

Executive Summary

Appendix 'A'

1. Introduction

The City of London (“the City”) has completed a Municipal Class Environmental Assessment (EA) study for the provision of additional drinking water storage capacity (100 Million Litres (ML)). Additional storage capacity is needed to address aging infrastructure, emergency backup requirements and future growth needs within the City. The Study Area covers the City of London’s water supply and distribution system as shown in **Figure ES1**.

This Municipal Class EA was completed in accordance with the Ontario Environmental Assessment Act (EAA) and followed the Schedule B planning process of the Ontario Municipal Engineers Association (MEA) “Municipal Class Environmental Assessment” document, dated October 2000, as amended in 2007, 2011 and 2015.

Background

The City of London’s water system provides safe drinking water to residents, businesses and industry within the City limits and is supplied with water from two lake-based sources, the Lake Huron Water Supply System (LHWSS) and the Elgin Area Water Supply System (EAWSS) (Lake Erie). The City utilizes several water storage facilities including the Arva Reservoir (LHWSS) and Pump Station (City), the Southeast Reservoir (City) and Pump Station, the Springbank Reservoir complex (City), which has three storage reservoirs that can gravity feed the entire City, and the Elgin-Middlesex Reservoir and Pump Station (EAWSS). Springbank Reservoir #2 has both an aging membrane liner that has ongoing issues with its floating cover and requires continued maintenance and repair. The reservoir is reaching the end of its service life and the City would like to consider retiring the facility when it reaches the end of its life expectancy anticipated in 2022. As a result, comparable reservoir capacity of 45 ML will need to be replaced or better located within the City’s water system. Additional water storage (150 ML) is necessary to meet future growth needs to 2054 and beyond.

Problem and Opportunity Statement: The City of London utilizes water storage and distribution from the Arva, Elgin-Middlesex, Southeast and Springbank reservoirs. From these sources, water is provided for drinking water, daily household use, business and industrial needs and fire protection. Water can also be provided during water disruptions or if pressures within the City’s water system are reduced. However, the existing water system is not able to provide flows at a supply rate and pressure necessary to meet peak demand, fire and/or emergency needs based on future growth. Additionally, Springbank Reservoir 2 is subject to ongoing maintenance associated with this aging facility and is nearing the end of its service life.

In response to the above Problem and Opportunity Statement, the following potential and shortlisted Water Storage Alternative Solutions were identified as part of the Municipal Class EA process (**Figure ES2**):

1. Alternative 1: On-Site Reservoir Expansion Options. Expand the Arva Reservoir and Pump Station or Springbank Reservoir and/or Southeast Reservoir and pump station.
2. Alternative 2: Off-Site Reservoir Siting Options. Identify land that is currently vacant or open space that meets the storage need and configuration requirements, considering elevation.
3. Alternative 3: Do Nothing

2. Preferred Solution

A long list of nine alternative storage locations were developed and assessed to arrive at a refined short list of alternatives (See Figure ES2).

Based on the evaluation of alternative solutions, the preferred alternative is:

Site A1: Springbank Expansion – Construct a 100 ML in-ground reservoir at the existing Springbank Reservoir Site by 2024 to replace the existing 45 ML of storage to be retired as part of the recommendations to meet storage deficit/growth projections at that time as shown on Figure ES3.

The preferred alternative results in the least amount of impacts overall and for Technical and Economic aspects and the second lowest impacts for Health and Safety/ Cultural aspects. Although natural environment aspects are greater, than 2 of the other alternatives, these can be mitigated for the terrestrial and wildlife aspects of significance. Additionally, the preferred alternative has reasonable approvals certainty, straightforward construction, and capital/operating costs are lower than expanding the existing Arva Reservoir.

Associated Backup Power or standby power systems are needed to ensure pumping can maintain service in the event that primary power supplies fail. The installation of a generator at the existing Arva Pump Station is recommended in order to meet the City's day to day, peak and/or emergency needs.

A further 100 ML of additional storage capacity is also recommended to be implemented at the existing Arva Reservoir Site by 2044 to meet storage deficit/growth projections at that point in time. Additional Storage capacity at the existing Southeast Reservoir Site is recommended to be implemented once the Elgin Water Supply System treatment and supply capacity is expanded to meet future growth needs in addition to, or as part of, the further 100 ML of additional storage capacity recommended at the Arva Reservoir Site.

3. Capital Cost Estimate and Implementation Schedule

The proposed project has an estimated capital cost of approximately \$35 M (additional \$2.5 M for Arva Generator). Assuming funding is in place then the project could move forward based on the following schedule:

- Environmental Impact Study (EIS): 2019
- Preliminary Detailed Design: 2020/2021
- Permits/Approvals: 2021
- Construction: 2023-2024

The City will implement the recommended solution pending completion of the EA study, further regulatory and/or budget approvals, and co-ordination with other planned infrastructure projects in the area.

4. Property Requirements

The implementation of Site A1 (Springbank Reservoir) will not require the acquisition of any property. The City owns the Springbank property, which is currently used as open space. Loss of open space and parkland can be replaced in part. Property agreements and/or temporary easements are not required to facilitate construction.

5. Consultation

As part of the Municipal Class EA planning process, several steps have been undertaken to inform government agencies, affected landowners, the local community and the general public of the study and to solicit comments at key stages of the study process. Methods included:

- Publication of newspaper notices for all project milestones, including Notices of Study Commencement, PICs and Study Completion;
- Placement of notices and other materials on the City's website;
- Three direct mailing of project milestone notices to stakeholders, study area residents, businesses and review agencies;
- Two PICs to engage and obtain input from the public, review agencies and stakeholders;
- Individual meetings with key agencies and stakeholders as required or as opportunities arose; and,
- Consultation with 32 the Indigenous communities, one of which has indicated interest in participating in subsequent project phases.

All comments received during the course of the study were responded to by the Study Team. There were no outstanding comments at the time of the Project File filing for the 30-day review period, during which the public, and other interested stakeholders have an opportunity to comment on the project.

6. Conclusion and Recommendation

This Municipal Class EA has fulfilled the requirements for a Schedule B Project under the MEA Municipal Class EA document. The Municipal Class EA planning process requires initial screening for a project of this type, and this initial screening has not identified any significant impacts that cannot be addressed by incorporating the recommended mitigation measures during construction. Consultation requirements of the Municipal Class EA have been fulfilled through two PICs, agency consultation, Indigenous consultation, and the submission of this Project File for the 30-day review period.

The recommended preferred solution (Alternative A1 – Springbank Reservoir) includes the design and construction of a 100 ML reservoir at the Springbank Reservoir Site to meet the future storage need projections. This alternative resolves the problems identified in this report and indicates only minor impacts, which are addressed by recommended mitigation measures presented in the Project File.

At the same time, the installation of a backup generator at the Arva Pump Station is recommended to maintain adequate water system pressure under emergency conditions.

A further 100 ML of additional storage capacity is recommended for future implementation by 2044 at the existing Arva Reservoir Site.

Considering the above, it is recommended that:

1. Following EA documentation filing and clearance, and securing appropriate funding, the recommended works proceed to the design phase including permitting/approvals; and,
2. Mitigation measures are outlined in the main report for implementation during detailed design and construction.

City of London Long Term Water Storage

Environmental Assessment Schedule 'B'

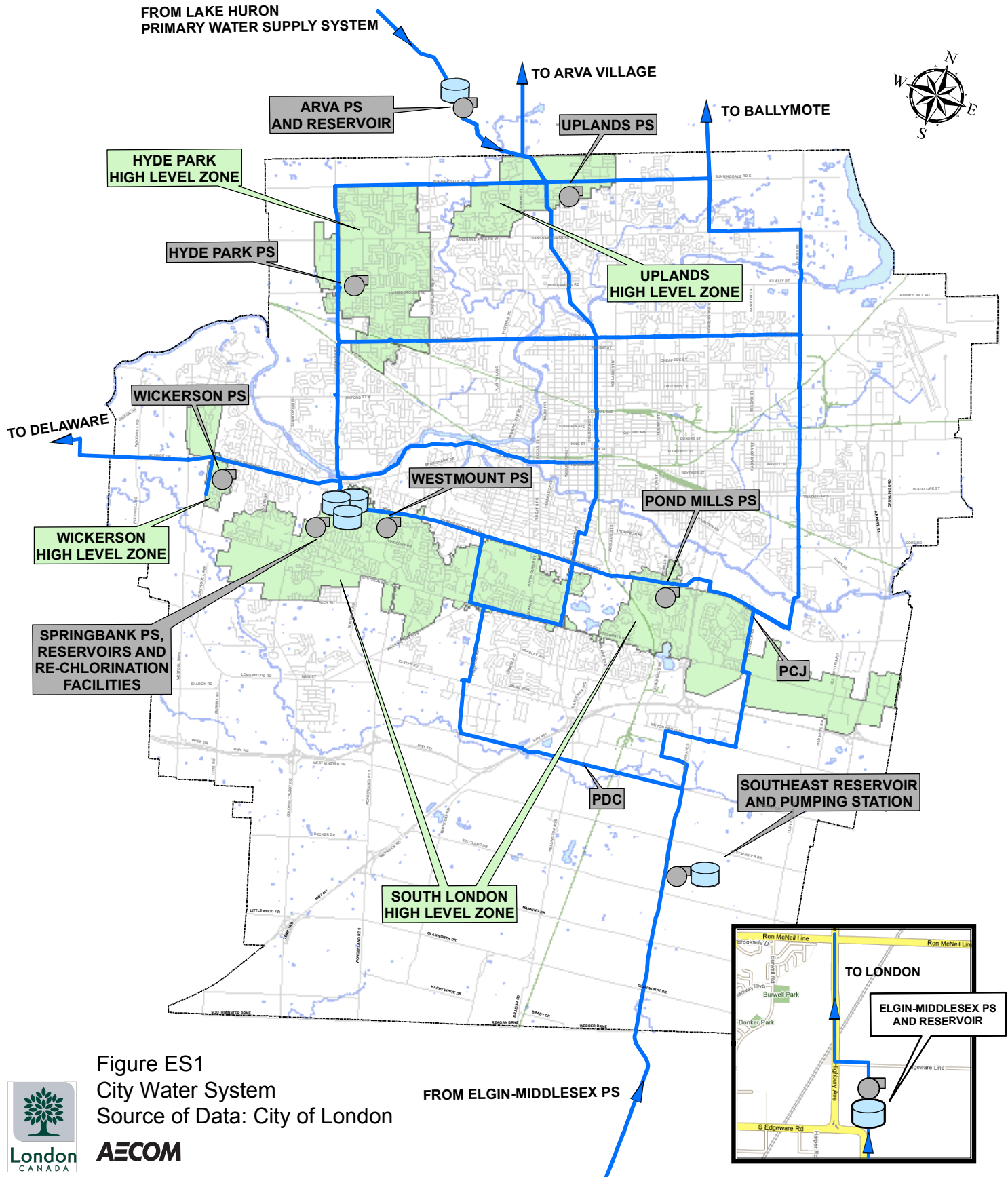


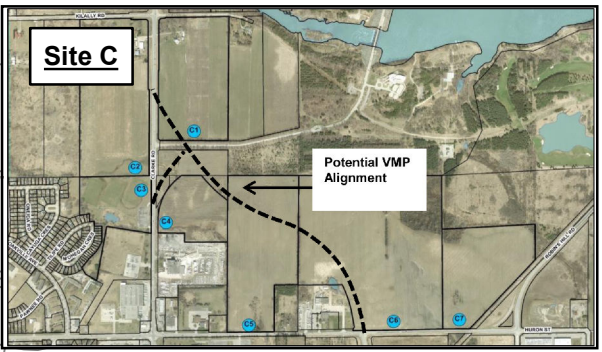
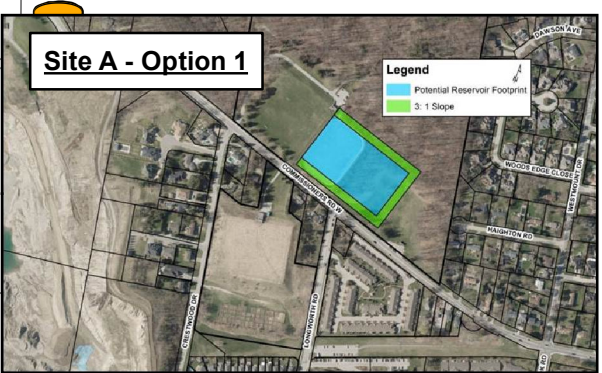
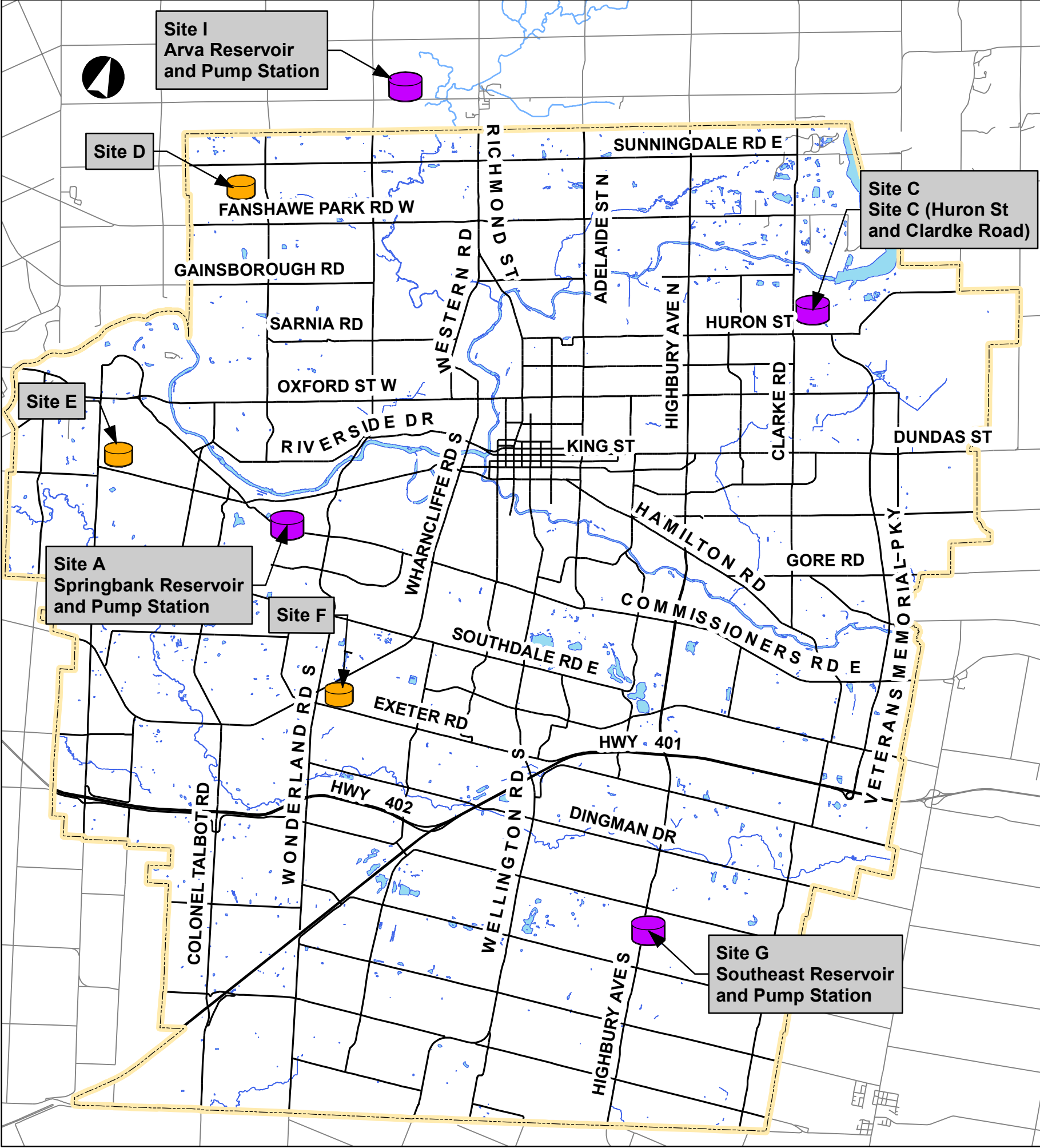
Figure ES1

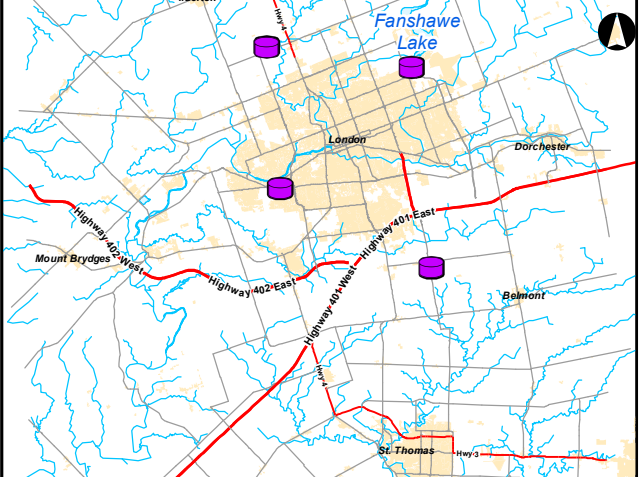

City Water System

Source of Data: City of London






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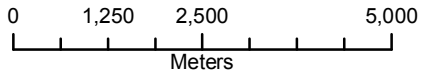






Legend


-  Short Listed Potential Sites
-  Potential Sites
-  CityBoundary
-  Roads
-  Water



City of London
Long Term Water Storage
Environmental Assessment
Schedule 'B'

Alternative Sites

April 2019	1:100,000	Datum: NAD83 UTM17 Source: LIO 2016, City of London 2017
P#: 60565856	V#:	

 **Figure ES2**

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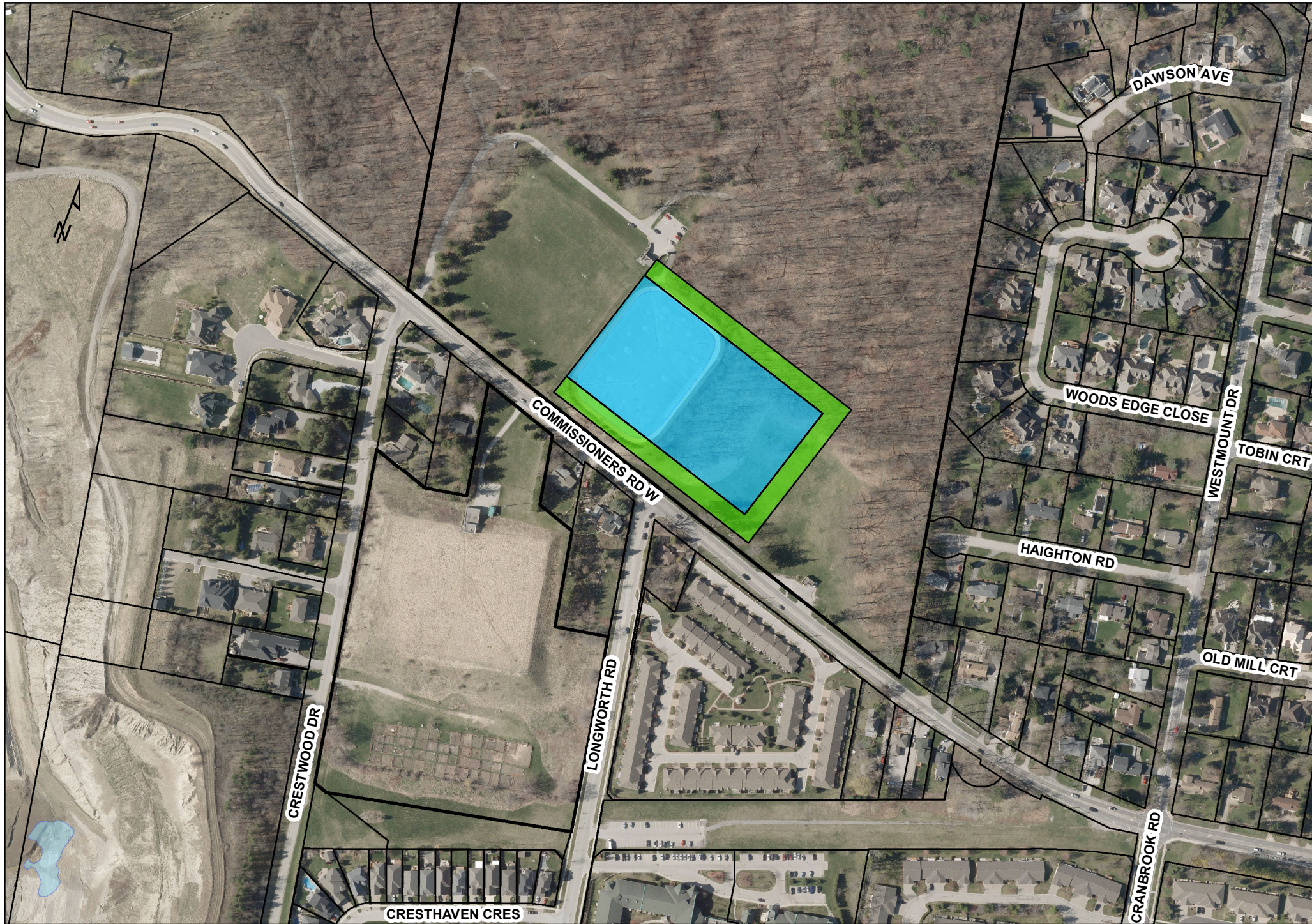


Figure ES3
Preferred Alternative

City of London Long Term Water Storage Environmental Assessment Schedule 'B'

Legend

- Potential Reservoir Footprint
- 3: 1 Slope

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