

The Regional Municipality of Durham

Whitby Water Supply Plant Expansion – Municipal Class Environmental Assessment Addendum Report

Prepared by:

AECOM Canada Ltd.
201 – 45 Goderich Road
Hamilton, ON L8E 4W8
Canada
T: 905 578 3040
F: 905 578 4129
www.aecom.com

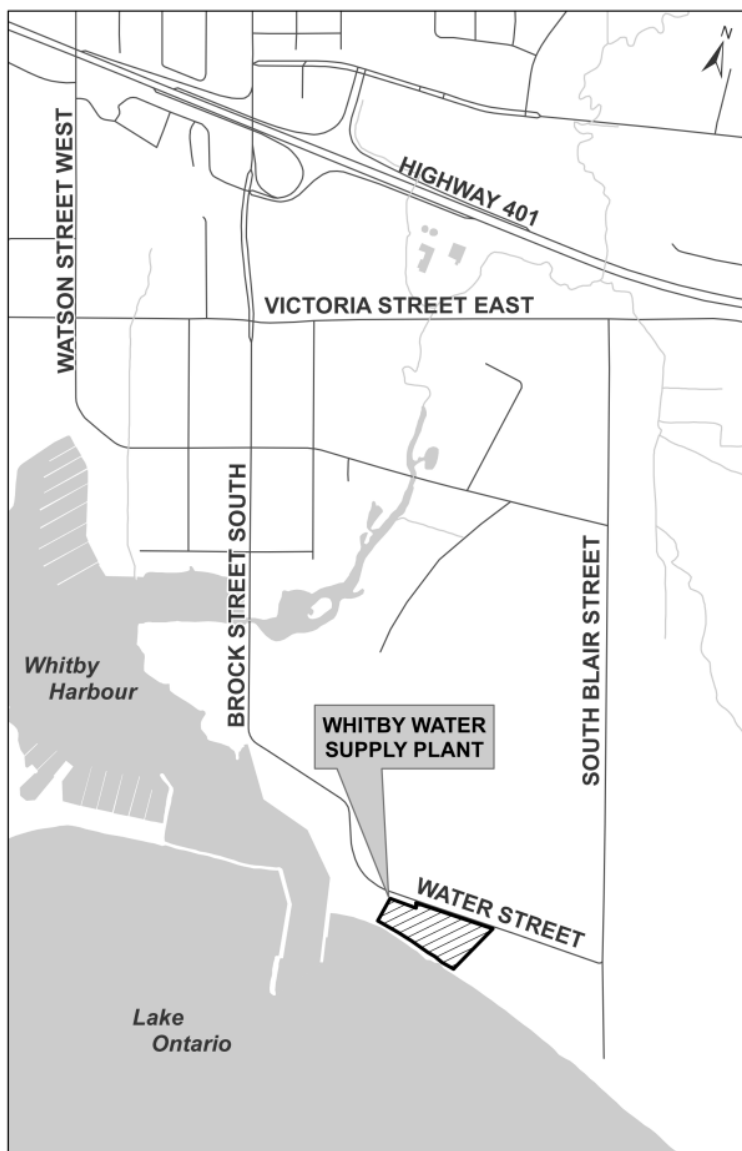
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Project #: 60322759

Executive Summary

Introduction

The Regional Municipality of Durham (hereafter “the Region”), through their consultant AECOM Canada Ltd. (AECOM) has completed a Municipal Class Environmental Assessment (Class EA) addendum study for the Whitby Water Supply Plant (WSP). The current Whitby Water Supply Plant (WSP), located within the southwestern part of the Town of Whitby, was commissioned in the mid 1970’s as a replacement for the original one (see map).



This addendum considers the original 2005 Class EA study and documents what has changed in terms of water supply and servicing requirements, study area land uses, environmental protection requirements and provides an updated project description (expand existing WSP on south side of Water Street, within existing property limits). It also confirms the preferred treatment technology.

The objective of this Class EA Addendum is to meet Durham Region water supply goals (provide sustainable and cost-effective delivery of water to meet existing and future requirements), and design the project having regard to Town of Whitby waterfront and surrounding land uses.

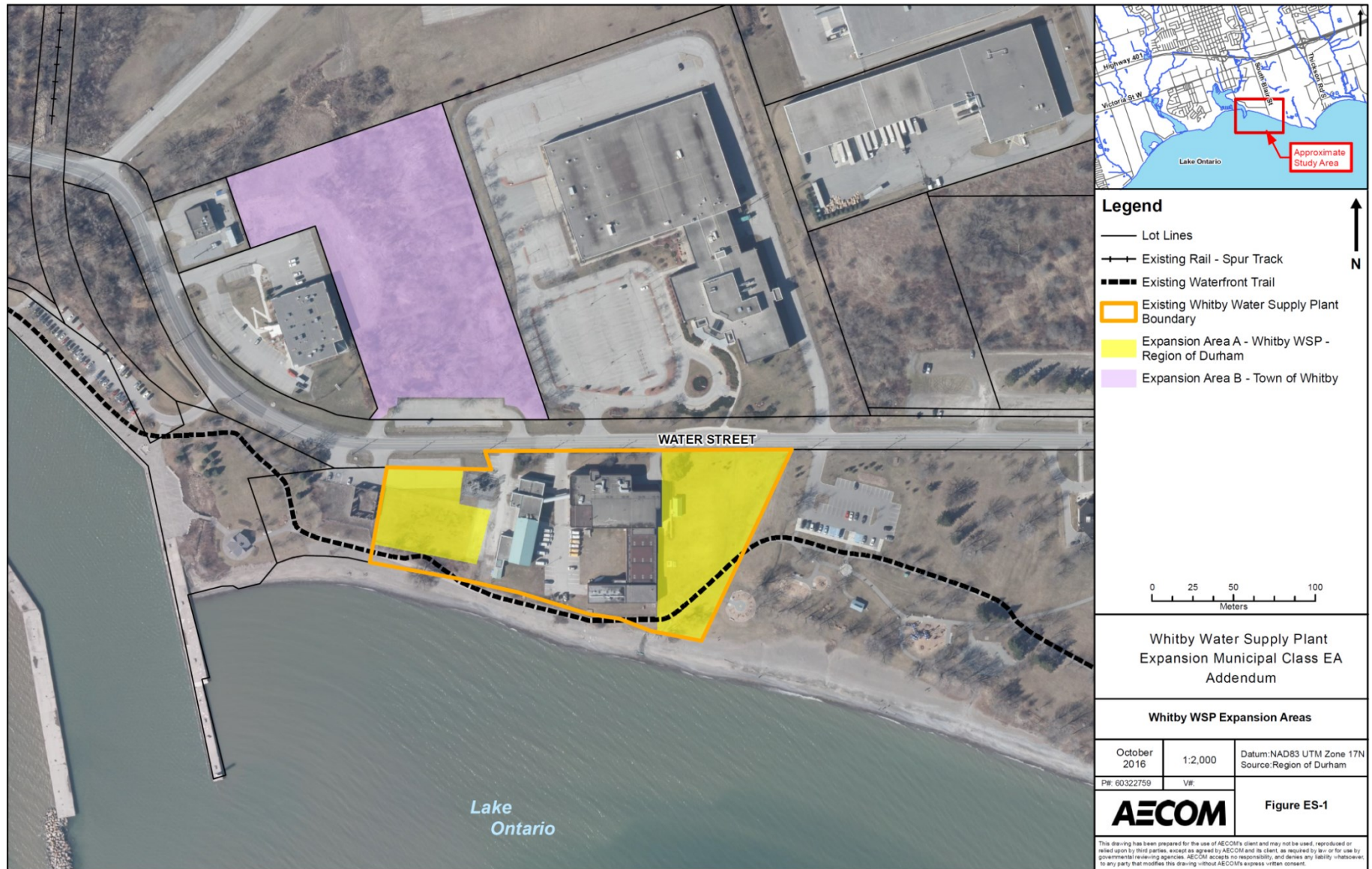
Background

In 2005, the Region completed a Municipal Class EA Environmental Study Report (ESR) for Additional Water Supply Plant Capacity for the Whitby / Oshawa / Courtice Urban areas. The ESR recommended an expansion of the Whitby WSP necessary to meet planned growth. The study followed the Schedule C planning process as outlined in the Municipal Engineers Association (MEA) Municipal Class EA document (October 2000). It evaluated a number of alternative solutions including on-site and off-site WSP expansion options. The preferred 2005 expansion alternative was Expansion Area B - New site north of Water Street, which is owned by the Town of Whitby. Refer to **Figure ES-1**.

Due to lower water demands and construction issues on the north side of Water Street, the Region is now proposing to expand the existing WSP within the existing property limits. This represents a significant change from what the original 2005 ESR proposed. Based on the change and that the project did not proceed to construction within five (5) years¹ of filing the study, an EA addendum has been completed to review the planning and design process and the current environmental setting. This will ensure that the project and the mitigation measures are still valid given the current planning context.

1. This Class EA Addendum is following the current Municipal Class EA October 2000, as amended in 2007, 2011 and 2015) and as such, the 10 year lapse of time now applies. The 2005 ESR followed the MEA 2000 Municipal Class EA document which at that time specified a five (5) year lapse of time trigger.

Figure ES-1 WSP Expansion Area (2005 ESR)



Problem/Opportunity Statement

The Phase 1 problem/opportunity statement was updated as follows.

Approved and planned growth within the Whitby WSP service area requires additional municipal water treatment capacity and associated infrastructure to meet projected population and flow demands. Treatment upgrades are also required to meet future regulations while addressing Lake Ontario raw water quality concerns.

The proposed expansion and upgrades will improve how the Whitby WSP operates. The existing Industrial Raw Water Supply system at the Whitby WSP site will also be reviewed.

Upgrade/Expand Whitby WSP – Expansion Area A

The Class EA Addendum reviewed the original 2005 Class EA Phase 2, Preliminary Screening alternative solutions evaluation. The following alternative solutions were considered during Phase 2, Preliminary Screening as described in Section 5.1 of the 2005 ESR:

- Do Nothing;
- Limit Community Growth;
- Demand Management;
- Expand/Upgrade existing WSPs; and
- Supplement supply from Ajax/Pickering water system; and Develop new WSP.

After the preliminary screening of the alternatives the only viable long term solutions were:

- Alternative 1: Upgrade/Expand Whitby WSP;
- Alternative 2: Upgrade/Expand Oshawa WSP; and
- Alternative 3: Supplement Supply from Ajax/Pickering water system.

A detailed evaluation of the above alternatives was completed that looked at the technical, natural, social and economic environment. The preferred Phase 2 solution was to Upgrade/Expand the Whitby WSP as described in Section 5.6 of 2005 ESR.

In support of the preferred solution, two alternative expansion areas were identified and evaluated (See Section 6.7 of 2005 ESR):

- Expansion Area A: Existing WSP site (owned by Durham Region); and
- Expansion Area B: New site north of Water Street (owned by Town of Whitby) located across from the current WSP.

As previously noted, the preferred expansion alternative in the 2005 ESR was Expansion Area B - New site north of Water Street (refer to **Figure ES-1**).

The Class EA Addendum review of the 2005 Class EA Phase 2 alternative solutions evaluation, as outlined above, confirmed that expanding the Whitby WSP is preferred for the following reasons:

- Expansion of Oshawa WSP may require additional intake capacity and land area for new treatment facilities; and
- Expansion of Ajax WSP is not recommended due to the allocation of Ajax WSP capacity to planned growth in Ajax and Pickering. This also considers the size of future transmission infrastructure between Ajax and Whitby (requirement for larger pipes).

With respect to Expansion Area B, the Class EA Addendum review of the 2005 Class EA determined that expansion of the Whitby WSP on the **north side** of Water Street has constructability issues that were not known at the time of the 2005 ESR. The north side can be avoided given available lands at the existing Whitby WSP site that can service new population projections and flow demands.

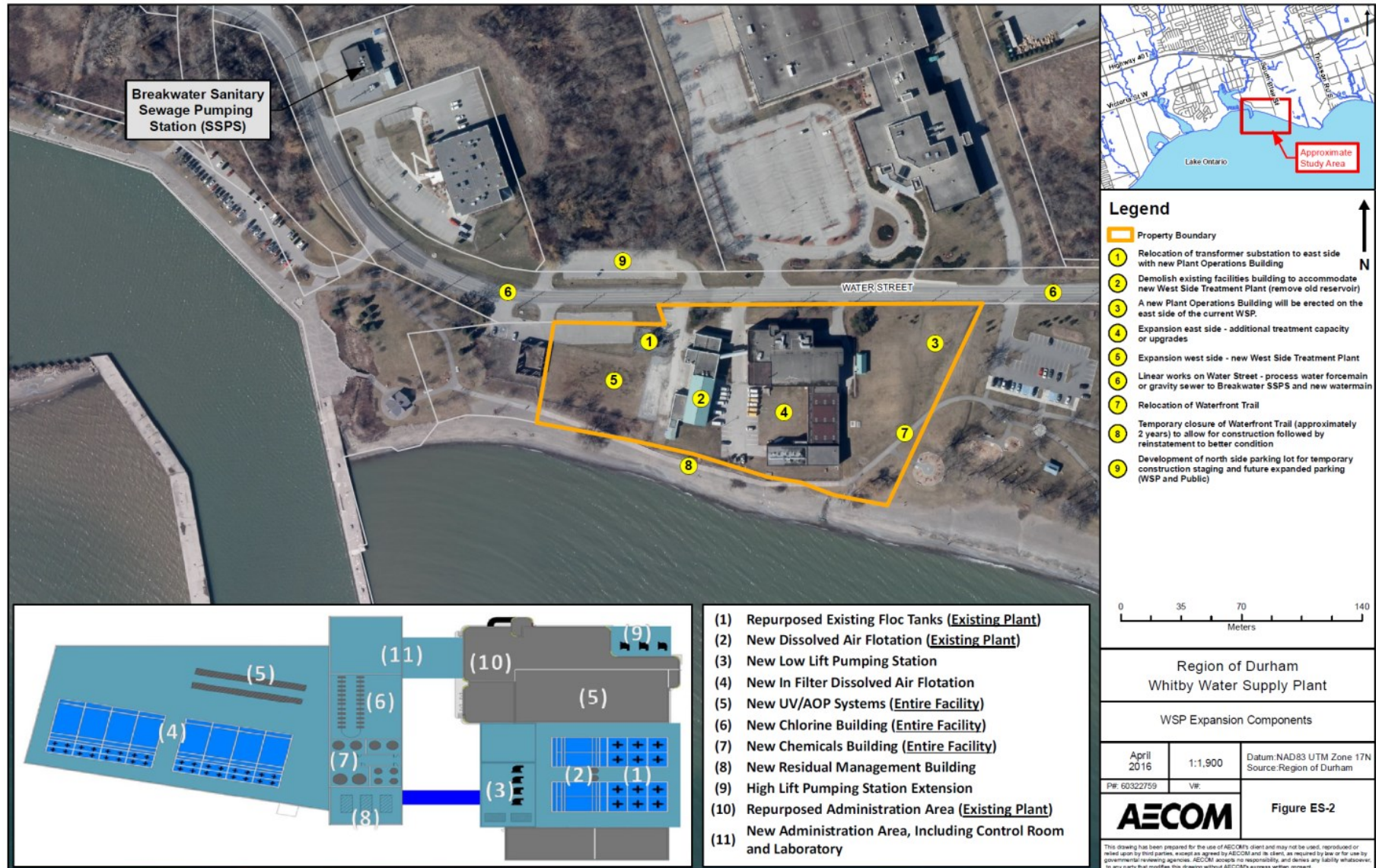
As such, expansion on the **south side** of Water Street (**original 2005 – Expansion Area A**), within the current Durham Region WSP property limits is now the preferred Phase 2 solution and focus of this Class EA Addendum.

WSP Treatment Technology and Expansion Components

The 2005 ESR assumed that the WSP expansion would be based on conventional treatment process, which is currently in place at the existing Whitby WSP. The preferred treatment technology for the proposed WSP expansion (Site A) is Dissolved Air Flotation (DAF). The DAF treatment process followed by Ultraviolet (UV) Disinfection with seasonal UV Advanced Oxidation Process (UV/AOP) provides further additional protection removing algae to protect media filters and reduce the release of algal toxins within the treatment plant and finished water. DAF and UV/AOP will also be applied to the existing WSP.

Proposed WSP expansion components are illustrated in **Figure ES-2** on the following page.

Figure ES-2 WSP Expansion Components



Recommended Mitigation Measures and EA Commitments

Impacts related to the WSP expansion will be limited to the duration and location of construction, as well as WSP operations. Construction is expected to have varying minor environmental effects all of which can be mitigated by standard construction and best management practices. Impacts from WSP operations primarily relate to visual impact of the new buildings in the context of the Waterfront Trail – Heydenshore Park, surrounding land uses and the old stone pump house which is planned to be repurposed for a restaurant. Specific to how the new WSP is integrated with the waterfront, the Region recognizes that this project needs to incorporate design elements into the proposed Whitby WSP expansion project that respects and enhances the surrounding land uses as well as the waterfront. As per Durham Region's December 5th 2017 letter to the Town of Whitby (refer to **Appendix E2**), the Region commits to complete a design charrette process following the completion of filing the EA Addendum and conclusion of the 30 public review period.

Other potential impacts to be addressed include climate change mitigation and adaptation. As the project moves through the detailed design process the Region will work closely with the Town to develop mitigation strategies as discussed in **Section 7.3** and **Appendix C3**. These measures will be confirmed and defined during detailed design and preparation of tender documents.

Communications and Consultation Overview

As part of the Class EA Addendum process, several steps have been undertaken to inform government agencies, affected landowners, the local community and the general public of the project and to solicit comments. The following methods were employed throughout the project:

- Publication of newspaper notices for all project milestones, including Notices of Study Commencement and Public Information Centre #1 (PIC), PIC #2 and Completion;
- Direct mailing of project milestone notices to stakeholders, affected land owners and review agencies;
- Holding two (2) PIC's to engage and obtain input from the public, review agencies and stakeholders; and
- Forming a Region-Town working group where individual meetings were added with the Town of Whitby to explain the project and receive input. This included reviewing the conceptual design and minimizing impacts while identifying opportunities for enhancements and infrastructure coordination.