October 8, 2025	0.181	mg/l	Yes

(5) Lead, Nitrite, Nitrate results are from Maximum resolution in the Distribution system

Additional inorganic testing was conducted this quarter as per Schedule 7 – Operational Checks of Ontario Regulation 170/03, is summarized in the below table.

Parameter	MAC OR IMAC	Range of Results (min#)-(max#)	Average Results	Unit of Measure	In Compliance
Fluoride - Raw	1.5	0.03 - 0.34	0.11	mg/L	Yes
Fluoride - Treated	1.5	0.44 - 0.8	0.62	mg/L	Yes
Fluoride - Distribution	1.5	0.43 - 1.21	0.63	mg/L	Yes

Throughout the reporting year, several treated water and distribution system samples exceeded half of the Maximum Acceptable Concentration (MAC). A response plan has been initiated, and measured levels have dropped during the last quarter of the year. Ongoing investigation, including additional targeted sampling, is being conducted to confirm the underlying cause and to ensure appropriate corrective actions are in place.

1.5 Organic Parameters

Summary of Organic parameters sampled during the period covered by this Annual Report or the most recent sample results.

Parameter	MAC OR IMAC	Sample Date	Result Value	Unit of Measure	In Compliance
Alachlor	0.005	October 8, 2025	<0.00002	mg/L	Yes
Atrazine + N-dealkylated metabolites	0.005	October 8, 2025	<0.00001	mg/L	Yes
Azinphos-methyl	0.02	October 8, 2025	<0.00005	mg/L	Yes
Benzene	0.001	October 8, 2025	<0.00032	mg/L	Yes
Benzo(a)pyrene	0.00001	October 8, 2025	<0.000004	mg/L	Yes
Bromoxynil	0.005	October 8, 2025	<0.00033	mg/L	Yes
Carbaryl	0.09	October 8, 2025	<0.00005	mg/L	Yes
Carbofuran	0.09	October 8, 2025	<0.00001	mg/L	Yes
Carbon Tetrachloride	0.002	October 8, 2025	<0.00017	mg/L	Yes
Chlorpyrifos	0.09	October 8, 2025	<0.00002	mg/L	Yes
Diazinon	0.02	October 8, 2025	<0.00002	mg/L	Yes
Dicamba	0.12	October 8, 2025	<0.00020	mg/L	Yes
1,1-Dichloroethylene	0.014	October 8, 2025	<0.00033	mg/L	Yes
1,2-Dichlorobenzene	0.2	October 8, 2025	<0.00041	mg/L	Yes
1,2-Dichloroethane	0.005	October 8, 2025	<0.00035	mg/L	Yes
1,4-Dichlorobenzene	0.005	October 8, 2025	<0.00036	mg/L	Yes
Dichloromethane	0.05	October 8, 2025	<0.00035	mg/L	Yes
2,4-Dichlorophenol	0.9	October 8, 2025	<0.00015	mg/L	Yes
2,4-Dichlorophenoxy acetic acid (2,4-D)	0.1	October 8, 2025	<0.00019	mg/L	Yes
Diclofop-methyl	0.009	October 8, 2025	<0.00040	mg/L	Yes
Dimethoate	0.02	October 8, 2025	<0.00006	mg/L	Yes
Diquat	0.07	October 8, 2025	<0.001	mg/L	Yes
Diuron	0.15	October 8, 2025	<0.000003	mg/L	Yes
Glyphosate	0.28	October 8, 2025	<0.001	mg/L	Yes

Parameter	MAC OR IMAC	Sample Date	Result Value	Unit of Measure	In Compliance
Haloacetic Acids (HAA5) (Max Resolution)⁽⁶⁾					
(Note: show latest running annual average)					
Q4 2025 = <0.0053 mg/L	0.080	Running Annual Average =	<0.0053	mg/L	Yes
Q3 2025 = <0.0053 mg/L					
Q2 2025 = <0.0053 mg/L					
Q1 2025 = <0.0053 mg/L					
Malathion	0.19	October 8, 2025	<0.00002	mg/L	Yes
MCPA	0.1	October 8, 2025	<0.00000012	mg/L	Yes
Metolachlor	0.05	October 8, 2025	<0.00001	mg/L	Yes
Metribuzin	0.08	October 8, 2025	<0.00002	mg/L	Yes
Monochlorobenzene	0.08	October 8, 2025	<0.0003	mg/L	Yes
Paraquat	0.01	October 8, 2025	<0.001	mg/L	Yes
Pentachlorophenol	0.06	October 8, 2025	<0.00015	mg/L	Yes
Parameter	MAC OR IMAC	Sample Date	Result Value	Unit of Measure	In Compliance
Phorate	0.002	October 8, 2025	<0.00001	mg/L	Yes
Picloram	0.19	October 8, 2025	<0.001	mg/L	Yes
Polychlorinated Biphenyls (PCB)	0.003	October 8, 2025	<0.00004	mg/L	Yes
Prometryne	0.001	October 8, 2025	<0.00003	mg/L	Yes
Simazine	0.01	October 8, 2025	<0.00001	mg/L	Yes
THM's (Max resolution)⁽⁶⁾					
(Note: show latest running annual average)					
Q4 2025 = 0.0098 mg/L	0.100	Running Annual Average =	0.0113	mg/L	Yes
Q3 2025 = 0.015 mg/L					
Q2 2025 = 0.0093 mg/L					
Q1 2025 = 0.011 mg/L					
Terbofos	0.001	October 8, 2025	<0.00001	mg/L	Yes
2,3,4,6-Tetrachlorophenol	0.1	October 8, 2025	<0.00020	mg/L	Yes
Triallate	0.23	October 8, 2025	<0.00001	mg/L	Yes
Trichloroethylene	0.005	October 8, 2025	<0.00044	mg/L	Yes
2,4,6-Trichlorophenol	0.005	October 8, 2025	<0.00025	mg/L	Yes
Trifluralin	0.045	October 8, 2025	<0.00002	mg/L	Yes
Vinyl Chloride	0.001	October 8, 2025	<0.00017	mg/L	Yes

(6) – THM's and HAA5 results are from Max resolution in the Distribution system

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

Throughout the reporting year, several fluoride treated water and distribution system samples exceeded half of the Maximum Acceptable Concentration (MAC).

No Organic parameter(s) exceeded half the standard prescribed in Schedule 2 of Ontario Drinking Water Quality Standards.