
2025

# Annual Summary Report

# The Corporation of the Town of Cobourg

## Cobourg Drinking Water System

**Prepared by: Lakefront Utility Services Inc. (2026)**

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# 1. PURPOSE

The purpose of the Annual Summary Report is to provide information to residents and stakeholders of the Town of Cobourg. Furthermore, satisfying the regulatory requirements of the *Safe Drinking Water Act, 2002* including the Drinking Water Quality Management Standard (DWQMS) reports to owner, and regulatory reporting required under *Ontario Regulation 170/03*. This annual summary report fulfills all requirements of *Ontario Regulation 170/03* Section 11 Annual Reports and Schedule 22 Summary Reports for Municipalities.

The Annual Summary Report is prepared by Lakefront Utility Services Inc. (operating authority) on behalf of The Town of Cobourg (owner).

## Scope

The Annual Summary Report includes information pertaining to the Town of Cobourg's Drinking Water System (DWS) for the period of January 1, 2025 to December 31, 2025. *Ontario Regulation 170/03* requires reported information be provided to:

- **Drinking Water System Owners (Mayor and Council)**
- **Owner and Operating Authority Top Management**
- **The Public**

## Availability

The Cobourg DWS is a large municipal residential system that serves more than 10,000 people. Copies of this annual summary report are available online at https://www.lakefrontutilities.com/regulatory-water/. Hard copies are also available at the LUSI's office at 207 Division St, Cobourg ON, K9A 4L3.

Customers of the Cobourg DWS are notified that the annual summary report is available via "What's New" https://www.lakefrontutilities.com/whats-new/, social media posts and "Stay Connected" LUSI bill insert.

## Council Resolution

*Ontario Regulation 170/03* requires Summary Reports be distributed to municipal council no later than March 31 of each year. The Town of Cobourg must provide LUSI with a copy of council resolution indicating the report has been accepted.

# 2. COBOURG DRINKING WATER SYSTEM OVERVIEW

The Cobourg Water Treatment Plant (WTP) takes water from Lake Ontario through an 860m-long intake pipe. Raw water is pre-chlorinated for zebra-mussel control before it enters a full conventional treatment process. The treatment process includes coagulation, flocculation, sedimentation, and filtration. *Aluminum sulphate* is used as the coagulation agent, with an addition of *Flowpam AN 934 PWG* (polymer) to aid in the process. Primary disinfection is achieved with *gaseous chlorine* after which the water is stored in a 6,240 $m^3$ in-ground reservoir, from where it is pumped to the distribution system.

The distribution system consists of two pressure zones, with an elevated water storage tank in each of the zones. The WTP supplies water to the D'Arcy St. tower (new in 2025), with a holding capacity of 5000 $m^3$. The D'Arcy St. booster station supplies water to Zone 2. The Ewart St. booster station, located at the boundary of the two zones, supplies water to the Strathy tower, with a holding capacity of 3734 $m^3$. D'Arcy St. tower, Strathy tower and the Ewart booster station are all equipped with sodium hypochlorite and rechlorination equipment to maintain proper chlorine residuals. Water from the Cobourg DWS is conveyed to Hamilton Township, as an extension of the Cobourg DWS, agreed upon in writing.

# 3. 2025 COMPLIANCE

## 3.1 MECP INSPECTION

The MECP began an announced focused inspection of the Cobourg DWS on May 27, 2025. A final inspection rating of 100% was achieved. There were no non-compliances with regulatory requirements or best management practice recommendations identified.

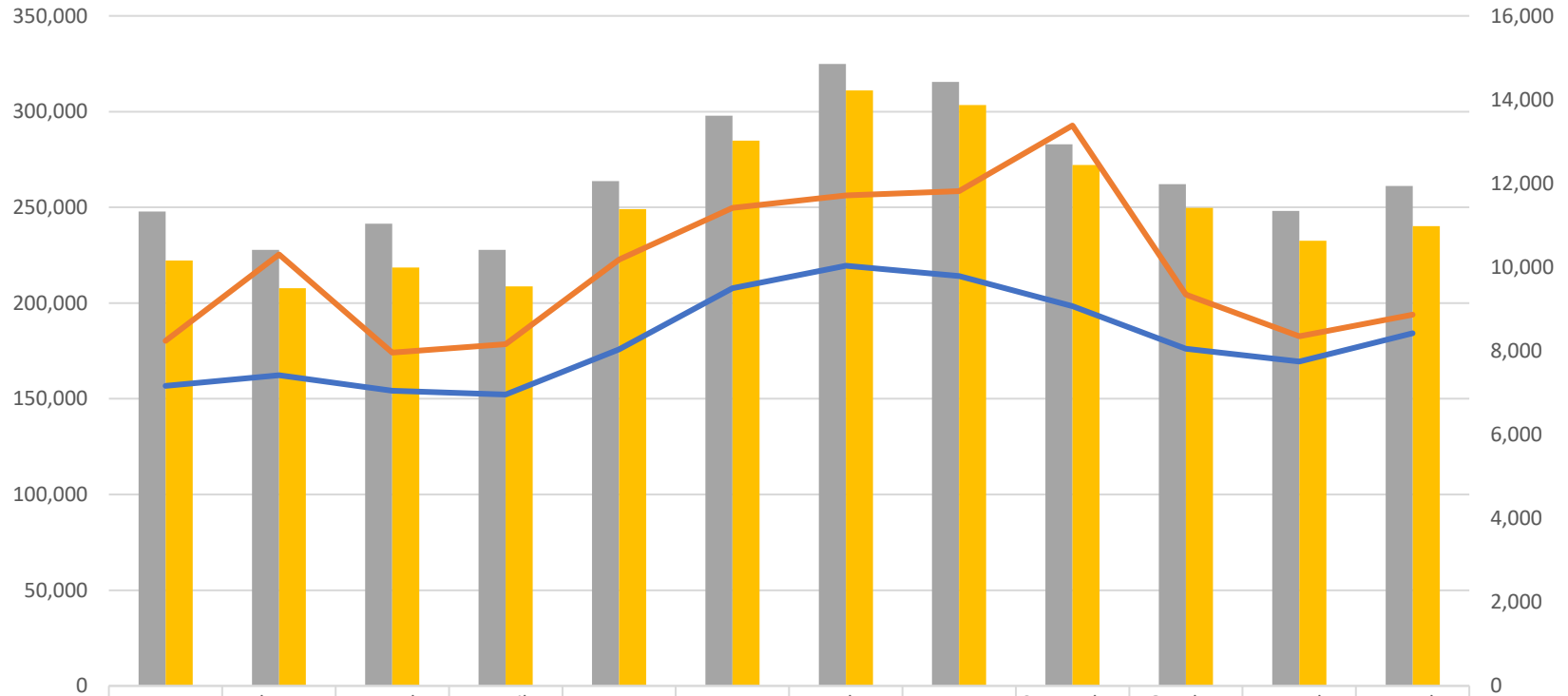
## 3.2 LICENSE & PERMIT COMPLIANCE

The Cobourg DWS maintained compliance with all applicable legislation, and all terms and conditions of the Municipal Drinking Water License (137-101, Issue 4, June 8, 2021), Drinking Water Works Permit (137-201) and Permit to Take Water (November 10, 2022) in 2025.

The Cobourg DWS Permit to Take Water (Permit No. 3404-CKXRLW) allows the taking of 31,822 $m^3$ of water from Lake Ontario per day at a maximum rate of 31,177L/min. The average flow rate from Lake Ontario was 6,087 L/min, below the maximum rate.

The total quantity of water taken and discharged from the WTP is illustrated in Figure 1 and shown in Table 1 and Table 2. In 2025 there were no incidents related to surpassing the maximum volume of water permitted to take. In September 2025, the WTP operated at 36.8 % of its maximum rated treatment capacity, as shown in Figure 2. The labels presented in Figure 2 are representative of the maximum flow observed for the respective month ($m^3$).

Figure 1 - Flow Quantities for the Cobourg Drinking Water System




| | January | February | March | April | May | June | July | August | September | October | November | December |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Water Taken (m3) | 247,755 | 227,851 | 241,461 | 227,793 | 263,633 | 297,790 | 324,820 | 315,580 | 282,998 | 262,116 | 248,093 | 261,174 |
| WTP Discharge (m3) | 222,197 | 207,792 | 218,552 | 208,733 | 249,057 | 284,856 | 311,043 | 303,435 | 272,124 | 249,681 | 232,469 | 240,143 |
| Daily Average Discharge (m3) | 7,168 | 7,421 | 7,050 | 6,958 | 8,034 | 9,495 | 10,034 | 9,788 | 9,071 | 8,054 | 7,749 | 8,425 |
| Maximum Daily Discharge (m3) | 8,240 | 10,304 | 7,959 | 8,161 | 10,182 | 11,413 | 11,712 | 11,811 | 13,382 | 9,342 | 8,352 | 8,868 |

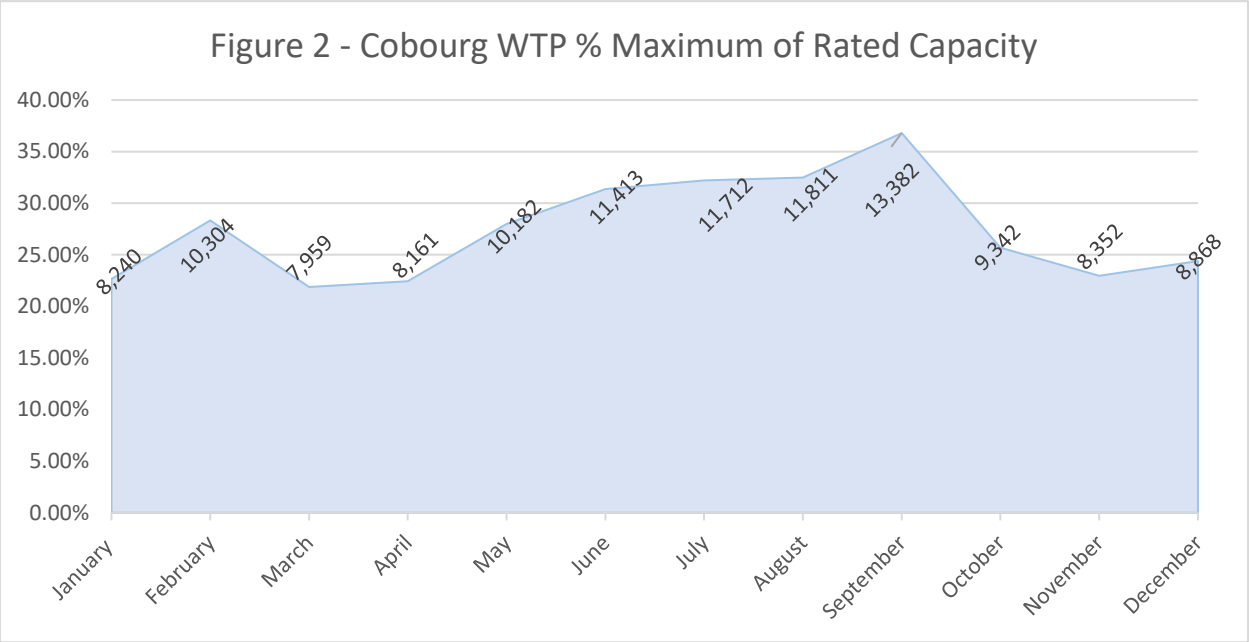



**Table 1 - Cobourg WTP Influent Flows**

| | Influent Flows (m3) | | | |
|---|---|---|---|---|
| | **Monthly Total** | **Daily Average** | **Minimum** | **Maximum** |
| January | 247,755 | 7,992 | 6,785 | 8,862 |
| February | 227,851 | 8,138 | 7,190 | 11,423 |
| March | 241,461 | 7,789 | 6,833 | 8,742 |
| April | 227,793 | 7,593 | 6,714 | 8,564 |
| May | 263,633 | 8,504 | 6,799 | 10,667 |
| June | 297,790 | 9,926 | 8,232 | 11,691 |
| July | 324,820 | 10,478 | 8,464 | 12,452 |
| August | 315,580 | 10,180 | 8,195 | 12,086 |
| September | 282,998 | 9,433 | 6,372 | 13,242 |
| October | 262,116 | 8,455 | 7,291 | 9,442 |
| November | 248,093 | 8,270 | 7,575 | 8,791 |
| December | 261,174 | 8,425 | 6,773 | 9,469 |
| **Total** | 3,201,065 | | | |
| **Average** | 266,755 | 8,765 | | |
| **Maximum** | | | | 13,241 |

**Table 2 - Treated Water Discharge Flows**

| | Treated Discharge (m3) | | | |
|---|---|---|---|---|
| | **Monthly Total** | **Daily Average** | **Maximum** | **% of Max Capacity** |
| January | 222,197 | 7,168 | 8,240 | 22.7% |
| February | 207,792 | 7,421 | 10,304 | 28.3% |
| March | 218,552 | 7,050 | 7,959 | 21.9% |
| April | 208,733 | 6,958 | 8,161 | 22.4% |
| May | 249,057 | 8,034 | 10,182 | 28.0% |
| June | 284,856 | 9,495 | 11,413 | 31.4% |
| July | 311,043 | 10,034 | 11,712 | 32.2% |
| August | 303,435 | 9,788 | 11,811 | 32.5% |
| September | 272,124 | 9,071 | 13,382 | 36.8% |
| October | 249,681 | 8,054 | 9,342 | 25.7% |
| November | 232,469 | 7,749 | 8,352 | 23.0% |
| December | 240,143 | 7,747 | 8,868 | 24.4% |
| **Total** | 3,000,081 | | | |
| **Average** | 250,708 | 8,243 | | |
| **Maximum** | | | 13,382 | 36.8% |

## 3.3 ADVERSE WATER QUALITY INCIDENT(S)

There was one incident of adverse water quality in 2025. On October 14, 2025 there was a de-pressurization of a watermain during tie-in of a new section of main in the Pebblestone area of Cobourg. There was a precautionary boil water advisory issued by the Health Department. All samples were negative for bacteria and the boil water advisory was lifted on October 16, 2025.

## 4. CONTINUAL IMPROVEMENT

LUSI's commitment to continual improvement requires investigating and investing in, where appropriate, methods and technologies to improve:

- The quality of processes used to ensure production of ample clean water, and
- The quality and effectiveness of the distribution system.

During the 2025 reporting year, LUSI demonstrated this commitment by completing all the activities listed in Table 3. Table 3 also satisfies O. Reg 170/03, the requirement to describe major expenses occurred during the reporting period.

**Table 3 – 2025 Major Expenses Incurred at the Cobourg WTP, Distribution System and Misc. Activities**

| | | |
|---|---|---|
| ***Cobourg Water Treatment Plant*** | Chlorine Sample Pump | $6,125 |
| | Peristaltic Pump CCC | $8,973 |
| | Water Plant Condition Assessment | $5,650 |
| | Filter Effluent Channel Valve | $61,840 |
| | Raw Water Inspection | $10,000 |
| ***Cobourg Distribution System*** | Zone 1 Elevated Tank and Booster Pumping Station | $6,521,709 |
| | Tower and Booster Pumping Station Project Management | $653,263 |
| | Linear Infrastructure Zone 1/Zone 2 | $1,900,100 |
| | Linear Infrastructure Zone 1/Zone 2 Infrastructure - PM | $101,096 |
| | Replace SCADA Pack 32 PLCs – Strathy and Ewart | $43,511 |
| | ICI Meter Audits | $35,025 |
| | Watermain Condition Assessment | $15,354 |
| | Hydrant Coating, Painting and Flow Testing | $34,529 |
| | Water Rates and Financial Plan | $10,735 |
| | Watermain Design | $18,723 |
| | King St. Culvert | $43,540 |
| | Alexandria Dr. Watermain Replacement | $283,486 |
| | Water Meter Replacement | $411,547 |
| ***Miscellaneous*** | EA – Zone 3 Cobourg East Community Development | $10,858 |
| | Tools | $16,353 |
| | Master Plan Update | $55,402 |
| | Total | $10,247,819 |

## 5. SAMPLING AND ANALYSIS

The Cobourg DWS exhibited compliance with all sampling and testing as required by *Ontario Regulation 170/03* in the 2020 calendar year. Table 4 illustrates all microbiological testing done under Schedule 10 of *Ontario Regulation 170/03*. There were no instances of adverse water quality as a result of a parameter exceeding its respective maximum acceptable concentration.

**Table 4 – Cobourg DWS Microbiological Sampling**

| | **E. Coli**, (cfu/100mL) | | **Total Coliform**, (cfu/100mL) | | **HPC**, (cfu/1mL) | |
|---|---|---|---|---|---|---|
| | # of Samples | Range of Results (min # - max #) | # of Samples | Range of Results (min # - max #) | # of Samples | Range of Results (min # - max #) |
| **Raw** | 52 | 0 - 0 | 52 | 0 - 101 | - | N/A |
| **Treated** | 52 | 0 – 0 | 52 | 0 – 0 | 52 | 0 – 4 |
| **Distribution** | 421 | 0 – 0 | 421 | 0 – 0 | 264 | 0 – 14 |

*Note: Table 2 contains microbiological sampling taken within the Hamilton Township Stand-alone Distribution System.*

Operational testing done under Schedule 7 of Ontario Regulation 170/03 during the 2025 reporting period are tabulated in Table 5.

**Table 5 – Cobourg DWS Schedule 7 Operational Monitoring Samples**

| | Number of Grab Samples | Range of Results (min # - max #) |
|---|---|---|
| **Filter 1 Turbidity (NTU)** | 8760 (continuous monitoring) | 0.013 – 0.090 |
| **Filter 2 Turbidity (NTU)** | 8760 (continuous monitoring) | 0.018 – 0.100 |
| **Contact Chamber Effluent Free Chlorine Residual (mg/L)** | 8760 (continuous monitoring) | 1.32 – 1.96 |

The Cobourg DWS Municipal Drinking Water License (MDWL) requires monthly composite samples of backwash wastewater at the point of discharge to Lake Ontario. Table 6 summarizes the results of the sampling program.

**Table 6 – Cobourg DWS Sampling MDWL Requirements**

| Date of MDWL | Parameter | # of Samples | Maximum Annual Average Concentration (mg/L) | Annual Average Concentration (mg/L) |
|---|---|---|---|---|
| June 8, 2021 | Total Suspended Solids | 12 | 25 | 2.0 |
| | Total Chlorine Residual | 12 | 0.02 | 0.016 |

In addition to the microbiological sampling and testing requirements, sampling and testing is required for chemical, inorganic and organic parameters. Table 7 illustrates Schedule 13, Schedule 23 and Schedule 24 sample analysis results, with no exceedances during the reporting period. If there were multiple samples taken during the reporting period, the most recent sample result is provided. A parameter below the method detection limit indicated by (<), cannot be detected as the concentration is lower than minimum concentration that can be measured and reported with 99% certainty.

**Table 7: Cobourg DWS Schedule 13, 23 and 24 Requirements**

| PARAMETER | SAMPLE RESULT (µg/L) | SAMPLE DATE |
|---|---|---|
| Alachlor | 0.02<MDL | 6-Jan-2025 |
| Atrazine + N-dealkylated metabolites | 0.03 | |
| Azinphos-methyl | 0.05<MDL | |
| Benzene | 0.32<MDL | |
| Benzo(a)pyrene | 0.004<MDL | |
| Bromoxynil | 0.33<MDL | |
| Carbaryl | 0.05<MDL | |
| Carbofuran | 0.01<MDL | |
| Carbon tetrachloride | 0.17<MDL | |
| Chlorpyrifos | 0.02<MDL | |
| Diazinon | 0.02<MDL | |
| Dicamba | 0.2<MDL | |
| 1,2-Dichlorobenzene | 0.41<MDL | |
| 1,4-Dichlorobenzene | 0.36<MDL | |
| 1,2-Dichloroethane | 0.35<MDL | |
| 1,1-Dichloroethylene (vinylidene chloride) | 0.33<MDL | |
| Dichloromethane | 0.35<MDL | |
| 2,4-dichlorophenol | 0.15<MDL | |
| 2,4-dichlorophenoxyacetic acid (2,4-D) | 0.19<MDL | |
| Diclofop-methyl | 0.4<MDL | |
| Dimethoate | 0.06<MDL | |
| Diquat | 1<MDL | |
| Diuron | 0.03<MDL | |
| Glyphosate | 1<MDL | |
| Malathion | 0.02<MDL | |
| MCPA | 0.00012<MDL | |
| Metolachlor | 0.01<MDL | |
| Metribuzin | 0.02<MDL | |
| Monochlorobenzene | 0.3<MDL | |
| Paraquat | 1<MDL | |
| Pentachlorophenol | 0.15<MDL | |
| Phorate | 0.01<MDL | |
| Picloram | 1<MDL | |
| Polychlorinated Biphenyls (PCBs) Total | 0.04<MDL | |
| Prometryne | 0.03<MDL | |

| Table 7: Cobourg DWS Schedule 13, 23 and 24 Requirements | | |
|---|---|---|
| **PARAMETER** | **SAMPLE RESULT (µg/L)** | **SAMPLE DATE** |
| Simazine | 0.01<MDL | |
| Terbufos | 0.01<MDL | |
| Tetrachloroethylene (perchloroethylene) | 0.35<MDL | |
| 2,3,4,6-tetrachlorophenol | 0.2<MDL | |
| Triallate | 0.01<MDL | |
| Trichloroethylene | 0.44<MDL | |
| 2,4,6-trichlorophenol | 0.25<MDL | |
| Trifluralin | 0.02<MDL | |
| Vinyl Chloride | 0.17<MDL | |
| Antimony | 0.6 <MDL | |
| Arsenic | 0.2 <MDL | |
| Barium | 19.6 | |
| Boron | 21 | |
| Cadmium | 0.005 | |
| Chromium | 0.20 | |
| Mercury | 0.01 <MDL | |
| Selenium | 0.12 | |
| Uranium | 0.048 | |
| THM: Annual Average | 30.8 | 14-Oct-25 |
| HAA: Annual Average | 4.5 | |
| Nitrite | < 0.003 MDL | |
| Nitrate | 0.329 | |
| Fluoride | 0.08 | 14-Apr-25 |
| Sodium | 14.5 | |

Summary of lead testing under Schedule 15.1 during this reporting period

| Table 8 – Cobourg DWS Schedule 15.1 Lead Sampling | | | | |
|---|---|---|---|---|
| **Location Type** | **Number of Samples** | **Range of Lead Results (min#) – (max #) ug/L** | **Standard (MAC) ug/L** | **Number of Exceedances** |
| Plumbing | Not required, plumbing exemption and only pH and Alkalinity required in distribution samples | | | |
| Distribution | 4 (period 1) | Lead (Not required), pH (6.81-6.91), Alkalinity (81-92 mg/L) | | |
| | 4 (period 2) | Lead (Not required), pH (7.50-7.70), Alkalinity (81-83 mg/L) | | |