

## MUNICIPAL DRINKING WATER LICENCE

**Licence Number: 006-101**  
**Issue Number: 6**

Pursuant to the *Safe Drinking Water Act*, 2002, S.O. 2002, c. 32, and the regulations made thereunder and subject to the limitations thereof, I hereby issue this municipal drinking water licence under Part V of the *Safe Drinking Water Act*, 2002, S.O. 2002, c. 32 to:

### **The Corporation of the City of London**

**300 Dufferin Ave  
London ON  
N6A 4L9**

For the following municipal residential drinking water system:

### **City of London Drinking Water System**

This municipal drinking water licence includes the following:

<b>Schedule</b>	<b>Description</b>
Schedule A	Drinking Water System Information
Schedule B	General Conditions
Schedule C	System-Specific Conditions
Schedule D	Conditions for Relief from Regulatory Requirements

Upon the effective date of this drinking water licence # 006-101, all previously issued versions of licence # 006-101 are revoked and replaced by this licence.

DATED at TORONTO this 18th day of September, 2020

Signature



Aziz Ahmed, P.Eng.  
Director  
Part V, *Safe Drinking Water Act*, 2002

## Schedule A: Drinking Water System Information

System Owner	<b>The Corporation of the City of London</b>
Licence Number	<b>006-101</b>
Drinking Water System Name	<b>City of London Drinking Water System</b>
Licence Effective Date	<b>September 18, 2020</b>

### 1.0 Licence Information

Licence Issue Date	September 18, 2020
Licence Effective Date	September 18, 2020
Licence Expiry Date	September 17, 2025
Application for Licence Renewal Date	March 17, 2025

### 2.0 Incorporated Documents

The following documents are applicable to the above drinking water system and form part of this licence:

#### 2.1 Drinking Water Works Permit

Drinking Water System Name	Permit Number	Issue Date
City of London Drinking Water System	006-201	September 18, 2020

#### 2.2 Permits to Take Water

Water Taking Location	Permit Number	Issue Date

#### 2.3 Other Documents

Document Title	Version Number	Version Date

### 3.0 Financial Plans

The Financial Plan Number for the Financial Plan required to be developed for this drinking water system in accordance with O. Reg. 453/07 shall be:	006-301
Alternately, if one Financial Plan is developed for all drinking water systems owned by the owner, the Financial Plan Number shall be:	006-301A

**4.0 Accredited Operating Authority**

<b>Drinking Water System or Operational Subsystems</b>	<b>Accredited Operating Authority</b>	<b>Operational Plan No.</b>	<b>Operating Authority No.</b>
The City of London Drinking Water System	The Corporation of the City of London	006-401a	006-OA1
The Elgin-Middlesex Pumping Station (London Portion)	Ontario Clean Water Agency	006-401b	006-OA2

## Schedule B: General Conditions

System Owner	The Corporation of the City of London
Licence Number	006-101
Drinking Water System Name	City of London Drinking Water System
Licence Effective Date	September 18, 2020

### 1.0 Definitions

1.1 Words and phrases not defined in this licence and the associated drinking water works permit shall be given the same meaning as those set out in the SDWA and any regulations made in accordance with that act, unless the context requires otherwise.

1.2 In this licence and the associated drinking water works permit:

“**adverse effect**”, “**contaminant**” and “**natural environment**” shall have the same meanings as in the EPA;

“**alteration**” may include the following in respect of this drinking water system:

- (a) An addition to the system,
- (b) A modification of the system,
- (c) A replacement of part of the system, and
- (d) An extension of the system;

“**compound of concern**” means a contaminant described in paragraph 4 subsection 26 (1) of O. Reg. 419/05, namely, a contaminant that is discharged to the air from a component of the drinking water system in an amount that is not negligible;

“**CT**” means the CT Disinfection Concept, as described in subsection 3.1.1 of the Ministry’s Procedure for Disinfection of Drinking Water in Ontario, dated July 29 2016.

“**Director**” means a Director appointed pursuant to section 6 of the SDWA for the purposes of Part V of the SDWA;

“**drinking water works permit**” means the drinking water works permit for the drinking water system, as identified in Schedule A of this licence and as amended from time to time;

“**emission summary table**” means a table described in paragraph 14 of subsection 26 (1) of O. Reg. 419/05;

“**EPA**” means the *Environmental Protection Act*, R.S.O. 1990, c. E.19;

“**financial plan**” means the financial plan required by O. Reg. 453/07;

“**Harmful Algal Bloom (HAB)**” means an overgrowth of aquatic algal bacteria that produce or have the potential to produce toxins in the surrounding water, when the algal

cells are damaged or die. Such bacteria are harmful to people and animals and include microcystins produced by cyanobacterial blooms.

“**licence**” means this municipal drinking water licence for the municipal drinking water system identified in Schedule A of this licence;

“**Ministry**” means the Ontario Ministry of the Environment, Conservation and Parks;

“**operational plan**” means an operational plan developed in accordance with the Director’s Directions – Minimum Requirements for Operational Plans made under the authority of subsection 15(1) of the SDWA;

“**owner**” means the owner of the drinking water system as identified in Schedule A of this licence;

“**OWRA**” means the *Ontario Water Resources Act*, R.S.O. 1990, c. 0.40;

“**permit to take water**” means the permit to take water that is associated with the taking of water for purposes of the operation of the drinking water system, as identified in Schedule A of this licence and as amended from time to time;

“**point of impingement**” has the same meaning as in section 2 of O. Reg. 419/05 under the EPA;

“**point of impingement limit**” means the appropriate standard from Schedule 2 or 3 of O. Reg. 419/05 under the EPA and if a standard is not provided for a compound of concern, the concentration set out for the compound of concern in the document titled “Air Contaminants Benchmarks (ACB) List: Standards, guidelines and screening levels for assessing point of impingement concentrations of air contaminants”, as amended from time to time and published by the Ministry and available on a government of Ontario website;

“**licensed engineering practitioner**” means a person who holds a licence, limited licence or temporary licence under the Professional Engineers Act;

“**provincial officer**” means a provincial officer designated pursuant to section 8 of the SDWA;

“**publication NPC-300**” means the Ministry publication titled “Environmental Noise Guideline: Stationary and Transportation Sources – Approval and Planning” dated August 2013, as amended;

“**SCADA system**” means a supervisory control and data acquisition system used for process monitoring, automation, recording and/or reporting within the drinking water system;

“**SDWA**” means the *Safe Drinking Water Act*, 2002, S.O. 2002, c. 32;

**“sensitive receptor”** means any location where routine or normal activities occurring at reasonably expected times would experience adverse effect(s) from a discharge to air from an emergency generator that is a component of the drinking water system, including one or a combination of:

- (a) private residences or public facilities where people sleep (e.g.: single and multi-unit dwellings, nursing homes, hospitals, trailer parks, camping grounds, etc.),
- (b) institutional facilities (e.g.: schools, churches, community centres, day care centres, recreational centres, etc.),
- (c) outdoor public recreational areas (e.g.: trailer parks, play grounds, picnic areas, etc.), and
- (d) other outdoor public areas where there are continuous human activities (e.g.: commercial plazas and office buildings).

**“sub-system”** has the same meaning as in Ontario Regulation 128/04 (Certification of Drinking Water System Operators and Water Quality Analysts) under the SDWA;

**“surface water”** means water bodies (lakes, wetlands, ponds - including dug-outs), water courses (rivers, streams, water-filled drainage ditches), infiltration trenches, and areas of seasonal wetlands;

**“UV”** means ultraviolet, as in ultraviolet light produced from an ultraviolet reactor.

## 2.0 Applicability

- 2.1 In addition to any other applicable legal requirements, the drinking water system identified above shall be established, altered and operated in accordance with the conditions of the drinking water works permit and this licence.

## 3.0 Licence Expiry

- 3.1 This licence expires on the date identified as the licence expiry date in Schedule A of this licence.

## 4.0 Licence Renewal

- 4.1 Any application to renew this licence shall be made on or before the date identified as the application for licence renewal date set out in Schedule A of this licence.

## 5.0 Compliance

- 5.1 The owner and operating authority shall ensure that any person authorized to carry out work on or to operate any aspect of the drinking water system has been informed of the SDWA, all applicable regulations made in accordance with that act, the drinking water works permit and this licence and shall take all reasonable measures to ensure any such person complies with the same.

## 6.0 Licence and Drinking Water Works Permit Availability

- 6.1 At least one copy of this licence and the drinking water works permit shall be stored in such a manner that they are readily viewable by all persons involved in the operation of the drinking water system.

## 7.0 Permit to Take Water and Drinking Water Works Permit

- 7.1 A permit to take water identified in Schedule A of this licence is the applicable permit on the date identified as the Effective Date of this licence.
- 7.2 A drinking water works permit identified in Schedule A of this licence is the applicable permit on the date identified as the Effective Date of this licence.

## 8.0 Financial Plan

- 8.1 For every financial plan prepared in accordance with subsections 2(1) and 3(1) of O. Reg. 453/07, the owner of the drinking water system shall:
- 8.1.1 Ensure that the financial plan contains on the front page of the financial plan, the appropriate financial plan number as set out in Schedule A of this licence; and
- 8.1.2 Submit a copy of the financial plan to the Ministry of Municipal Affairs and Housing within three (3) months of receiving approval by a resolution of municipal council or the governing body of the owner.

## 9.0 Interpretation

- 9.1 Where there is a conflict between the provisions of this licence and any other document, the following hierarchy shall be used to determine the provision that takes precedence:
- 9.1.1 The SDWA;
- 9.1.2 A condition imposed in this licence that explicitly overrides a prescribed regulatory requirement;
- 9.1.3 A condition imposed in the drinking water works permit that explicitly overrides a prescribed regulatory requirement;
- 9.1.4 Any regulation made under the SDWA;
- 9.1.5 Any provision of this licence that does not explicitly override a prescribed regulatory requirement;
- 9.1.6 Any provision of the drinking water works permit that does not explicitly override a prescribed regulatory requirement;
- 9.1.7 Any application documents listed in this licence, or the drinking water works permit from the most recent to the earliest; and

- 9.1.8 All other documents listed in this licence, or the drinking water works permit from the most recent to the earliest.
- 9.1.9 Any other technical bulletin or procedure issued by the Ministry from the most recent to the earliest.
- 9.2** If any requirement of this licence or the drinking water works permit is found to be invalid by a court of competent jurisdiction, the remaining requirements of this licence and the drinking water works permit shall continue to apply.
- 9.3** The issuance of and compliance with the conditions of this licence and the drinking water works permit does not:
- 9.3.1 Relieve any person of any obligation to comply with any provision of any applicable statute, regulation or other legal requirement, including the *Environmental Assessment Act*, R.S.O. 1990, c. E.18; and
- 9.3.2 Limit in any way the authority of the appointed Directors and provincial officers of the Ministry to require certain steps be taken or to require the owner to furnish any further information related to compliance with the conditions of this licence or the drinking water works permit.
- 9.4** For greater certainty, nothing in this licence or the drinking water works permit shall be read to provide relief from regulatory requirements in accordance with section 46 of the SDWA, except as expressly provided in the licence or the drinking water works permit.

## 10.0 Adverse Effects

- 10.1** Nothing in this licence or the drinking water works permit shall be read as to permit:
- 10.1.1 The discharge of a contaminant into the natural environment that causes or is likely to cause an adverse effect; or
- 10.1.2 The discharge of any material of any kind into or in any waters or on any shore or bank thereof or into or in any place that may impair the quality of the water of any waters.
- 10.2** All reasonable steps shall be taken to minimize and ameliorate any adverse effect on the natural environment or impairment of the quality of water of any waters resulting from the operation of the drinking water system including such accelerated or additional monitoring as may be necessary to determine the nature and extent of the effect or impairment.
- 10.3** Fulfillment of one or more conditions imposed by this licence or the drinking water works permit does not eliminate the requirement to fulfill any other condition of this licence or the drinking water works permit.



## 11.0 Change of Owner or Operating Authority

- 11.1 This licence is not transferable without the prior written consent of the Director.
- 11.2 The owner shall notify the Director in writing at least 30 days prior to a change of any operating authority identified in Schedule A of this licence.
- 11.2.1 Where the change of operating authority is the result of an emergency situation, the owner shall notify the Director in writing of the change as soon as practicable.

## 12.0 Information to be Provided

- 12.1 Any information requested by a Director or a provincial officer concerning the drinking water system and its operation, including but not limited to any records required to be kept by this licence or the drinking water works permit, shall be provided upon request.

## 13.0 Records Retention

- 13.1 Except as otherwise required in this licence or the drinking water works permit, any records required by or created in accordance with this licence or the drinking water works permit, other than the records specifically referenced in section 12 or section 13 of O. Reg. 170/03, shall be retained for at least 5 years and made available for inspection by a provincial officer, upon request.

## 14.0 Chemicals and Materials

- 14.1 All chemicals and materials used in the alteration or operation of the drinking water system that come into contact with water within the system shall meet all applicable standards set by both the American Water Works Association ("AWWA") and the American National Standards Institute ("ANSI") safety criteria standards NSF/60, NSF/61 and NSF/372.
- 14.1.1 In the event that the standards are updated, the owner may request authorization from the Director to use any on hand chemicals and materials that previously met the applicable standards.
- 14.2 The most current chemical and material product registration documentation from a testing institution accredited by either the Standards Council of Canada or by the American National Standards Institution ("ANSI") shall be available at all times for each chemical and material used in the operation of the drinking water system that comes into contact with water within the system.
- 14.3 Conditions 14.1 and 14.2 do not apply in the case of the following:
- 14.3.1 Water pipe and pipe fittings meeting AWWA specifications made from ductile iron, cast iron, PVC, fibre and/or steel wire reinforced cement pipe or high density polyethylene (HDPE);
- 14.3.2 Articles made from stainless steel, glass, HDPE or Teflon®;

- 14.3.3 Cement mortar for watermain lining and for water contacting surfaces of concrete structures made from washed aggregates and Portland cement;
- 14.3.4 Gaskets that are made from NSF approved materials;
- 14.3.5 Food grade oils and lubricants, food grade anti-freeze, and other food grade chemicals and materials that are compatible for drinking water use that may come into contact with drinking water, but are not added directly to the drinking water; or
- 14.3.6 Any particular chemical or material where the owner has written documentation signed by the Director that indicates that the Ministry is satisfied that the chemical or material is acceptable for use within the drinking water system and the chemical or material is only used as permitted by the documentation.

## 15.0 Drawings

- 15.1 All drawings and diagrams in the possession of the owner that show any treatment subsystem as constructed shall be retained by the owner unless the drawings and diagrams are replaced by a revised or updated version showing the subsystem as constructed subsequent to the alteration.
- 15.2 Any alteration to any treatment subsystem shall be incorporated into process flow diagrams, process and instrumentation diagrams, and record drawings and diagrams within one year of the alteration being completed or placed into service.
- 15.3 Process flow diagrams and process and instrumentation diagrams for any treatment subsystem shall be kept in a place, or made available in such a manner, that they may be readily viewed by all persons responsible for all or part of the operation of the drinking water system.

## 16.0 Operations and Maintenance Manual

- 16.1 An up-to-date operations and maintenance manual or manuals shall be maintained and applicable parts of the manual or manuals shall be made available for reference to all persons responsible for all or part of the operation or maintenance of the drinking water system.
- 16.2 The operations and maintenance manual or manuals, shall include at a minimum:
  - 16.2.1 The requirements of this licence and associated procedures;
  - 16.2.2 The requirements of the drinking water works permit for the drinking water system;
  - 16.2.3 A description of the processes used to achieve secondary disinfection within the drinking water system;
  - 16.2.4 Procedures for monitoring and recording the in-process parameters necessary for the control of any treatment subsystem and for assessing the performance of the drinking water system;

- 16.2.5 Procedures for the operation and maintenance of monitoring equipment;
- 16.2.6 Contingency plans and procedures for the provision of adequate equipment and material to deal with emergencies, upset conditions and equipment breakdown;
- 16.2.7 Procedures for dealing with complaints related to the drinking water system, including the recording of the nature of the complaint and any investigation and corrective action taken in respect of the complaint;
- 16.3** Procedures necessary for the operation and maintenance of any alterations to the drinking water system shall be incorporated into the operations and maintenance manual or manuals prior to those alterations coming into operation.
- 16.4** All of the procedures included or referenced within the operations and maintenance manual must be implemented.
- 16.5** The requirement for the owner to comply with condition 16.2.3 shall come into force six months from the date of issue of this licence.

## Schedule C: System-Specific Conditions

System Owner	The Corporation of the City of London
Licence Number	006-101
Drinking Water System Name	City of London Drinking Water System
Licence Effective Date	September 18, 2020

### 1.0 Additional Sampling, Testing and Monitoring

#### Drinking Water Health and Non-Health Related Parameters

- 1.1 For each treatment subsystem or treatment subsystem component identified in column 1 of Tables 5 and 6 and in addition to any other sampling, testing and monitoring that may be required, sampling, testing and monitoring shall be undertaken for a test parameter listed in column 2 at the sampling frequency listed in column 3 and at the monitoring location listed in column 4 of the same row.

**Table 5: Drinking Water Health Related Parameters**

Column 1 Treatment Subsystem or Treatment Subsystem Component Name	Column 2 Test Parameter	Column 3 Sampling Frequency	Column 4 Monitoring Location
Not Applicable	Not Applicable	Not Applicable	Not Applicable

**Table 6: Drinking Water Non-Health Related Parameters**

Column 1 Treatment Subsystem or Treatment Subsystem Component Name	Column 2 Test Parameter	Column 3 Sampling Frequency	Column 4 Monitoring Location
Not Applicable	Not Applicable	Not Applicable	Not Applicable

#### Environmental Discharge Parameters

- 1.2 Pursuant to Condition 10 of Schedule B of this licence, the owner may undertake the following environmental discharges associated with the maintenance and/or repair of the drinking water system:

1.2.1 The discharge of potable water from a watermain to a road or storm sewer;

1.2.2 The discharge of potable water from a water storage facility or pumping station:

1.2.2.1 To a road or storm sewer; or

- 1.2.2.2 To a watercourse where the discharge has been dechlorinated and if necessary, sediment and erosion control measures have been implemented.
- 1.2.3 The discharge of dechlorinated non-potable water from a watermain, water storage facility or pumping station to a road or storm sewer;
- 1.2.4 The discharge of potable water or non-potable water from a treatment subsystem to the environment where if necessary, the discharge has been dechlorinated and sediment and erosion control measures have been implemented.
- 1.2.5 The discharge of any excess water to a road, storm sewer or the environment, associated with the management of materials excavated as part of watermain construction or repair, where necessary sediment, erosion and environmental control measures have been implemented.

## 2.0 Studies Required

### 2.1 Corrosion Control Implementation

- 2.1.1 The Owner shall implement the City of London Corrosion Control Plan dated October 15, 2009, amended April 2014 and monitor the effectiveness of the corrosion control measures.
- 2.1.2 The Owner shall prepare an Evaluation Report to assess the effectiveness of the corrosion control measures. The report shall contain the following information in 2.1.3 – 2.1.7, where applicable:
  - 2.1.3 A list of all lead results and a summary of any key corrosion control parameter measurements at the point treated water enters the distribution system and premise plumbing with the frequencies identified in Table 1:

<b>Table 1: Monitoring the Effectiveness of Preferred Measures</b>			
<b>Column 1 Parameters <sup>a)</sup></b>	<b>Column 2 Point of Entry</b>	<b>Column 3 Distribution System (Sampling Points)</b>	<b>Column 4 Residential and Non-Residential Taps (Sampling Points) <sup>b)</sup></b>
Lead	Quarterly	5 minimum, annually	12 minimum, annually
Alkalinity	Monthly	5 minimum, annually	12 minimum, annually
pH	Weekly	5 minimum, annually	12 minimum, annually
Inhibitor	Not Applicable	Not Applicable	Not Applicable
Other Parameters in Table 6.1 of the Ministry's Guidance Document for Corrosion Control Monitoring, dated December 2009.	As per Corrosion Control Plan	As per Corrosion Control Plan	As per Corrosion Control Plan
<p>a) All lead, pH and alkalinity samples shall be taken, tested and reported as outlined in O. Reg. 170/03 s.15.1-6((1) and (2)) and 15.1-7 to 15.1-10</p> <p>b) The system owner shall strive to monitor the effectiveness per sampling point by sampling at the same recurring locations in every sampling period, where possible</p>			

- 2.1.4 A technical evaluation of the effectiveness of corrosion control measures including:
- 2.1.4.1 Any key milestones of implementation, including equipment malfunction or upset conditions;
  - 2.1.4.2 The ability to maintain operating conditions and inhibitor concentrations, in the distribution system and premise plumbing; and
  - 2.1.4.3 The ability to achieve reduction in lead levels and other corrosion related parameters in the distribution system and premise plumbing.
- 2.1.5 A summary of lead levels and other metals monitored at the following locations, since implementation of corrosion control, and comparison to pre-implementation levels:
- 2.1.5.1 Distribution system;
  - 2.1.5.2 Residential plumbing; and,
  - 2.1.5.3 Non-residential plumbing.
- 2.1.6 An evaluation of secondary impacts as a result of corrosion control implementation of corrosion control measures, including any:
- 2.1.6.1 Customer feedback or water quality complaints, since implementation of corrosion control, with analysis of reasons;
  - 2.1.6.2 Impacts on secondary disinfection, including biofilm formation; and,

- 2.1.6.3 Impacts on wastewater treatment plants receiving treated water from the owner, including estimates of increases in phosphorous loadings to the receiver, and comparison to effluent limits.
- 2.1.7 A summary of results of all other aspects of the Owner's lead mitigation strategy including:
  - 2.1.7.1 Lead service line replacement on public and private property, as per lead reduction measures prescribed in 2.2.
  - 2.1.7.2 Outreach and education, especially to populations vulnerable to lead in drinking water;
  - 2.1.7.3 Faucet filter program, and,
  - 2.1.7.4 Involvement of public health authorities.
- 2.2 Lead Service Line Replacement**
  - 2.2.1 The Owner shall provide an Evaluation Report to evaluate the effectiveness of the lead service line replacement. The report shall contain the following information in 2.2.2 – 2.2.4, where applicable:
  - 2.2.2 A list of all lead results from samples taken before and after LSL replacement. An estimated number of LSLs remaining in the drinking water system, with a distinction between LSLs owned by the municipality and those that are privately owned.
  - 2.2.3 A summary of current lead reduction strategies, including:
    - 2.2.3.1 Any key milestones of implementation;
    - 2.2.3.2 Number of LSLs (private and municipal) replaced during the year;
    - 2.2.3.3 An estimated number of years left to replace all of the LSLs owned by the municipality;
- 2.3** The Corrosion Control Evaluation Report outlined in 2.1.2 and 2.2.1 shall cover each calendar year, and shall be submitted to the Director by March 31<sup>st</sup>, annually.

The sampling data outlined in 2.1.3 shall be submitted to the Director by January 31<sup>st</sup>, annually.

### **3.0 Source Protection**

Not applicable

## **Schedule D: Conditions for Relief from Regulatory Requirements**

System Owner	<b>The Corporation of the City of London</b>
Licence Number	<b>006-101</b>
Drinking Water System Name	<b>City of London Drinking Water System</b>
Licence Effective Date	<b>September 18, 2020</b>

### **1.0 Lead Regulatory Relief**

Not applicable.

### **2.0 Other Regulatory Relief**

Not applicable