

Appendix A5
Socio-Economic and Land Use
Characteristics Assessment





**Addendum to Oshawa to
Bowmanville Rail Service
Extension
Environmental Project
Report: Socio-Economic
and Land Use
Characteristics
Assessment**

Final

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Addendum to Oshawa to Bowmanville Rail Service Extension Environmental Project Report: Socio-Economic and Land Use Characteristics Assessment

Limitations and Sign-off

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Addendum to Oshawa to Bowmanville Rail Service Extension Environmental Project Report: Socio-Economic and Land Use Characteristics Assessment

Executive Summary

Stantec Consulting Ltd. (Stantec) was retained by Metrolinx, an agency of the Province of Ontario, to complete a Socio-Economic and Land Use Characteristics Assessment for the Oshawa to Bowmanville Rail Service Extension Project (the Project), formerly referred to as the Oshawa to Bowmanville Rail Service Expansion Project in the 2011 Environmental Project Report (EPR). The Project is located in the City of Oshawa and Municipality of Clarington, within the Region of Durham Ontario.

The purpose of this report is to document existing socio-economic and land use conditions, assess the potential negative effects of the Project, and recommend mitigation and monitoring measures for these effects. The environmental effects of the Project will be assessed following the Transit Project Assessment Process (TPAP), as prescribed in Ontario Regulation (O. Reg.) 231/08 under the *Environmental Assessment Act*. As part of the TPAP, an EPR Addendum will be provided for public review. This Socio-Economic and Land Use Characteristics Assessment will support the impact assessment documented in the EPR Addendum.

A Socio-economic and Land Use Characteristics Study Area (Study Area) was identified based on the footprint of the Project plus a 500 m buffer around the Project Footprint, representing the highest potential for direct or indirect effects to the socio-economic environment and land use characteristics.

The Project is located within the Greater Golden Horseshoe (GGH) region. Prepared and approved under the *Places to Grow Act*, 2005, the vision of *A Place to Grow: Growth Plan for the Greater Golden Horseshoe, 2020* (The Growth Plan) is to build stronger, prosperous communities by better managing growth in the region. The Study Area is south of the Downtown Oshawa Urban Growth Centre (UGC) and east of the Lakeshore East Rail Corridor priority transit corridor. The implementation of transit-related goals identified in the Growth Plan is supported by Metrolinx.

Neighbourhoods within the Study Area generally experienced population growth from 2011 to 2016. Single-detached dwellings make up the majority of the housing stock in both the City of Oshawa and Municipality of Clarington. Existing land uses within the Study Area include residential, commercial, industrial, prime agricultural, institutional, and recreational uses.

The general visual character of the Study Area varies between urban/suburban with some park land through Oshawa which transitions to agricultural lands through Courtice and Darlington. The visual character changes back to urban/suburban through Bowmanville. The Study Area has level topography, with some areas of slight elevation. The Study Area includes a number of watercourses such as Darlington Creek, Harmony



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Creek, and Tooley Creek. The Study Area also includes prominent natural features such as McLaughlin Bay Wildlife Reserve and Darlington Provincial Park.

Several utilities run adjacent to or underneath the existing rail corridor throughout the Study Area. Existing utilities include watermains, sanitary sewers, storm sewers, pipelines, gas lines, hydro lines, street lighting, and communications.

An assessment of effects related to land use and property, built form and visual characteristics, and utilities was conducted for this report. As summarized below, the Project will result in temporary effects during construction and long-term or permanent effects during operations.

To accommodate the Project, some permanent property acquisition is expected for properties fronting the proposed Project Footprint. Temporary easements or property acquisitions are also proposed for the construction period. Proposed temporary and permanent property acquisitions are based on the current design concept; however, specific property requirements will be determined during the detailed design stage, should there be any deviations from the conceptual design, and discussions with the affected property owners will also be undertaken.

Temporary nuisance effects, most notably noise, vibration, and dust are expected during construction. Once the Project is operational, increased train traffic is expected to generate more frequent noise, dust, and vibration effects along the rail corridor.

Construction activities will temporarily affect the viewsheds of nearby properties within close proximity to the Project Footprint. New project infrastructure including trackwork, new or expanded bridges, retaining walls, and multi-use crossings will be visible from nearby properties during operations. While new or expanded bridges are expected to be wider than existing bridges to accommodate the new trackwork, the new bridge profiles are expected to be similar to existing conditions when viewed from a distance.

New structures and trackwork may conflict with utility corridors fronting and intersecting the Project Footprint, requiring utility realignments and relocations.

The Project conditions are consistent with the provincial, regional, and municipal land use policies, which promote efficient and resilient land use plans through an increase in density and mix of uses that support integrated public transit. Expanded rail service will provide passengers with more direct connections to the larger GO Transit network, helping to reduce congestion while connecting people to education and job opportunities. Overall, the Project will allow for expanded rapid transit and future urban development in the region. With the implementation of proposed mitigation measures, socio-economic and land use effects during construction are anticipated to be short term and limited to the Study Area. Operational effects will be mitigated to the extent feasible through design and consultation with impacted property owners.



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Abbreviations

CP	Canadian Pacific
DC Oshawa GO	Durham College Oshawa GO
EPR	Environmental Project Report
GGH	Greater Golden Horseshoe
GIS	Geographic Information System
GO	GO Transit
GTHA	Greater Toronto and Hamilton Area
MMAH	Ministry of Municipal Affairs and Housing
PPS	Provincial Policy Statement
SGA	Strategic Growth Area
TMP	Transportation Master Plan
TPAP	Transit Project Assessment Process
UGC	Urban Growth Centre



Addendum to Oshawa to Bowmanville Rail Service Extension Environmental Project Report: Socio-Economic and Land Use Characteristics Assessment

Introduction
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1.0 Introduction

Stantec Consulting Ltd. (Stantec) was retained by Metrolinx, an agency of the Province of Ontario, to complete a Socio-Economic and Land Use Characteristics Assessment for the Oshawa to Bowmanville Rail Service Extension Project (the Project) formerly referred to as the Oshawa to Bowmanville Rail Service Expansion Project in the 2011 Environmental Project Report (EPR). The Project is located in the City of Oshawa and Municipality of Clarington, within the Region of Durham Ontario.

All-day rail service currently operates on the Lakeshore East Rail Corridor between Union Station in Downtown Toronto and the Durham College Oshawa GO (DC Oshawa GO) Station¹. The Lakeshore East Rail Corridor extension from Oshawa to Bowmanville was originally identified as one of 52 rapid transit improvements and expansion projects in the *MoveOntario* 2020 plan, Ontario's multi-year \$17.5 billion rapid transit action plan for the Greater Toronto and Hamilton Area (GTHA). More recently, the expansion initiative was supported through the Initial Business Case Update (Metrolinx 2020) and a preferred alignment option was selected.

The Oshawa to Bowmanville Rail Service Expansion and Rail Maintenance Facility EPR was completed in 2011, in accordance with the Transit Project Assessment Process (TPAP) outlined in Ontario Regulation (O. Reg.) 231/08 – Transit Projects and Metrolinx Undertakings, to assess Metrolinx's plan to expand GO Transit (GO) rail services from Oshawa to Bowmanville utilizing the Canadian Pacific (CP) Rail corridor.

Since the completion of the 2011 EPR, Metrolinx has advanced the design of the rail extension project, including updates to the alignment and infrastructure needs of the Project. As outlined in Section 15 (1) of O. Reg. 231/08, if a proponent wishes to make a change to a transit project that is inconsistent with a completed EPR, an addendum to the EPR must be prepared. In addition, as per Section 16 of O. Reg. 231/08, should a project not commence within 10 years of the Statement of Completion, a review of the project documentation is required. The Statement of Completion for the 2011 EPR is dated April 13, 2011 and more than 10 years has lapsed since the filing of this document.

¹ In October 2022, Metrolinx announced that the Oshawa GO Station has been renamed Durham College Oshawa GO. Therefore, throughout the EPR Addendum and this Project, the Oshawa GO Station is referred to as Durham College Oshawa GO, or DC Oshawa GO.



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The current Project includes the extension of GO rail service from the DC Oshawa GO through to Bowmanville, with four new proposed GO stations. The following Project components (see Figure 1.1) are proposed to be located on or adjacent to the rail corridor between approximately the DC Oshawa GO and Bowmanville Avenue in the Municipality of Clarington (i.e., GO Subdivision Mile 11.67 in the west to CP Belleville Subdivision Mile 164.8 in the east):

- Tracking and supporting track infrastructure:
 - Proposed new track within the existing GO Lakeshore East Rail Corridor at the western limit of the Project, crossing Highway 401 via the existing General Motors (GM) Spur bridge. A new bridge will be constructed adjacent to the existing GM Spur bridge for the proposed realigned CP Rail track. The new GO track will extend north to the existing CP Rail corridor, ending at Bowmanville Avenue.
 - Retaining walls and grading to support track infrastructure
- Proposed GO station locations in proximity to:
 - Fox Street (B1 Thornton's Corners East)
 - Front Street (B2 Ritson)
 - Courtice Road (B3 Courtice)
 - Bowmanville Avenue (B4 Bowmanville)
- New bridges at the following locations:
 - Highway 401
 - GM Spur
 - Oshawa Creek
 - Wilson Road
 - Farewell Creek
 - Harmony Creek
 - Green Road
- New multi-use crossing (bridge or tunnel, to be determined):
 - Front Street (Michael Starr Trail)
- Bridge replacements at the following locations:
 - Simcoe Street
 - Ritson Road



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- Farewell Street²
- Bridge removal at Albert Street
- Bridge expansions at the following locations:
 - DC Oshawa GO (pedestrian bridge)
 - Stevenson Road
 - Park Road
 - Harmony Road
 - Courtice Road
- Widening of at-grade crossings to accommodate GO track(s) at the following locations:
 - Bloor Street
 - Prestonvale Road
 - Private crossing for Dom's Auto
 - Trulls Road
 - Baseline Road (two crossings)
 - Rundle Road
 - Holt Road
 - Private crossing west of Maple Grove Road
 - Maple Grove Road

An EPR Addendum is being undertaken to document the changes to the transit project based on refinements to the design approach identified in the EPR, and to consider relevant updates to environmental conditions since the completion of the EPR in 2011.

² Multi-use bridge only. Multi-use bridges can be used by pedestrians and cyclists crossing the rail corridor.



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1.1 Purpose of this Report

Metrolinx is conducting preliminary planning studies and developing a conceptual design for the Project. Potential environmental effects of the Project are being assessed to meet the requirements of the *O. Reg. 231/08* and the Ontario *Environmental Assessment Act*. This Socio-Economic and Land Use Characteristics Assessment considers the potential effects resulting from construction and operations to land use and property, utilities, and built form and visual characteristics based on the proposed tracking and grading, GO stations, bridge expansions, bridge removal and upgrades to at-grade crossings and will be used to support the EPR Addendum.

An analysis of the effects to socio-economic and land use characteristics was conducted to support the EPR in 2011. A full technical report was not completed, and the assessment was included in the EPR. A new Socio-economic and Land Use Characteristics Assessment is being undertaken to update existing conditions information and assess the effects to socio-economic and land use characteristics based on the updated design of the Project.

1.2 Description of Construction and Operations Activities

1.2.1 Construction

Construction of the rail bridges will occur over several stages. Abutments and piers are built first, including pile foundations. The spans and deck are then constructed, followed by road surface, track, and track drainage.

Reconstructed road overpasses (i.e., Simcoe Street, Ritson Road) will require the demolition of the existing bridge prior to the construction of the new, longer span bridge.

Modification of existing road overpasses (i.e., Stevenson Road, Park Road, Harmony Road and Courtice Road) involves demolition of the existing south bridge abutment and construction of a new abutment along with associated retaining walls, if required based on site specific conditions.

At Albert Street, the existing bridge will be removed and the road closed in accordance with applicable standards and guidelines.

Construction of a new or replacement multi-use bridge would commence with the footings and piers for the bridge and the ramps. The bridge superstructure, consisting of a prefabricated steel truss, would be placed onto the piers by crane. The concrete decking for both the bridge and the ramps would then be placed, followed by railings and joint systems. For a multi-use tunnel, a staged construction would likely be required under the tracks with the tunnel constructed in two stages with a track protection system (shoring) between the stages. Excess soil removal would be required for the ramps and



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for tunneling beneath the rail corridor and retaining walls (final height dependent on design) would be required adjacent to the rail corridor.

Track construction starts with earthworks to build the subgrade and drainage. The track is assembled on the subgrade, following by ballasting and lifting to the final position.

Details regarding the construction of the GO station buildings and associated infrastructure are currently in development.

Affected utilities will be relocated and/or protected as required.

Road detours may be required to accommodate construction of bridges/overpasses and at-grade crossing widenings. Final construction sequencing will be determined during detailed design and is subject to change.

Activities associated with construction are described in Table 1.1. These activities have the potential to interact with the existing environment and are used to determine the potential environmental effects of the Project during construction (refer to Section 3.1.1.1, 3.2.1.1, and 3.3.1.1). Mitigation measures and monitoring requirements are described in Section 3.1.2.1, 3.2.2.1, and 3.3.2.1 Further refinements to the construction activities may be made as detailed design progresses.

Table 1.1: Anticipated Construction Activities

Activity	Description	Associated Equipment
Site Preparation	<ul style="list-style-type: none">• Delivery of equipment and materials to the laydown area• Removal of vegetation, buildings and infrastructure• Installation of erosion and sediment control measures• Installation of temporary fencing	<ul style="list-style-type: none">• Grading and grubbing equipment (if required)• Excavation equipment including backhoe, dump trucks, and soil removal equipment
Modifications to Utilities	<ul style="list-style-type: none">• Removal and realignment of the utilities as required• Encasement where needed for protection	<ul style="list-style-type: none">• Concrete pouring equipment• Excavation equipment including backhoe, dump trucks, soil removal equipment, jack hammers
Excavation and Grading	<ul style="list-style-type: none">• Excavation of soils• Grading, sloping and contouring• Grading of areas associated with track detours• Progressive excavation for retaining walls	<ul style="list-style-type: none">• Grading equipment• Excavation equipment including backhoe, dump trucks, and soil removal equipment



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Activity	Description	Associated Equipment
Construction of Bridges / Overpasses	<ul style="list-style-type: none"> • Installation of temporary and permanent barriers for track and road safety • Excavation and pile driving • Construction of new bridge / overpass and trackwork • Construction of sidewalks • Reconstruction of road (for overpasses) • Removal of temporary shoring and barriers 	<ul style="list-style-type: none"> • Small cranes • Pile driving rigs • Excavators, Backhoes, Loaders, Dump trucks. • Concrete mixer trucks • Truck cranes. • Bulldozers, Compaction rollers, Road rollers • Road paving machines
Bridge Removal at Albert Street	<ul style="list-style-type: none"> • Installation of permanent barriers for track and road safety • Removal of the existing overpass • Construction of road terminus segments 	<ul style="list-style-type: none"> • Small cranes • Excavators, Backhoes, Loaders, Dump trucks. • Concrete mixer trucks • Bulldozers, Compaction rollers, Road rollers • Road paving machines
Construction of a Multi-Use Bridge Crossing	<ul style="list-style-type: none"> • Removal of the existing crossing • Installation of appropriate foundations and piers • Assembly and launching of the main bridge structure • Installation of ramps and associated retaining walls (if necessary) 	<ul style="list-style-type: none"> • Pile driving rigs, cranes, concrete trucks • Excavator • Bulldozer
Construction of a Multi-Use Tunnel Crossing	<ul style="list-style-type: none"> • Removal of the existing crossing • Installation of retaining walls • Excavation (local areas with limited disturbance) • Installation of concrete caissons • Concrete work for tunnel construction 	<ul style="list-style-type: none"> • Backhoes, loaders, dump trucks, concrete trucks • Augering machines for caisson construction, concrete mixer trucks • Bulldozer, compaction rollers • Concrete pouring equipment
Temporary Lane Closures/Detours	<ul style="list-style-type: none"> • Temporary lane closures, realignments and detours • Lane closures will follow standard traffic control management guidelines 	<ul style="list-style-type: none"> • Temporary traffic control devices such as signs, signals, barriers, traffic barrels



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Activity	Description	Associated Equipment
Construction of Retaining Walls	<ul style="list-style-type: none"> Local excavations Installation of soldier piles and caissons Construction of cap beams and permanent struts where required Temporary struts where required and excavation to final track levels Installation of drive points and construction of facing between walls Track work and drainage Construction of exterior facing, drainage, and barriers (e.g., fencing) 	<ul style="list-style-type: none"> Backhoes, loaders, dump trucks Cranes for soldier pile installation, augering machines for caisson construction, concrete mixer trucks Bulldozer, compaction rollers
Laydown Areas	<ul style="list-style-type: none"> Designation of areas to be used for laydown of materials and construction staging As appropriate, use of gravel or other materials for the areas 	<ul style="list-style-type: none"> Grading and grubbing equipment (if required) Excavation equipment including backhoe, dump trucks, and soil removal equipment Generator for site trailers
Groundwater Dewatering	<ul style="list-style-type: none"> The need for dewatering during construction activities will be confirmed during detailed design 	<ul style="list-style-type: none"> Groundwater pumping
Management of Stormwater	<ul style="list-style-type: none"> During construction, stormwater management will follow best management practices and align with applicable standards, municipal standards and requirements, and regulatory requirements Surface flows will be discharged to municipal storm sewers Installation of erosion and sediment control measures 	<ul style="list-style-type: none"> Grading equipment

1.2.2 Operations

Operational activities associated with the Project are listed in Table 1.2.

These activities have the potential to interact with the existing environment and are used to determine the potential environmental effects of the Project during operations (refer to Section 3.1.1.2, 3.2.1.2, and 3.3.1.2). Mitigation measures and monitoring requirements are described in Section 3.1.2.2, 3.2.2.2, and 3.3.2.2. Further refinements to the operations activities may be made as detailed design progresses and during operations.



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Once modified (i.e., through relocation or encasement), the operations associated with utilities will revert back to the applicable owner and any potential effects associated with operations are not evaluated in this report.

Table 1.2: Anticipated Operations Activities

Activity	Description
General Operations	Maintenance of the: <ul style="list-style-type: none">• rail bridges• multi-use crossings• retaining walls• drainage features (e.g., grading, culverts)• vegetation• snow clearing• debris/garbage clean-up• graffiti management• trespass control

1.3 Methodology

This Socio-Economic and Land Use Characteristics Assessment involved the collection of relevant planning and neighborhood information to characterize existing conditions. The effects assessment was based on this background information and the extent of temporary and permanent activities were qualitatively compared to existing uses to identify where project interactions may result in negative effects to existing uses or conditions.

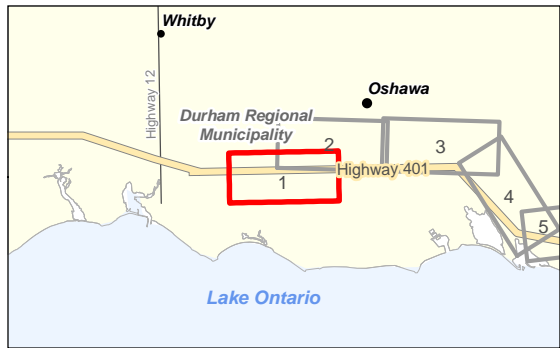
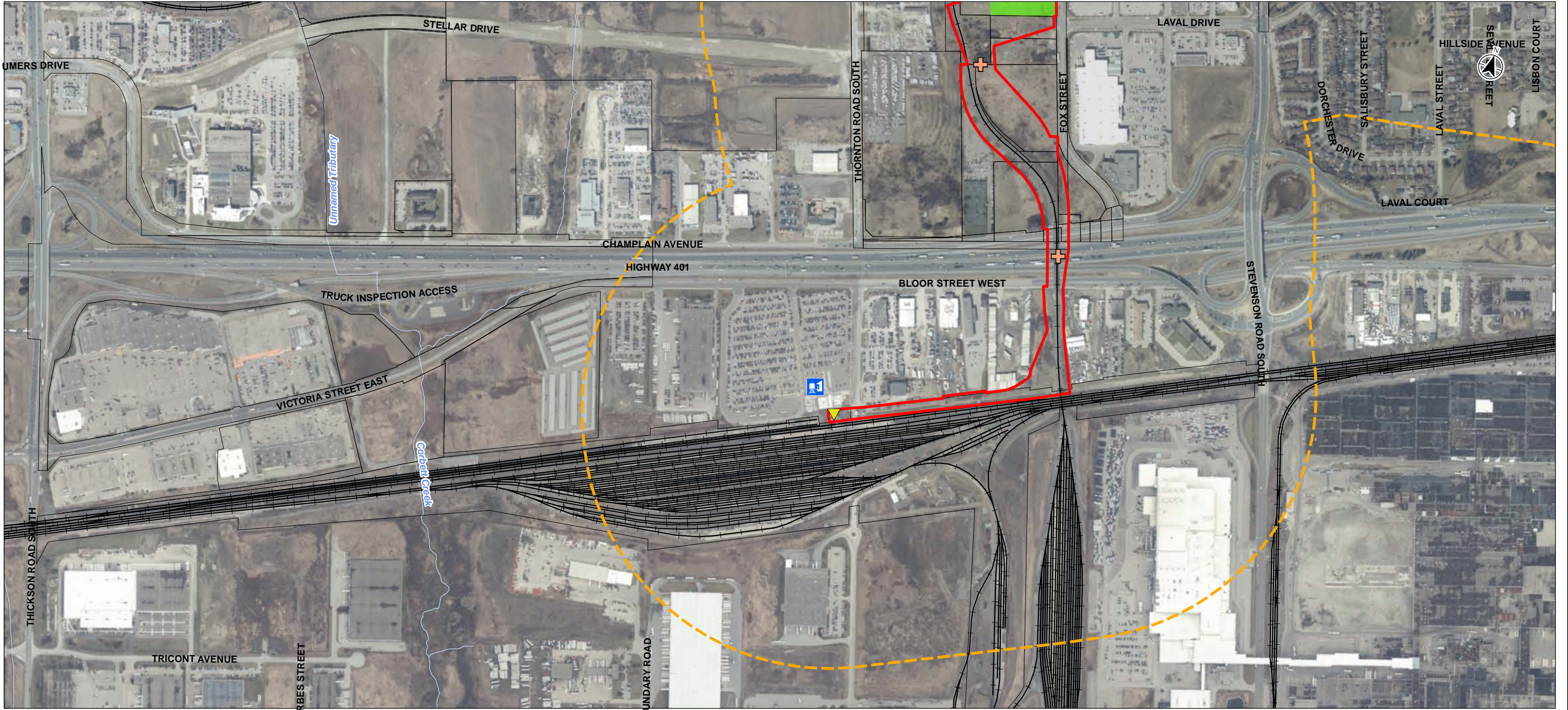
1.3.1 Study Area

A Socio-Economic and Land Use Characteristics Study Area (Study Area) has been identified based on the footprint of the Project (Figure 1.1). The Project Footprint includes the total area potentially affected by the proposed construction activities, and generally includes, but is not limited to new, replaced, expanded or removed bridges, new or expanded multi-use crossings, expanded at-grade road-rail crossings, road/rail detours, track realignments, new track, four new GO stations, retaining walls and barriers, utility realignments and temporary laydown or work areas for the Project.

The Study Area represents the geographical area within a 500 m buffer around the Project Footprint representing the highest potential for direct or indirect effects to the socio-economic environment and land use characteristics (Figure 1.1).













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Notes

1. Coordinate System: NAD 1983 CSRS MTM 10
2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © Queen's Printer for Ontario, 2018.
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- Legend**
-  Project Footprint
 -  Socio-Economic Study Area (500 m Buffer)
 -  Existing Durham College Oshawa GO Station
 -  Proposed Pedestrian Bridge Extension
 -  Proposed New Bridge
 -  Proposed GO Station Location
 -  Existing Railway
 -  Watercourse
 -  Waterbody
 -  Property Boundary



Project Location 165011019 REVA
Region Municipality of Durham Prepared by BCC on 2023-06-05
Technical Review by EFC on 2021-07-13

Client/Project
METROLINX
OSHAWA TO BOWMANVILLE RAIL SERVICE EXTENSION
PROJECT

Figure No.

1.1.1

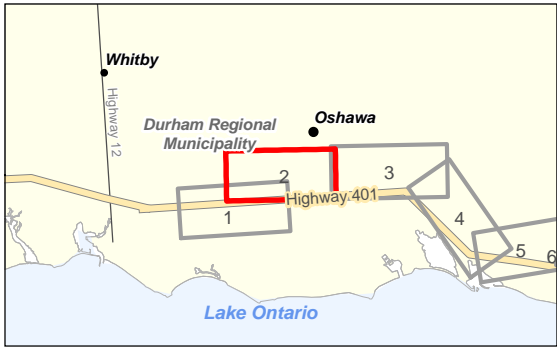
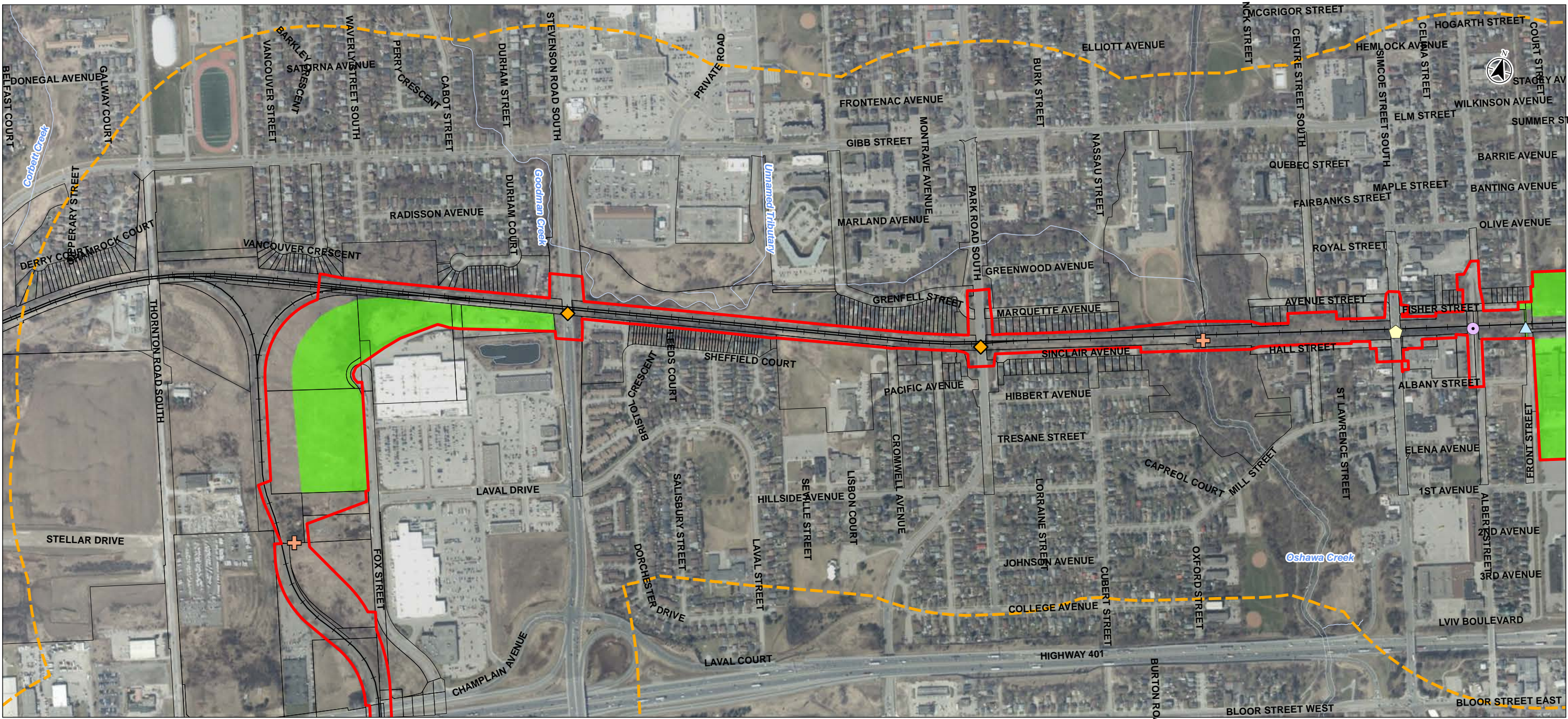
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**Socio-Economic and Land Use
Characteristics Study Area**

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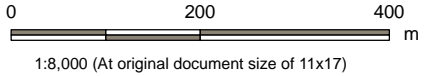
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Revised: 2023-06-05 By: bowmer



Notes
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- Legend**
- Project Footprint
 - Socio-Economic Study Area (500 m Buffer)
 - + Proposed New Bridge
 - ◆ Proposed Bridge Replacement
 - Proposed Bridge Removal
 - ▲ Proposed New Multi-Use Grade-Separated Crossing
 - ◆ Proposed Bridge Expansion
 - Proposed GO Station Location
 - + Existing Railway
 - Watercourse
 - Waterbody
 - Property Boundary





Project Location
Region of Durham Municipality of Durham

Client/Project
METROLINX
OSHAWA TO BOWMANVILLE RAIL SERVICE EXTENSION PROJECT

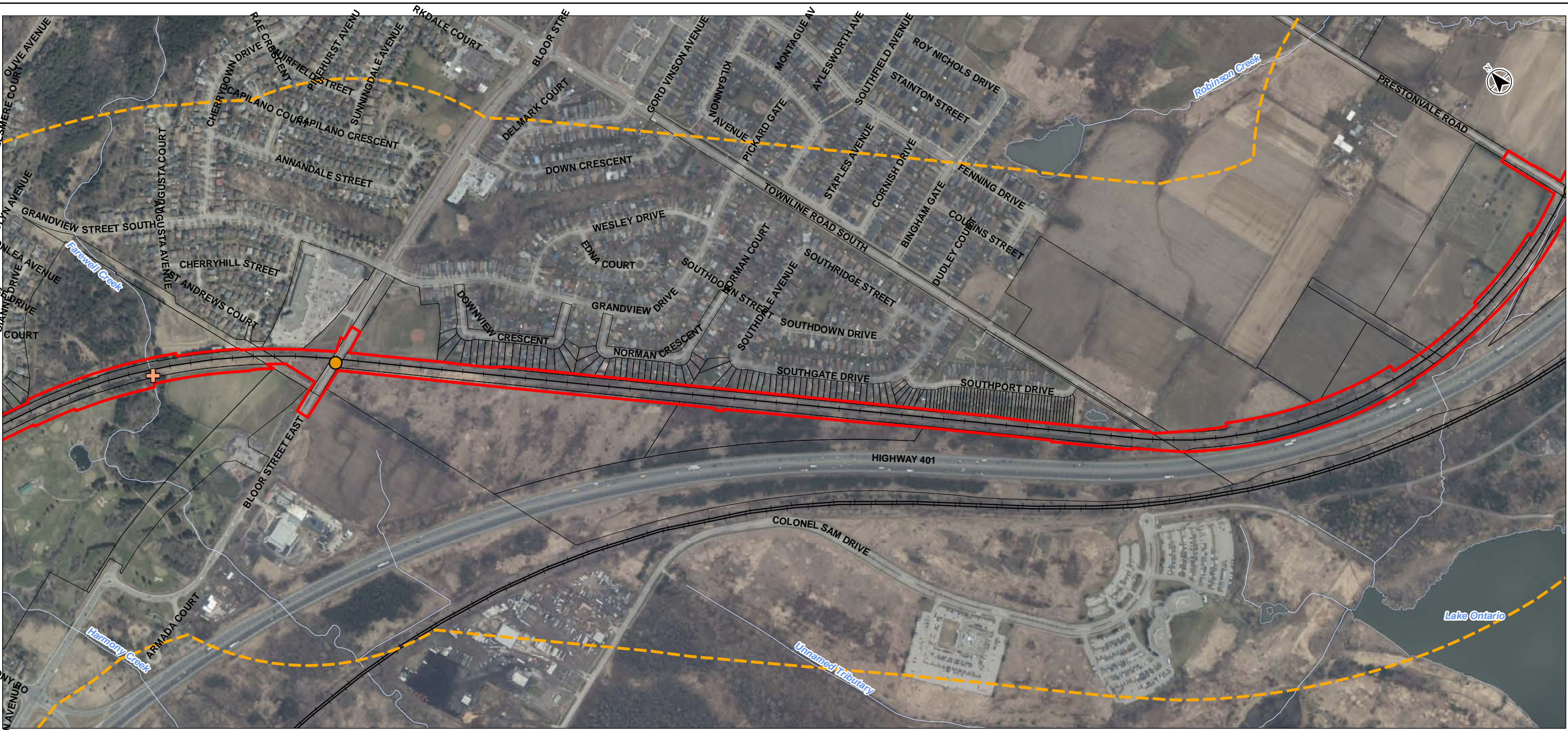
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1.1.2

Title
Socio-Economic and Land Use Characteristics Study Area

165011019 REVA
Prepared by BCC on 2023-06-05
Technical Review by EFC on 2021-07-13

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Revised: 2023-06-05 By: bowmer



- Legend**
- Project Footprint
 - Socio-Economic Study Area (500 m Buffer)
 - + Proposed New Bridge
 - Proposed Upgrades to At-Grade Crossing
 - Existing Railway
 - Watercourse
 - Waterbody
 - Property Boundary

Notes

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Project Location
Region of Durham
165011019 REVA
Prepared by BCC on 2023-06-05
Technical Review by EFC on 2021-07-13

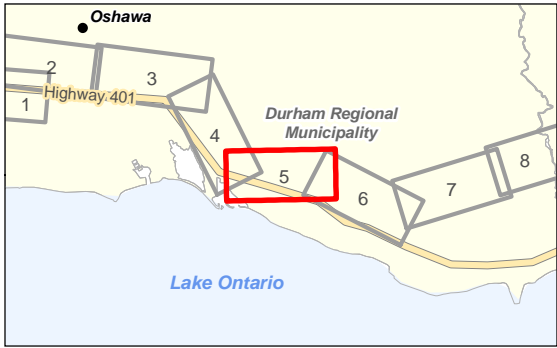
Client/Project
METROLINX
OSHAWA TO BOWMANVILLE RAIL SERVICE EXTENSION
PROJECT

Figure No.
1.1.4

Title
**Socio-Economic and Land Use
Characteristics Study Area**

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- Legend**
- Project Footprint
 - Socio-Economic Study Area (500 m Buffer)
 - Proposed Upgrades to At-Grade Crossing
 - Proposed Bridge Expansion
 - Proposed GO Station Location
 - Existing Railway
 - Watercourse
 - Waterbody
 - Property Boundary

Notes

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Project Location
Region of Durham
165011019 REVA
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Client/Project
METROLINX
OSHAWA TO BOWMANVILLE RAIL SERVICE EXTENSION
PROJECT

Figure No.
1.1.5

Title
**Socio-Economic and Land Use
Characteristics Study Area**

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- Legend**
- Project Footprint
 - Socio-Economic Study Area (500 m Buffer)
 - Proposed Upgrades to At-Grade Crossing
 - Proposed Bridge Expansion
 - Proposed GO Station Location
 - Existing Railway
 - Watercourse
 - Waterbody
 - Property Boundary

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Stantec

Project Location
Region of Durham

165011019 REVA
Prepared by BCC on 2023-06-05
Technical Review by EFC on 2021-07-13

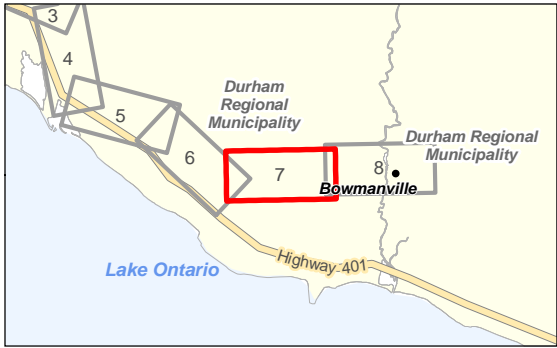
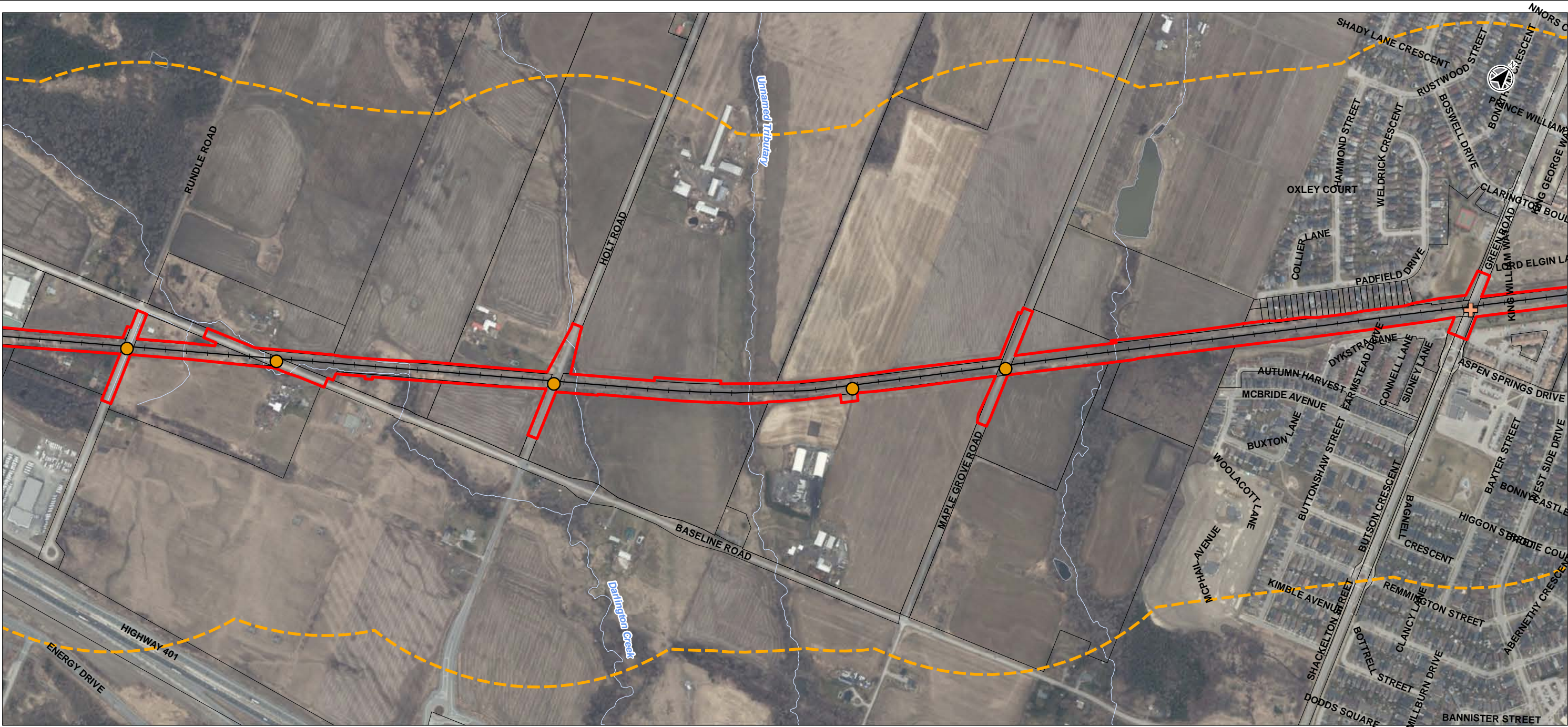
Client/Project
METROLINX
OSHAWA TO BOWMANVILLE RAIL SERVICE EXTENSION PROJECT

Figure No.
1.1.6

Title
Socio-Economic and Land Use Characteristics Study Area

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- Legend**
- Project Footprint
 - Socio-Economic Study Area (500 m Buffer)
 - + Proposed New Bridge
 - Proposed Upgrades to At-Grade Crossing
 - Existing Railway
 - Watercourse
 - Waterbody
 - Property Boundary

Notes

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Project Location 165011019 REVA
Region of Durham Prepared by BCC on 2023-06-05
Technical Review by EFC on 2021-07-13

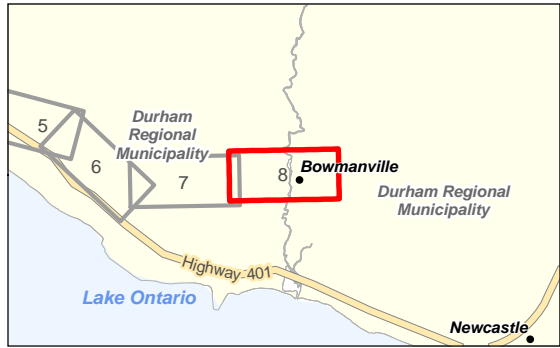
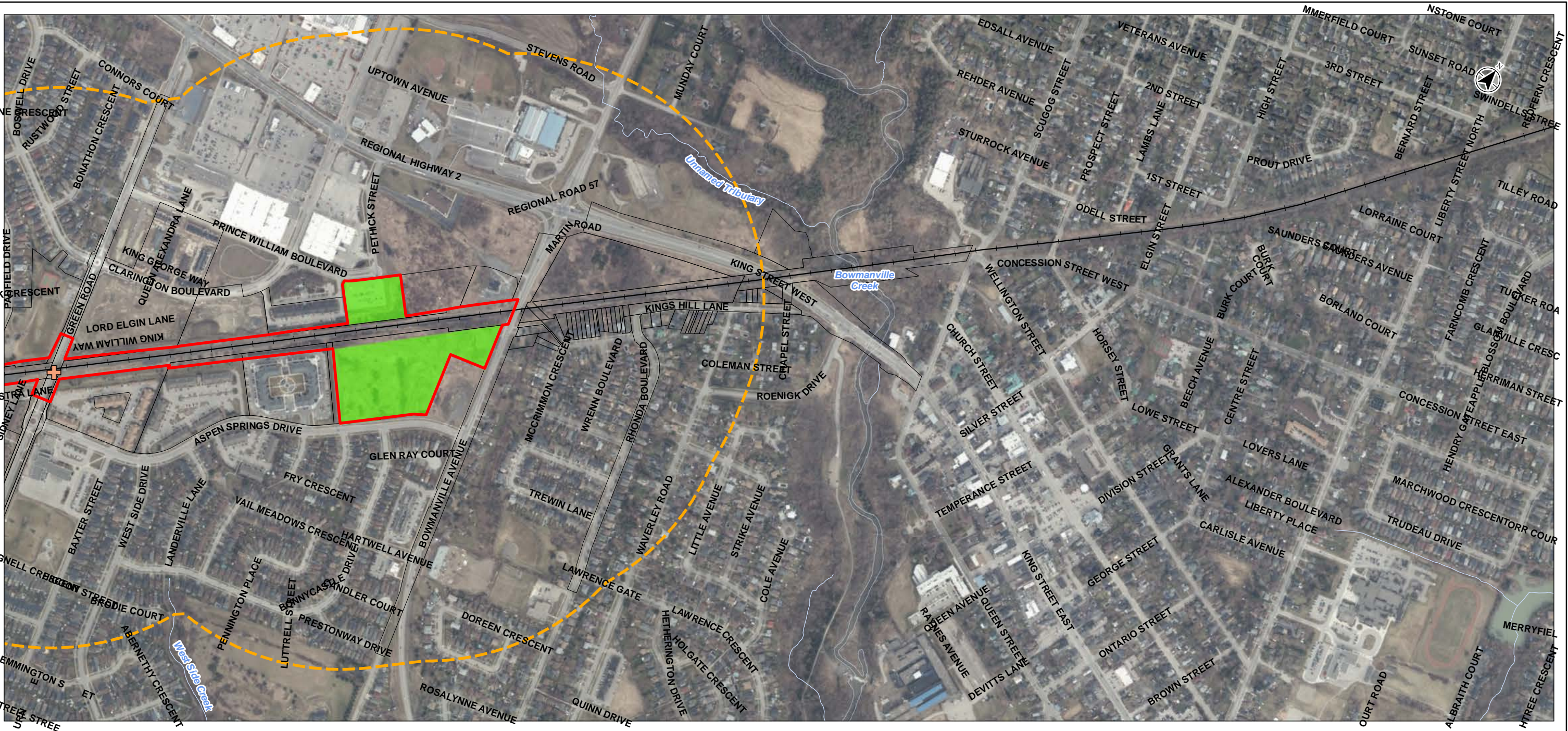
Client/Project
METROLINX
OSHAWA TO BOWMANVILLE RAIL SERVICE EXTENSION
PROJECT

Figure No.
1.1.7

Title
**Socio-Economic and Land Use
Characteristics Study Area**

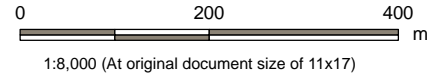
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Revised: 2023-06-05 By: bowmer



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- Legend**
- Project Footprint
 - Socio-Economic Study Area (500 m Buffer)
 - Proposed New Bridge
 - Proposed GO Station Location
 - Existing Railway
 - Watercourse
 - Waterbody
 - Property Boundary



Project Location
Region of Durham
165011019 REVA
Prepared by BCC on 2023-06-05
Technical Review by EFC on 2021-07-13

Client/Project
METROLINX
OSHAWA TO BOWMANVILLE RAIL SERVICE EXTENSION
PROJECT

Figure No.

1.1.8

Title

**Socio-Economic and Land Use
Characteristics Study Area**

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Addendum to Oshawa to Bowmanville Rail Service Extension Environmental Project Report: Socio-Economic and Land Use Characteristics Assessment

Introduction
September 25, 2023

1.3.2 Data Collection

Data collection methods, as described in the following subsections, were used to define the existing conditions within the Study Area, which were the basis for the impact assessment. Data collection focused on the compilation of information required to describe current and anticipated socio-economic and land use characteristics within the Study Area that may be affected by Project construction and operation, based on a desktop review and gap analysis of available information.

1.3.2.1 Desktop Review

Desktop review and analysis included both literature review and geographic information system (GIS) analysis of geospatial data. The reviewed literature included:

- Project documents and supporting studies (e.g., design drawings, and technical presentations)
- GO Expansion Program (GO Expansion Full Business Case; Metrolinx 2018a)
- 2041 Regional Transportation Plan (Metrolinx 2018b)
- Information on existing land uses found on the City of Oshawa Open Data Portal (City of Oshawa 2020)
- Provincial, Regional, and Municipal Plans, Legislation and Policy Statements
- Durham Region Official Plan (including land use maps, secondary plans, site and area specific maps, and special policy areas as relevant) (2020a)
- City of Oshawa Official Plan (including land use maps, secondary plans, site and area specific maps, and special policy areas as relevant) (2021a)
- Municipality of Clarington Official Plan (including land use maps, secondary plans, site and area specific maps, and special policy areas as relevant) (2018a)
- Development applications (from City of Oshawa and Municipality of Clarington)
- Statistics Canada Census information (Statistics Canada 2022, 2023a, 2023b)



Addendum to Oshawa to Bowmanville Rail Service Extension Environmental Project Report: Socio-Economic and Land Use Characteristics Assessment

Introduction
September 25, 2023

GIS-based overlay mapping and analysis tools were used to identify current and anticipated land uses within the Study Area. Geospatial data used in the analysis were obtained from the Regional Municipality of Durham and City of Oshawa Open Data Portals (Durham Region 2021a, City of Oshawa 2020). The following geospatial layers were reviewed:

- neighbourhood boundaries
- zoning by-laws
- development applications
- places of worship
- school locations
- GO station locations
- watercourses
- parks and recreation facilities
- fire services, paramedic and ambulance services, and police station locations

1.3.2.2 Gap Analysis of Available Data

Identified data gaps include the lack of geospatial information on privately-owned institutions and select land uses from the Regional Municipality of Durham and City of Oshawa Open Data Portals. Data gaps were resolved using publicly available geospatial services (e.g., Google Maps) and address listing databases (e.g., Yelp, YellowPages). Property counts were determined through a 500m overlay analysis of municipal address points within the Study Area.

No data requests or interviews with municipal or regional staff were completed; however, land use and development application information was received from the City of Oshawa and Municipality of Clarington.

1.3.2.3 Effects Assessment

Potential effects on socio-economic and land use characteristics within the Study Area were assessed for Project construction and operation (see Section 3.0). The potential for effects has been determined based on an understanding of the conceptual design³ and how construction and operation of the proposed Project will interact with the existing socio-economic and land use characteristics. Potential effects are assessed in consideration of impact pathways and assessment criteria are presented in Table 1.3.

³ A conceptual design defines the basic parameters of a project to illustrate feasibility but does not include the full details required to construct a project.



Addendum to Oshawa to Bowmanville Rail Service Extension Environmental Project Report: Socio-Economic and Land Use Characteristics Assessment

Introduction
September 25, 2023

The following analytical techniques were used in the assessment:

- GIS-based overlay mapping and analysis tools were used to identify potential interactions between the Project and existing and anticipated land uses.
- Potential effects on socio-economic and land use characteristics were described qualitatively in relation to Project construction and operation. Where appropriate, information and conclusions from supporting assessments (e.g., Noise/Vibration and Air Quality) were cross-referenced, summarized, and incorporated into the assessment.
- Project-facing viewpoint photographs and aerial images were qualitatively reviewed to inform the characterization of existing conditions and visual effects and aesthetic effects.

Table 1.3: Impact Pathways and Assessment Criteria

Phase	Socio-Economic/Land Use Characteristic	Impact Pathway(s)	Assessment Criteria
Construction	Land use and property	<ul style="list-style-type: none"> • Complete or partial acquisition of properties, change in property access, and the issuance of temporary easements¹ 	<ul style="list-style-type: none"> • Compatibility with existing and planned land use objectives and zoning • Number and description of affected properties and land uses
		<ul style="list-style-type: none"> • Physical works and activities 	<ul style="list-style-type: none"> • Qualitative description of nuisance effects
	Built form and Visual Characteristics	<ul style="list-style-type: none"> • Physical works and activities 	<ul style="list-style-type: none"> • Description of physical works and changes in baseline viewpoint conditions
	Utilities	<ul style="list-style-type: none"> • Physical works and activities 	<ul style="list-style-type: none"> • Number and description of affected utilities



Addendum to Oshawa to Bowmanville Rail Service Extension Environmental Project Report: Socio-Economic and Land Use Characteristics Assessment

Introduction
September 25, 2023

Phase	Socio-Economic/Land Use Characteristic	Impact Pathway(s)	Assessment Criteria
Operations	Land use and property	<ul style="list-style-type: none"> Project operations 	<ul style="list-style-type: none"> Description of nuisance effects
	Built form and Visual Characteristics	<ul style="list-style-type: none"> Presence of project infrastructure 	<ul style="list-style-type: none"> Viewpoint characteristics/ description Description of lighting conditions
	Utilities	<ul style="list-style-type: none"> Project operations 	<ul style="list-style-type: none"> Number and description of affected utilities

Where potential adverse effects are identified, mitigation measures are recommended in Sections 3.1.2, 3.2.2, and 3.3.2 to manage these effects.



Addendum to Oshawa to Bowmanville Rail Service Extension Environmental Project Report: Socio-Economic and Land Use Characteristics Assessment

Description of Existing Conditions

September 25, 2023

2.0 Description of Existing Conditions

This section describes planning policy, neighborhood profiles, municipal profiles, existing land use and development applications, built form and visual characteristics, and utilities within the Study Area. The following subsections are based on the background data collected and reviewed for the Project.

2.1 Planning Policy

This section provides a summary of the provincial, regional, and municipal planning context to which the Project is subject.

2.1.1 Provincial

2.1.1.1 Places to Grow Act, 2005

Recognizing that an integrated and coordinated decision-making process across all levels of government is required to build complete and strong communities, make efficient use of existing infrastructure, preserve natural and agricultural resources, and identify where and how growth should occur (e.g., determining priority infrastructure investments), the Government of Ontario passed the *Places to Grow Act, S.O. 2005, C.13 (Places to Grow Act, 2005, c.13, S. Preamble)*. The *Places to Grow Act, 2005* enables the Provincial Government to:

- Designate any geographic region of the province as a growth area with a specific focus.
- Develop growth plans in consultation with local officials, stakeholders, public groups, and members of the public and Indigenous communities for a particular region.
- Make decisions about growth in ways that increase and promote greater housing and transportation options, investments in regional public service facilities in downtown areas, and benefits from infrastructure investments in communities while balancing regional needs for farmland and natural areas.
- Identify provincially significant employment zones and set out policies that protect these employment areas as they are critical to the local and provincial economy (Ministry of Municipal Affairs and Housing (MMAH) 2013).



Addendum to Oshawa to Bowmanville Rail Service Extension Environmental Project Report: Socio-Economic and Land Use Characteristics Assessment

Description of Existing Conditions

September 25, 2023

Under the *Place to Grow Act, 2005* the Government of Ontario passed growth plans for Northern Ontario and the Greater Golden Horseshoe (GGH)⁴ Figure 2.1 provides an overview of the GGH growth plan area. The Study Area encompasses areas designated under the Growth Plan for the GGH.

Figure 2.1: Greater Golden Horseshoe Growth Plan Area



Source: MMAH. 2020a. 90. Schedule 1: Greater Golden Horseshoe Growth Plan Area [map]. Scale unknown, lines not to scale. Toronto, ON



Addendum to Oshawa to Bowmanville Rail Service Extension Environmental Project Report: Socio-Economic and Land Use Characteristics Assessment

Description of Existing Conditions

September 25, 2023

2.1.1.2 A Place to Grow: Growth Plan for the Greater Golden Horseshoe

Prepared and approved under the *Places to Grow Act, 2005*, *A Place to Grow: Growth Plan for the Greater Golden Horseshoe, 2020* (The Growth Plan), is a long-term planning document that is designed to promote economic growth, increase housing supply, create jobs, and build communities that make life easier, healthier, and more affordable for people of all ages (MMAH 2020a). Figure 2.2 provides an overview of the Growth Plan concept. The Greater Golden Horseshoe is one of the fast-growing regions in North America, making it a destination for many people and businesses. To accommodate such growth, the Growth Plan places a focus on investing in transit infrastructure to support the regional transit network. Intensification in Strategic Growth Areas (SGAs)⁵ should be prioritized to make efficient use of infrastructure and public transportation. Land use and infrastructure planning and investment should be integrated by all levels of government, and climate change should be addressed when planning and managing communities and infrastructure.

⁴ For the purpose of the GGH Growth Plan, the GGH is defined as growth area under the *Growth Plan Areas Regulation, O. Reg 416/05*, as comprising the following 16 geographic areas: Brant, Dufferin, Durham, Haldimand, Halton, Hamilton, Kawartha Lakes, Niagara, Northumberland, Peel, Peterborough, Simcoe, Toronto, Waterloo, Wellington, and York.

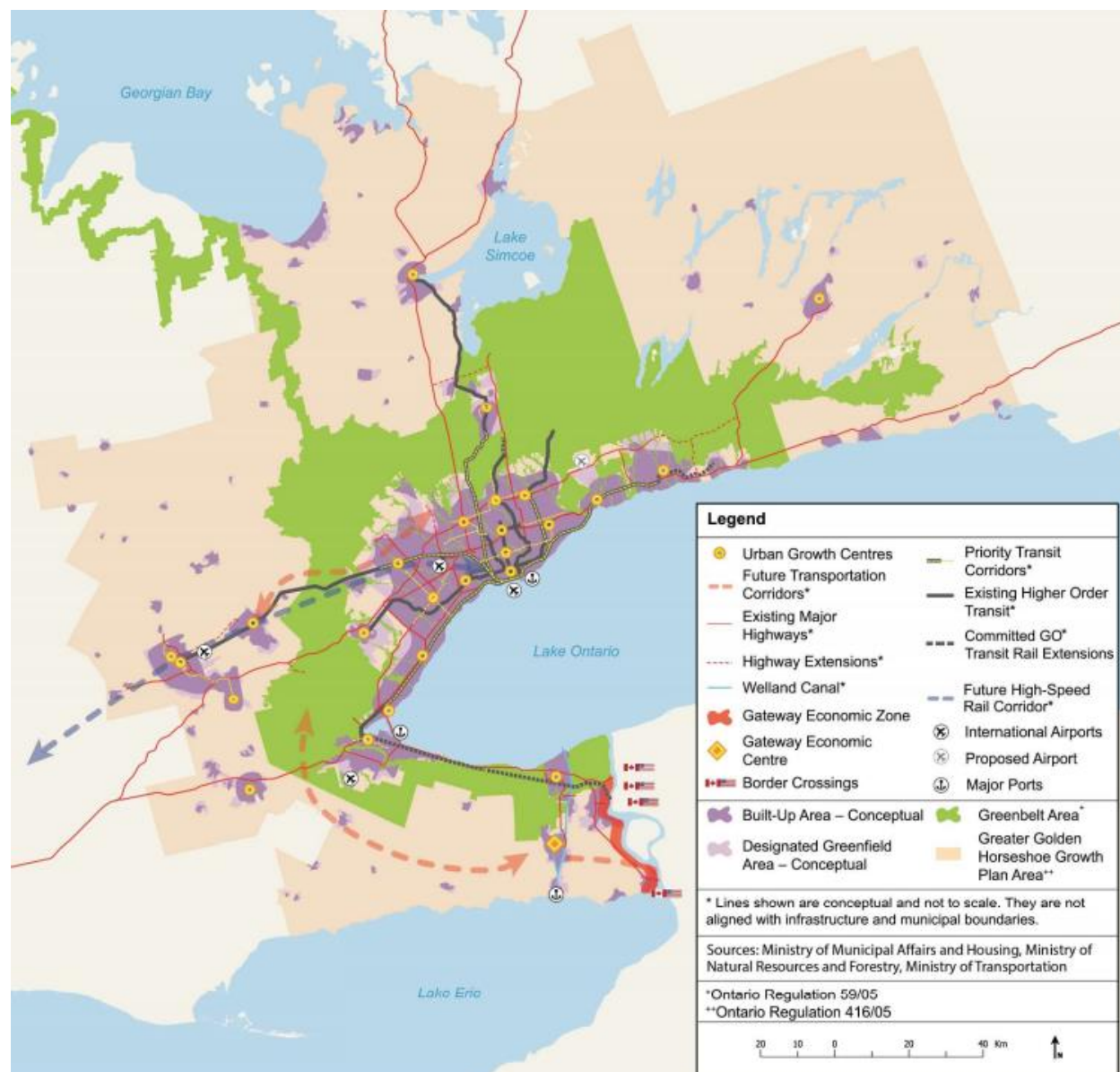
⁵ SGAs occur within settlement areas, nodes, corridors, and other areas that have been identified by municipalities or the Province to be the focus for accommodating intensification and higher-density mixed uses in a more compact built form. Strategic growth areas include urban growth centres, major transit station areas, and other major opportunities that may include infill, redevelopment, brownfield sites, the expansion or conversion of existing buildings, or greyfields. Lands along major roads, arterials, or other areas with existing or planned frequent transit service or higher order transit corridors may also be identified as strategic growth areas (MMAH 2020a, 86).



Addendum to Oshawa to Bowmanville Rail Service Extension Environmental Project Report: Socio-Economic and Land Use Characteristics Assessment

Description of Existing Conditions
September 25, 2023

Figure 2.2: A Place to Grow Concept



Source: MMAH. 2020a, 92. Schedule 2: A Place to Grow Concept [map]. Scale unknown, lines not to scale. Toronto, ON



Addendum to Oshawa to Bowmanville Rail Service Extension Environmental Project Report: Socio-Economic and Land Use Characteristics Assessment

Description of Existing Conditions

September 25, 2023

Carried forward from the 2006 Growth Plan, the 2020 Growth Plan continues to focus on SGAs and Urban Growth Centres⁶ (UGC) as long-term focal points for accommodating mixed-use, high-density, and public-transit oriented development (MMAH 2020a). The time horizon for land use planning established in the 2020 Growth Plan is 2051.

Specific to transportation, the 2020 Growth Plan establishes a regional vision for an integrated transit system and sets out to align growth with this vision through the implementation of minimum density targets for major transit station areas⁷, other SGAs, and UGCs (MMAH 2020a). The 2020 Growth Plan targets a minimum density of 200 residents and jobs combined per hectare for major transit station areas that are served by the GO rail network. The plan also identifies priority transit corridors where, in order to increase benefits from investments in higher-order transit⁸, it is expected that municipalities will complete detailed planning for major transit station areas (MMAH 2020a).

The Study Area is south of the Downtown Oshawa UGC and east of the Lakeshore East Rail Corridor priority transit corridor. The implementation of transit-related goals is supported by Metrolinx, a Crown agency of the Government of Ontario, with the mandate to expand transit through the Greater Toronto and Hamilton Area (GTHA) (Metrolinx 2019).

2.1.1.3 Provincial Policy Statement, 2020

The Provincial Policy Statement (PPS), 2020 sets out the Province's land use vision for how we settle our landscape, create our built environment, and manage our land and resources over the long-term to achieve livable and resilient communities. One of the primary goals of the PPS is building strong healthy communities which is achieved by managing and directing land use to achieve efficient and resilient development and land use patterns.

⁶ UGCs include: Downtown Peterborough, Downtown Barrie, Newmarket Centre, Downtown Oshawa, Downtown Pickering, Markham Centre, Scarborough Centre, Richmond Hill Centre/Langstaff Gateway, North York Centre, Yonge-Eglinton Centre, Downtown Toronto, Vaughan Metropolitan Centre, Etobicoke Centre, Downtown Brampton, Downtown Mississauga, Downtown Guelph, Downtown Milton, Milton Oakville, Uptown Waterloo, Downtown Kitchener, Downtown Cambridge, Downtown Burlington, Downtown Hamilton, Downtown Brantford, Downtown St. Catharines (MMAH 2019).

⁷ Included as a form of SGA, major transit station areas are generally defined as the area within an approximate 500 to 800 metre radius of a transit station, representing about a 10-minute walk (MMAH 2019, 75).

⁸ Transit that generally operates in partially or completed dedicated rights-of-way, outside of mixed traffic. Forms include subways, inter-city rail, light rail, and buses in dedicated rights-of-way (MMAH 2019, 73).



Addendum to Oshawa to Bowmanville Rail Service Extension Environmental Project Report: Socio-Economic and Land Use Characteristics Assessment

Description of Existing Conditions
September 25, 2023

The Province seeks to promote a mix of residential housing types that are affordable and market-based alongside employment, institutional, recreational, and other land uses that meet the long-term needs of communities (MMAH 2020). The PPS also seeks to optimize investments in transportation by integrating land use planning with growth management, transit-supportive development, intensification, and infrastructure planning.

The PPS provides direction for designing transportation systems. Section 1.6.7.1 of the Provincial Policy states that “transportation systems should be provided which are safe, energy efficient, facilitate the movement of people and goods, and are appropriate to address projected needs” (MMAH 2020, 20). Connections within and among transportation systems should be maintained and improved where possible to reduce the length and number of vehicle trips while increasing the future use of public and active transportation.

2.1.2 Regional

2.1.2.1 The Big Move: Transforming Transportation in the Greater Toronto and Hamilton Area

Metrolinx completed a Regional Transportation Plan for the GTHA in 2008 entitled *The Big Move: Transforming Transportation in the Greater Toronto and Hamilton Area*. This study states that the future vision for transportation in the Region includes:

- A high quality of life. Our communities will support healthy and active lifestyles, with many options for getting around quickly, reliably, conveniently, comfortably and safely.
- A thriving, sustainable and protected environment. Our transportation system will have a low carbon footprint, conserve resources, and contribute to a legacy of a healthy and clean environment for future generations.
- A strong, prosperous and competitive economy. Our region will be competitive with the world’s strongest regions. Businesses will be supported by a transportation system that moves goods and delivers services quickly and efficiently.



Addendum to Oshawa to Bowmanville Rail Service Extension Environmental Project Report: Socio-Economic and Land Use Characteristics Assessment

Description of Existing Conditions

September 25, 2023

2.1.2.2 2041 Regional Transportation Plan

The 2041 Regional Transportation Plan (2041 RTP) for the GTHA builds upon Metrolinx' 2008 transportation plan, 'The Big Move', and identifies the process through which governments and transit agencies will work to create an integrated, multi-modal regional transportation system that serves the need of residents, businesses and institutions (Metrolinx 2018b). The 2041 RTP supports the Province of Ontario's Growth Plan. Five strategies with associated priority actions such as optimizing the transportation system, connecting more of the region with frequent rapid transit and integrating transportation and land use are included within the 2041 RTP.

A major focus of the 2041 RTP (included in Strategy 1 and 2) is to continue building and improving upon the GO Expansion Program initiated under 'The Big Move'. The GO Expansion Program seeks to transform GO from a commuter-focused service into a two-way all-day service (Metrolinx 2018b). To support the increased train service, the rail corridor expansion to Bowmanville and associated service improvements are being completed.

2.1.2.3 Durham Regional Official Plan 2020

As required under Section 14.7 of the *Planning Act*, R.S.O. 1990, C. P. 13 (*Planning Act*, 1990), the Durham Regional Official Plan is a legal document that establishes guidelines for growth and development, as well as current and future land use patterns in the Regional Municipality of Durham (e.g., Open Space, Employment Areas, and Transportation). The Durham Regional Official Plan (2020) provides policies to enhance the quality of life for present and future residents, establishes future development patterns through goals and implementation mechanisms, and provides information to Federal, Provincial and Municipal governments to consider in their respective plans and programs.

The Durham Regional Official Plan (2020) should support manageable growth that reinforces heritage of the Region and the natural environment while boosting the economy and providing job opportunities for its residents. The Durham Regional Official Plan (2020) states land should be developed efficiently while maintaining a distinction between urban and open spaces and/or agricultural areas to protect agricultural lands. The document also emphasizes the development of sustainable, healthy, and complete communities that encourage a livable urban environment for present and future residents.



Addendum to Oshawa to Bowmanville Rail Service Extension Environmental Project Report: Socio-Economic and Land Use Characteristics Assessment

Description of Existing Conditions

September 25, 2023

The Durham Regional Official Plan (2020) states that development should create urban areas that are people-oriented and support active transportation throughout the region. The linkages within the region and between regions and/or adjacent areas should be improved through the implementation of a transportation system, which includes roads, transit, rail, harbour, and airport facilities. Additionally, the Durham Regional Official Plan (2020) provides guidelines to municipalities for area-specific intensification strategies stating that transportation hubs and commuter stations should be a key focus for intensification. Regional corridors should be developed to promote public transit ridership to facilitate efficient links to urban centres and should have mixed uses in high density areas. The Durham Regional Official Plan (2020) establishes the Durham Transportation Master Plan should be adopted and maintained for policies, programs, and infrastructure improvements in the region.

2.1.2.4 Durham Transportation Master Plan 2017

The Durham Transportation Master Plan 2017 (TMP 2017) is a strategic planning document that builds on the principles set by the 2010 Long Term Transit Strategy, the 2012 Regional Cycling Plan, and the 2016 Durham Regional Transit Five Year Service Strategy. The Durham TMP 2017 provides support for development patterns outlined in the Durham Regional Official Plan through policies, programs and infrastructure modifications required for growing transportation demands to the year 2030 and beyond. The overall objectives of the Durham Regional Official Plan are to facilitate compact, mixed land use patterns and pedestrian-friendly design that will promote sustainable transportation modes. In doing so, transportation facilities can provide residents and businesses practical and efficient mobility options throughout the Regional Municipality of Durham.

The focus of the Durham TMP 2017 is on all modes of transportation, including walking, cycling, public transit, autos, and movement of goods. The three guiding principles focus on healthy communities, economic prosperity, and environmental protection by focusing on users, connectivity, innovation, and collaboration and leadership. In addition, the Durham TMP 2017 defines these seven strategic directions for the Plan: aligning strengthening bonds between land use and transportation, promote integrated public transit, make walking and cycling more practical, optimize road infrastructure, promote sustainable travel choices, improve goods movement, and strategically investing in the transportation system.

2.1.3 Municipal

2.1.3.1 Clarington Official Plan (2018)

The Clarington Official Plan (2018) is created in accordance with the *Section 14.7 of the Planning Act, R.S.O. 1990, C. P. 13 (Planning Act, 1990)* and is a legal document used



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to guide future physical development of the municipality with regards to land use and transportation, while considering the implications on the economic, environmental, cultural, physical, and social well-being on the residents of Clarington. The Clarington Official Plan (2018) states that this document should inform other municipal plans, public works, and actions and should provide a framework to prevent and resolve land use conflicts while identifying opportunities for development. There are three principles outlined in the Clarington Official Plan (2018), including sustainable development, healthy communities, and growth management.

The Clarington Official Plan (2018) states that the development of transportation in the municipality must provide a full range of mobility options for people and goods by developing a transportation system that connects community amenities and fosters economic activity. The Clarington Official Plan (2018) states that priority should be placed on public transit, walking, and cycling through the use of existing transportation infrastructure and aims to improve upon existing transportation system to create more walkable, transit supportive centres and corridors. Transportation options to and within Employment Areas should focus on multi-modal transportation options.

The Clarington Official Plan (2018) states that development should be concentrated on Urban and Village Centres to increase economic, social, and cultural activities throughout communities within the municipality. The Clarington Official Plan (2018) outlines the development of two Transportation Hubs in Courtice and Bowmanville, which should be high density, mixed-use areas to support transit expansion to Clarington. The development of Urban and Village Centres, Waterfront Places, Neighbourhood Centres, and the Transportation hubs should be conducted with a focus on civic squares, parks, walkways, and built forms and characteristics that align with the community.

Secondary Plans

The Clarington Official Plan includes Secondary Plans, which provide guiding policies and land designations to facilitate growth and development within specific areas. The Study Area overlaps four Secondary Plans within Clarington municipality including Bowmanville West Town Centre Secondary Plan, the Bowmanville West Urban Centre and Major Transit Station Area Secondary Plan, the Southwest Courtice Secondary Plan, and the Brookhill Neighbourhood Secondary Plan. The Municipality of Clarington is currently studying a new Secondary Plan called the Courtice Transit-Oriented Community and GO Station Area Secondary Plan.



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Bowmanville West Urban Centre and Major Transit Station Area Secondary Plan

The Bowmanville West Urban Centre and Major Transit Station Area Secondary Plan is the proposed amendment to the Bowmanville West Town Centre Secondary Plan, which encompasses the land on the north and south sides of King Street and stretches to the east limit of the Urban Boundary. The new proposed updates to the Secondary Plan and zoning now include lands on the south side of the C.P. rail line on the north side of Aspen Springs Drive. The Secondary Plan provides goals, objectives, and policies to guide the development of the lands and transit expansion in the West Town Centre.

The Bowmanville West Urban Centre will be the concentrated centre of commercial and mixed-use development. The Bowmanville West Urban Centre and Major Transit Station Area Secondary Plan focuses new policies on promoting walkable neighbourhoods, attractive public spaces, and pedestrian-oriented transit. The plan also provides guidance on transit-oriented development, as well as commercial and residential developments.

Brookhill Neighbourhood Secondary Plan

The Brookhill Neighbourhood Secondary Plan area is bounded by Bowmanville West Town Centre to the south, Nash Road to the north, Bowmanville Creek valley to the east and the urban limit boundary of Bowmanville to the west. The plan is intended to provide a set of goals and policies to guide development within the Brookhill Neighbourhood as it is implemented through subdivision, zoning, and site plan control. The plan reflects the goals outlined in the Clarington Official Plan (2018) and aims to facilitate an efficient, low energy neighbourhood while preserving the natural environment. The plan also aims to provide diverse housing options and create a central hub with a mix of uses.



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An update of the Brookhill Neighbourhood Secondary Plan commenced in 2018, which replaces the previous Brookhill Neighbourhood Secondary Plan and Urban Design Guidelines that were approved in 2008. The update focuses on approximately 200 hectares of land that is located north of the Longworth Avenue extension and is aligned with Provincial and local development policies and goals. Areas of improvement include street and building design, sustainable practices, and pedestrian-oriented connections to green spaces. The updated themes of the Brookhill Neighbourhood Secondary Plan focus on sustainability, environmental preservation, and healthy, complete community. The Clarington Council ratified the amendments to the Brookhill Neighbourhood Secondary Plan in May of 2021. The amended plan requires approval from the Regional Municipality of Durham before coming into force. Review by the Regional Municipality of Durham may result in further modifications to the Secondary Plan.

Southwest Courtice Secondary Plan

The Southwest Courtice Secondary Plan encompasses the area portions of land from both Bayview Neighbourhood and Penfound Neighbourhood. The area is bounded by Townline to the west, Robinson Creek to the east, Bloor Street to the North, and the Canadian Pacific rail corridor and Highway 401 to the south.

The Southwest Courtice Secondary Plan is aligned with the goals and policies set out in the Clarington official Plan, with the purpose to establish policies and guidance for the development of the southern portion of Bayview Neighbourhood, as it is implemented through subdivision, zoning, and site plan control. The core principles of the Southwest Courtice Secondary Plan include:

- Support life quality in all households
- Protect and enhance the natural environment
- Incorporate environmental sustainability
- Conserve cultural heritage resources
- Improve connections to broader community
- Encourage social interaction and outdoor activity
- Create distinct community character
- Develop neighbourhood in an orderly fashion



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Courtice Transit-Oriented Community and GO Station Area Secondary Plan

The Courtice Transit-Oriented Community and GO Station Area Secondary Plan was initiated by the Municipality of Clarington in 2019 (Municipality of Clarington 2022). The proposed Secondary Plan area is bounded approximately by Robinson Creek in the west, Bloor Street in the north, Tooley Creek and Highway 418 in the east, and Highway 401 in the south. The Transit-Oriented Community and GO Station Area Secondary Plan is subject to Schedule 'C' of the Municipal Class Environmental Assessment process and a study is currently underway to identify environmental effects of the new Secondary Plan. Development in this area was previously restricted by the absence of sanitary sewers in south Courtice, however the provision of municipal services and transit expansion will be the catalysts for growth in the Secondary Plan area. Once complete, the Secondary Plan will guide the area's growth as it transforms into a major employment, mixed-use, and transportation hub for Courtice.

2.1.3.2 Oshawa Official Plan (1987)

The Oshawa Official Plan was created in accordance with the *Section 14.7 of the Planning Act, R.S.O. 1990, C. P. 13 (Planning Act, 1990)* and is a set of policies and land use designations aimed to guide the development pattern of the City of Oshawa. The Oshawa Official Plan was adopted by the Regional Municipality of Durham Council on November 20, 1985 and approved by the Minister of Municipal Affairs on February 12, 1987 with modifications. Subsequent amendments to the Official Plan approved/modified by the Regional Municipality of Durham and the Local Planning Appeal Tribunal were last consolidated in August 2022. The current consolidated Oshawa Official Plan (2022) was reviewed for information relevant to this Project.

The Oshawa Official Plan (2022) states that land use should be focused on Central Areas, with the primary concentrations of well-designed, compact, and intensive urban development taking place within these central locations. The main Central Area is designed around Simcoe Street and King Street, which encompasses the Downtown Oshawa Urban Growth Centre and the Central Oshawa Transportation Hub. The Oshawa Official Plan states that there should be a balance of employment and residential growth within the Central Area, including a variety of shops, businesses, community resources, cultural resources, recreational uses, and transportation facilities, as well as mixed high density residential housing types.

The Oshawa Official Plan (2022) outlines a focus on high density, mixed-use, pedestrian-oriented, transit-supportive development through the implementation of corridors within urban areas. These corridors support walking, cycling, and transit routes and reinforce the linkages between major urban areas by using key arterial roads throughout the city.



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The Oshawa Official Plan (2022) supports efficient multi-modal transportation through development that complements and optimizes the lands surrounding transit services. Transportation hubs should support high density working, living, shopping and/or leisure activities in high connectivity areas and should provide increased accessibility, comfort, convenience, and safety for pedestrian traffic.

Secondary Plans

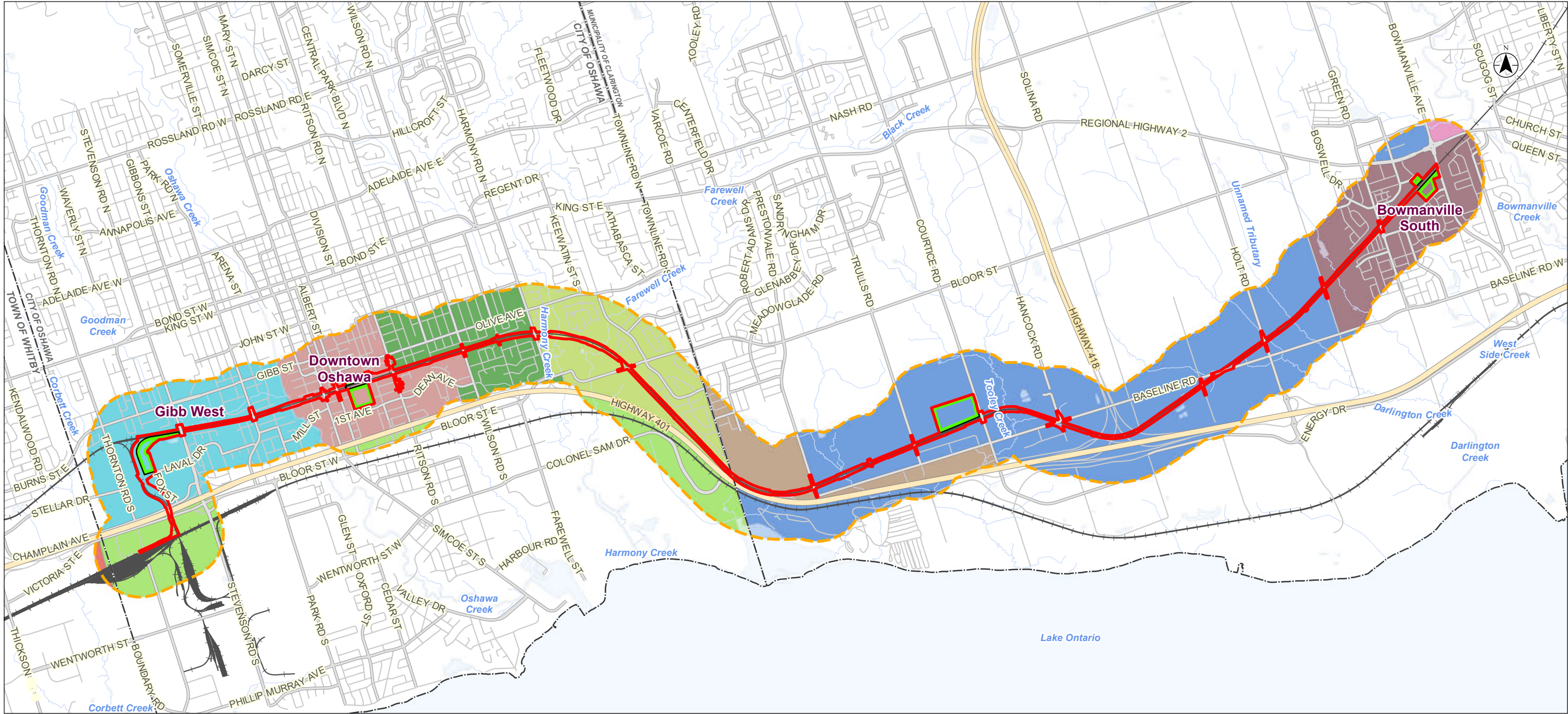
The Oshawa Official Plan (2022) includes one Secondary Plan for the Samac Community, which provide guiding policies and land designations to facilitate growth and development within the Samac Community. The Study Area does not overlap the Secondary Plan for the Samac Community.

2.2 Neighbourhood Profiles

This section provides summary 2021 demographic information and population data where available Statistics Canada (Statistics Canada 2023a, 2023b). The locations of neighbourhoods, relative to the Project Footprint and Study Area, are illustrated in Figure 2.3.



\\ad0215-rplsa\01\work_group\0165011019 - Bowmanville\02_Amendments\2_Figures\20230502_Report_mv1165011019_SE_Fig02-3_Neighbourhoods.mxd
Revised: 2023-05-02 By: bcooper



Notes

1. Coordinate System: NAD 1983 CSRS MTM 10
2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © Queen's Printer for Ontario, 2018.
3. Health Neighbourhoods layer source Regional Municipality of Durham, Open Data Licence

- Legend**
- Project Footprint
 - Socio-Economic Study Area (500 m Buffer)
 - Proposed GO Station Location
 - Existing Railway
 - Highway
 - Major Road
 - Minor Road
 - Watercourse
 - Waterbody
 - Municipal Boundary, Lower

Durham Region Neighbourhoods

- | | |
|-------------------|-----------------|
| Bowmanville North | Downtown Oshawa |
| Bowmanville South | Gibb West |
| Central Park | Grandview South |
| Courtice South | Lakeview |
| Darlington | Whitby South |



Project Location 165011019 REVA
Region Municipality of Durham Prepared by SVD on 2023-05-02
Technical Review by EFC on 2021-07-13

Client/Project
METROLINX
OSHAWA TO BOWMANVILLE RAIL SERVICE EXPANSION

Figure No.
2.3
Title
Neighbourhoods within the Study Area

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1:45,000 (At original document size of 11x17)

Disclaimer: This figure has been prepared based on information provided by others as cited under the Notes section. Stantec has not verified the accuracy and/or completeness of this information and shall not be responsible for any errors or omissions which may be incorporated herein as a result.

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2.2.1 Whitby South

A very small portion of the Whitby South neighbourhood is included in the Socio-Economic and Land Use Assessment Area, consisting of a commercial building housing several businesses. There are no schools, recreational facilities, or residential areas included within the Socio-Economic and Land Use Assessment Area.

2.2.2 Lakeview

Lakeview is a neighbourhood south of Highway 401 along Lake Ontario and includes three secondary schools, five elementary schools and a number of recreational facilities. In 2021, the total population of the Lakeview was 18,720 persons an increase of 3.2% from 2016. In 2021, approximately 18.3% of the population were children (0-14 years), 11.4% youth (15-24 years), 58.1% working age (25-65), and 12.5% seniors (65+ years).

2.2.3 Gibb West

Gibb West is a neighbourhood between Highway 401, Highway 2, the Whitby border and Oshawa Creek. Gibb West has several prominent features including the Oshawa Centre, Durham Alternative Secondary School and four elementary schools. In 2021, the total population of Gibb West was 11,635 persons, an increase of 2.3% from 2016. In 2021, approximately 15.5% of the population were children (0-14 years), 10.0% youth (15-24 years), 58.3% working age (25-65), and 16.3% seniors (65+ years).

2.2.4 Downtown Oshawa

Downtown Oshawa includes the areas of King Street and Simcoe Street, it is bounded by Highway 401 in the south and Adelaide Street to the north, Oshawa Creek to the west and Ritson Road on the east. The neighbourhood includes the Oshawa City Hall, Oshawa Public Library and three elementary schools, parts of the University of Ontario Institute of Technology. In 2021, the total population of Downtown Oshawa was 11,094 persons, an increase of 2.2% from 2011. In 2011, approximately 13.9% of the population were children (0-14 years), 13% youth (15-24 years), 54.3% working age (25-65), and 18.5% seniors (65 years).

2.2.5 Central Park

Central Park extends from Highway 401 to Adelaide Avenue between Ritson Road and Harmony Road. There are three elementary schools within the neighbourhood. In 2021, the total population of the neighbourhood was 11,856 persons, an increase of 5.1% from 2016. In 2021, approximately 15.1% of the population were children (0-14 years), 9.0% youth (15-24 years), 57.7% working age (25-65), and 17.9% seniors (65 years).



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2.2.6 Grandview South

Grandview South extends from Highway 401 to Adelaide Avenue and is bounded between Harmony Road and Townline Road. The neighbourhood includes Grandview Children's Centre, Eastdale Collegiate and Vocational Institute, and three elementary schools. In 2021, the total population of the neighbourhood was 11,337 persons, a increase of 0.31% from 2016. In 2021, approximately 14.9% of the population were children (0-14 years), 9% youth (15-24 years), 54.2% working age (25-65), and 21.7% seniors (65 years).

2.2.7 Courtice South

Courtice South extends from the Oshawa border to Courtice Road. This neighbourhood includes Holy Trinity Catholic Secondary School and five elementary schools. In 2021, the total population of the neighbourhood was 17,201 persons, an increase of 29.9% from 2016. In 2021, approximately 19.8% of the population were children (0-14 years), 13.2 youth (15-24 years), 56.6% working age (25-65), and 10.3% seniors (65 years).

2.2.8 Darlington

Darlington includes the boundaries of the old county of Darlington, excluding the two areas of Courtice and Bowmanville. Three elementary schools, Darlington Provincial Park and the Darlington Nuclear Generating Station are located in this neighbourhood. In 2021, the total population of the neighbourhood was 14,315 persons, an increase of 24.6% from 2016. In 2021, approximately 20.5% of the population were children (0-14 years), 10.2% youth (15-24 years), 51.2% working age (25-65), and 18.1% seniors (65 years).

2.2.9 Bowmanville South

Bowmanville South extends from Lake Ontario to Highway 2, with a small area extending north of Baseline Road. This neighbourhood includes Lakeridge Health Bowmanville and five elementary schools. In 2021, the total population of the neighbourhood was 16,893 persons, an increase of 22.9% from 2016. In 2021, approximately 17.8% of the population were children (0-14 years), 11.5% youth (15-24 years), 55.0% working age (25-65), and 15.7 seniors (65 years).



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2.2.10 Bowmanville North

Bowmanville North is bounded by Concession 3 to the north, Lambs Road to the east, the railroad line to the south and Regional Road 57 to the west. The Bowmanville Valley, St. Stephen's Secondary School, three elementary schools and a number of private schools are located within the neighbourhood. In 2021, the total population of the neighbourhood was 13,788 persons, an increase of 52.6% from 2016. In 2021, approximately 23.3% of the population were children (0-14 years), 11.3% youth (15-24 years), 55.2% working age (25-65), and 10.1% seniors (65 years).

2.3 Municipal Profiles

This section provides a summary of the 2021 housing stock, household tenancy, and public transit use information from the City of Oshawa and Municipality of Clarington (Statistics Canada 2022, 2023a, 2023b).

2.3.1 Municipality of Clarington

The Municipality of Clarington covers a total land area of 611.40 square kilometers. In 2021, a total of 36,852 private dwellings were present, of which 97.6% were occupied by usual residents. Of the occupied dwellings, 78% were single-detached houses, 1% were apartment units with five or more storeys, and 21% were other forms of attached dwellings. 79% of households own their home while 14% of households are tenants. The median monthly shelter cost for owned dwellings was \$1,590 and the median monthly shelter cost for rented dwellings was \$1,780. In Clarington, 2% of the labour force took public transit to work. Of the labour force, 13% traveled for 60 minutes or over to reach their usual place of work.

2.3.2 City of Oshawa

The City of Oshawa covers a total land area of 145.64 square kilometers. In 2021, a total of 69,324 private dwellings were present, of which 96.1% were occupied by usual residents. Of the occupied dwellings, 56% were single-detached houses, 11% were apartment units with five storeys or more, and 33% were other forms of attached dwellings. 64.2% of households own their home while 35.8% are tenants. The median monthly shelter cost for owned dwellings was \$1,640 and the median monthly shelter costs for rented dwellings was \$1,300. In Oshawa, 6% of the labour force took public transit to work. Of labour force, 15% traveled for 60 minutes or over to reach their usual place of work.



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2.4 Existing Land Use and Development Applications

The following sections provide information on zoning and existing land uses, community amenities, and active development applications overlapped by the Study Area.

2.4.1 Zoning and Existing Land Uses within the City of Oshawa

Table 2.1 provides a summary of the zoning categories for surveyed properties in the portion of the Study Area within the City of Oshawa. Permitted uses within each zoning category are governed by City of Oshawa Zoning By-law 60-94 (2023).

Table 2.1: Summary of Study Area Zoning Categories within the City of Oshawa

Oshawa Zoning Category	Zoning Category Name	Property Count
CC-A	Commercial Convenience Zones	1
CC-A(1)	Commercial Convenience Zones	1
CC-A/SSC-A	Commercial Convenience Zone/ Automobile Service Station Zone	1
CE	Cemetery Zone	1
CIN	Community Institutional Zones	4
GI	General Industrial Zones	21
GI(1) h-51	General Industrial Zones	1
GI(2)	General Industrial Zones	1
OSE	Open Space	2
OSH	Open Space	79
OSH(3)	Open Space	1
OSH/EU	Open Space	1
OSP	Open Space	34
OSU	Open Space	4
PCC-A(1)	Planned Commercial Centre Zones	1
PCC-B(2)	Planned Commercial Centre Zones	3
PCC-C	Planned Commercial Centre Zones	1
PCC-D	Planned Commercial Centre Zones	1
PI-A(1)	Prestige Industrial Zones	21
PSC-A	Planned Strip Commercial Zone	195
PSC-A/SSC-A	Planned Strip Commercial Zone	4
PSC-A/SSC-B	Planned Strip Commercial Zone	4



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Oshawa Zoning Category	Zoning Category Name	Property Count
PSC-A/SSC-C	Planned Strip Commercial Zone	1
R1-C	Residential Zone	1984
R1-C/CIN	Residential Zone	7
R1-D	Residential Zone	225
R1-D/CC-B	Residential Zone	1
R1-D/CIN	Residential Zone	1
R1-E	Residential Zone	58
R1-E.Y4.5.L240 h-9	Residential Zone	1
R1-E.Y4.5.L260 h-5	Residential Zone	3
R2	Residential Zone	2902
R2(4)	Residential Zone	2
R2(6)	Residential Zone	1
R2(9)	Residential Zone	2
R2/CC-B	Residential Zone/ Convenience Commercial Zone	2
R2/CIN	Residential Zone/ Community Institutional Zone	20
R2/R3-A	Residential Zone	98
R2/R3-A.F5.5/R6-B(2)/R6-C(11) h-7	Residential Zone	1
R2/R3-A/R6-B/CC-A	Residential Zone	1
R2/R3-A/R6-B/R7-A	Residential Zone	146
R2/R6-B	Residential Zone	4
R2/R6-C	Residential Zone	7
R3-A	Residential Zone	77
R3-A(3)	Residential Zone	38
R3-A(4)	Residential Zone	6
R3-A.F5.9	Residential Zone	42
R3-A/R4-A/R6-B	Residential Zone	2
R3-A/R5-B	Residential Zone	14
R3-A/R5-B/R7-A	Residential Zone	273
R4-A	Residential Zone	135
R4-A(15)	Residential Zone	1
R4-A/R5-A	Residential Zone	1
R4-A/R6-A	Residential Zone	236



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Oshawa Zoning Category	Zoning Category Name	Property Count
R4-A/R6-B	Residential Zone	7
R5-A	Residential Zone	223
R5-A(8)	Residential Zone	1
R5-A/CIN	Residential Zone	3
R5-A/R7-A	Residential Zone	34
R5-B	Residential Zone	54
R5-B(2)	Residential Zone	2
R5-B/CIN	Residential Zone	1
R5-B/R7-A	Residential Zone	11
R6-A/SO-B/CC-A	Residential Zone	1
R6-B	Residential Zone	10
R6-B(1)	Residential Zone	1
R6-B/CIN	Residential Zone	1
R6-B/CIN(1)	Residential Zone	1
R6-C	Residential Zone	22
R6-C/CIN	Residential Zone	1
R6-D(5) "h-82"	Residential Zone	2
SI-A(6)/EU	Select Industrial Zone/ Existing Use Zone	4
SI-A/GI	Select Industrial Zone/ General Industrial Zone	1
SI-A/GI/SPC-A(6)"h-35"	Select Industrial Zone/General Industrial Zone/ Special Purpose Commercial Zone	1
SI-C(1)	Select Industrial Zone	1
SI-C/EU	Select Industrial Zone/ Existing Use Zone	16
SI-C/EU/SPC-A(7) h-35	Select Industrial Zone/Existing Use Zone/ Special Purpose Commercial Zone	2
SI-C/SPC-A(6)	Select Industrial Zone/ Special Purpose Commercial Zone	1
SI-C/SPC-A(6) h-35	Select Industrial Zone/ Special Purpose Commercial Zone	4
SI-C/SPC-A(6) h-35 /SI-C(1)	Select Industrial Zone/ Special Purpose Commercial Zone	1
SI-C/SPC-A(7) h-35	Select Industrial Zone/ Special Purpose Commercial Zone	2
SO-B	Specialized office Zone	1
SPC-A	Special Purpose Commercial Zone	17
SPC-A h-47	Special Purpose Commercial Zone	1
SPC-A(3)	Special Purpose Commercial Zone	2



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Oshawa Zoning Category	Zoning Category Name	Property Count
SPC-A(4) h-1	Special Purpose Commercial Zone	1
SPC-A(9)	Special Purpose Commercial Zone	3
SPC-A(9) h-44	Special Purpose Commercial Zone	2
SPC-A/EU(1)	Special Purpose Commercial Zone	1
SPC-B(2) h-17	Special Purpose Commercial Zone	5
UR	Urban Reserve Zones	3
UT	Utilities Zone	2
Grand Total		7120

Source: City of Oshawa. 2020.

Table 2.2 provides a summary of existing land uses for surveyed properties in the portion of the Study Area within the City of Oshawa.

Table 2.2: Summary of Study Area Existing Land Uses within the City of Oshawa

City of Oshawa Existing Land Uses	Property Count
Commercial	173
Industrial	22
Institution, Community, Government	42
Park, Open Space, Recreation	99
Residential	6554
Utility, Transportation, Communication	30
Vacant	192
Grand Total	7112

Source: City of Oshawa. 2020.



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2.4.2 Zoning and Existing Land uses within the Municipality of Clarington

Table 2.3 provides a summary of the zoning categories for surveyed properties in the portion of the Study Area within the Municipality of Clarington. Permitted uses within each zoning category are governed by Municipality of Clarington Zoning By-law 84-63 (2015).

Table 2.3: Summary of Study Area Zoning Categories within the Municipality of Clarington

Municipality of Clarington Zoning Category	Property Count
Agriculture	99
Commercial	12
Environmental Protection	17
Industrial	105
Residential	2958
Grand Total	3191

Source: Municipality of Clarington, S. Antunes, email message to author, July 13, 2021.

Table 2.4 provides a summary of the existing land uses for surveyed properties in the portion of the Study Area within the Municipality of Clarington.

Table 2.4: Summary of Study Area Existing Land Uses within the Municipality of Clarington

Municipality of Clarington Existing Land Uses	Property Count
Business Park	9
Environmental Protection	65
General Industrial	5
Green Space	4
Light Industrial	89
Prestige Employment	7
Prime Agriculture	2
Regional Corridor	1
Rural	41
Transportation Hub	5
Urban Centre	1089
Urban Residential	1871



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Municipality of Clarington Existing Land Uses	Property Count
Utility	1
Waterfront Greenway	1
Grand Total	3190

Source: Municipality of Clarington, S. Antunes, email message to author, July 13, 2021.

2.4.3 Zoning and Existing Land Uses within the Proposed GO Station Footprints

Considering the four proposed GO station locations fall outside of the rail corridor, a more in-depth review of land use designations and zoning was undertaken. B1 and B2 are both located within the City of Oshawa; the Oshawa Official Plan (2021a) and Zoning By-Law 60-94 (2023) were reviewed for application information. B3 and B4 are located within the Municipality of Clarington; the Clarington Official Plan (2018) and Zoning By-Law 84-63 (2015) were reviewed for applicable information. Refer to Table 2.5 for a summary of existing Official Plan designation, zoning and permitted uses.

Table 2.5: Existing Zoning for Proposed GO Station Locations

GO Station Location	Current Official Plan Designation	Current Permitted Uses as per Official Plan	Current Zoning	Current Permitted Uses as per Zoning By-Law
B1	Special Purpose Commercial	<ul style="list-style-type: none"> Permitted uses include recreational clubs, automotive sales and services, restaurants, motels, hotels, building supply yards, furniture and major appliance sales, and other similar types of uses. Financial establishments, professional offices and other personal service uses may be permitted in association with Special Purpose Commercial uses. 	Urban Reserve Zone	<ul style="list-style-type: none"> Agricultural uses, with the exception of new farm dwellings Existing uses (based on the existing use at the time of the Zoning By-Law passing) and new one storey accessory buildings Outdoor recreational uses without buildings or structures



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GO Station Location	Current Official Plan Designation	Current Permitted Uses as per Official Plan	Current Zoning	Current Permitted Uses as per Zoning By-Law
B2	Planned Commercial Centre Identified as Transit Priority Network future planned station with surrounding lands for development.	<ul style="list-style-type: none"> Commercial uses related to the type and function of respective shopping centres as outlined in the Official Plan (Table 1) Parks and recreational uses, medium and high density residential uses, mixed-use developments and community uses such as day care centres, places of worship and libraries may be permitted. 	PCC-B(2) Zone (500 Howard Street)	Permitted uses include: <ul style="list-style-type: none"> Museum Office Peddle Personal service establishment Railway facilities Restaurant Retail store other than a supermarket Storage warehouse or shipping facilities accessory to a supermarket or retail food terminal Supermarket and retail food terminal Light manufacturing of bubble wrap and adhesive tape Warehouse for bubble wrap, adhesive tape and associated shipping products such as consumer stationary and related mailing products.



Addendum to Oshawa to Bowmanville Rail Service Extension Environmental Project Report: Socio-Economic and Land Use Characteristics Assessment

Description of Existing Conditions

September 25, 2023

GO Station Location	Current Official Plan Designation	Current Permitted Uses as per Official Plan	Current Zoning	Current Permitted Uses as per Zoning By-Law
B3	Transportation Hub	<ul style="list-style-type: none"> Provide for a mix of uses at higher densities, which are complementary in terms of scale, design and context and designed to support transit services. Located within Special Study Area 4. Detailed land uses will be further defined in the Courtice Employment Lands Secondary Plan. 	Agriculture	<p>Permitted uses in the Agricultural zone include:</p> <ul style="list-style-type: none"> Residential uses Non-residential uses such as cemeteries and places of worship which existed at the time of passing of the By-Law; conservation and forestry; a farm, a wayside pit or quarry; kennels (which existed prior to June 28, 2004); fur farms, riding and boarding stables; seasonal farm produce sales outlet.
B4	Transportation Hub	<ul style="list-style-type: none"> Provide for a mix of uses at higher densities, which are complementary in terms of scale, design and context and designed to support transit services. The Bowmanville Town Centre Secondary Plan Area policies are complementary and supportive of the Bowmanville GO Station. 	Agriculture / Residential (Holding)	<p>Permitted uses in the Residential Zone include:</p> <ul style="list-style-type: none"> A single detached dwelling A semi-detached dwelling A duplex A home occupation use (with certain restrictions) Places of worship subject to the zone regulations A Holding Zone has been placed on the property until the Municipality of Clarington is satisfied that proposed uses (other than those outlined above) can be adequate services, accessed, etc.



Addendum to Oshawa to Bowmanville Rail Service Extension Environmental Project Report: Socio-Economic and Land Use Characteristics Assessment

Description of Existing Conditions

September 25, 2023

GO Station Location	Current Official Plan Designation	Current Permitted Uses as per Official Plan	Current Zoning	Current Permitted Uses as per Zoning By-Law
				<p>Permitted uses in the Agricultural zone include:</p> <ul style="list-style-type: none"> • Residential uses • Non-residential uses such as cemeteries and places of worship which existed at the time of passing of the By-Law; conservation and forestry; a farm, a wayside pit or quarry; kennels (which existed prior to June 28, 2004); fur farms, riding and boarding stables; seasonal farm produce sales outlet.

2.4.4 Community Amenities

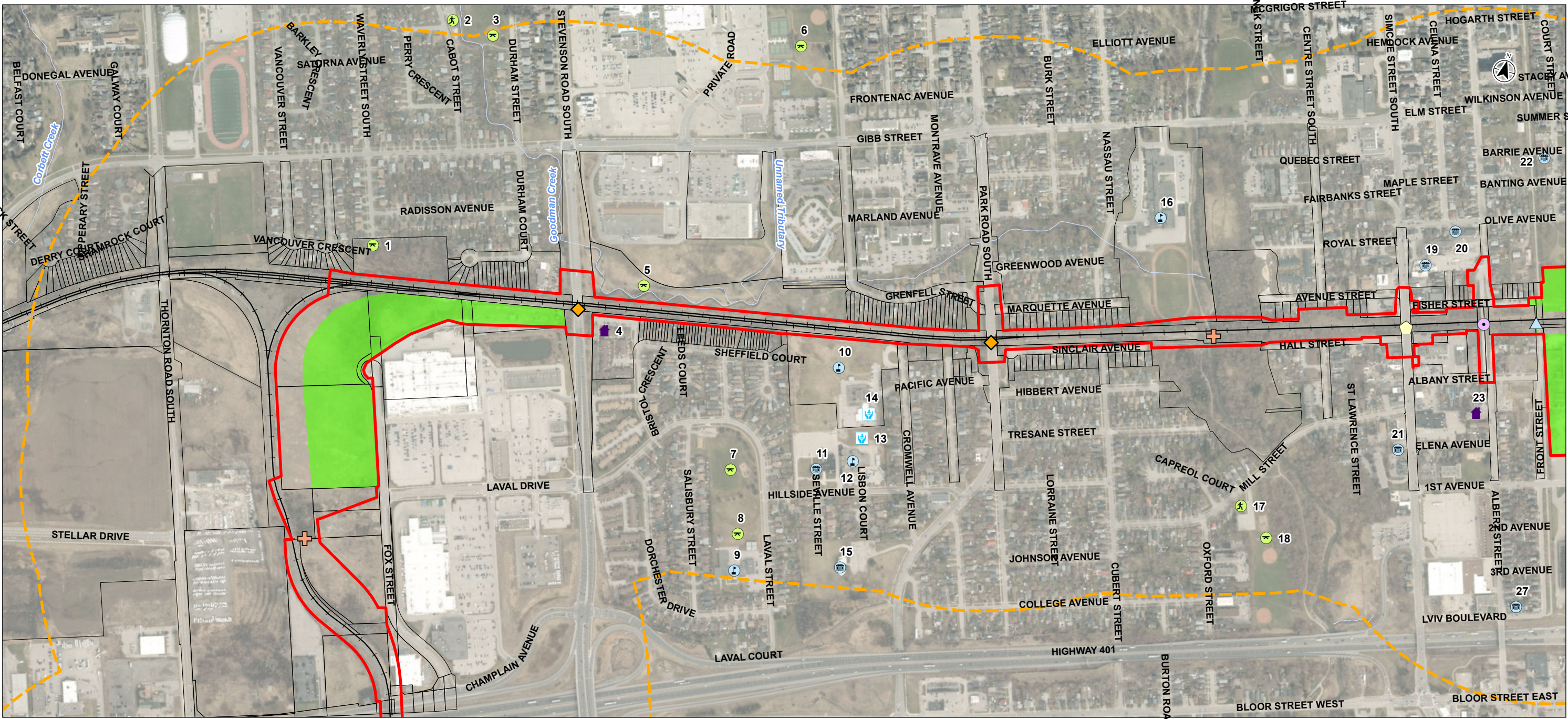
In addition to a survey of land uses within the Study Area, the following community amenities were inventoried:

- institutional uses (i.e., schools, libraries, places of worship, hospitals and public medical clinics)
- recreational uses (i.e., recreation centres, arenas, sporting fields, trails), parks and open spaces)
- community groups and resources (i.e., community and neighbourhood associations, housing associations, daycare, and charities)

The locations of institutional uses, recreational uses, parks and open spaces are provided in Figure 2.4.



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Legend

- Project Footprint
- Socio-Economic Study Area (500 m Buffer)
- Proposed GO Station Location
- Proposed New Bridge
- Proposed Bridge Replacement
- Proposed Bridge Removal
- Proposed New Multi-Use Grade-Separated Crossing
- Proposed Bridge Expansion
- Existing Railway
- Watercourse
- Property Boundary

Community Features

- Childcare
- Community Resources
- Housing
- Park and Open Space
- Place of Worship
- School

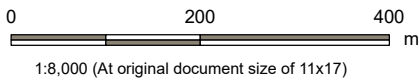


Project Location: 165011019 REVA
Region/Municipality: Oshawa to Bowmanville Rail Service Extension
of Durham Prepared by BCC on 2023-06-05
Technical Review by EFC on 2021-07-13

Client/Project: METROLINX
OSHAWA TO BOWMANVILLE RAIL SERVICE EXTENSION
PROJECT

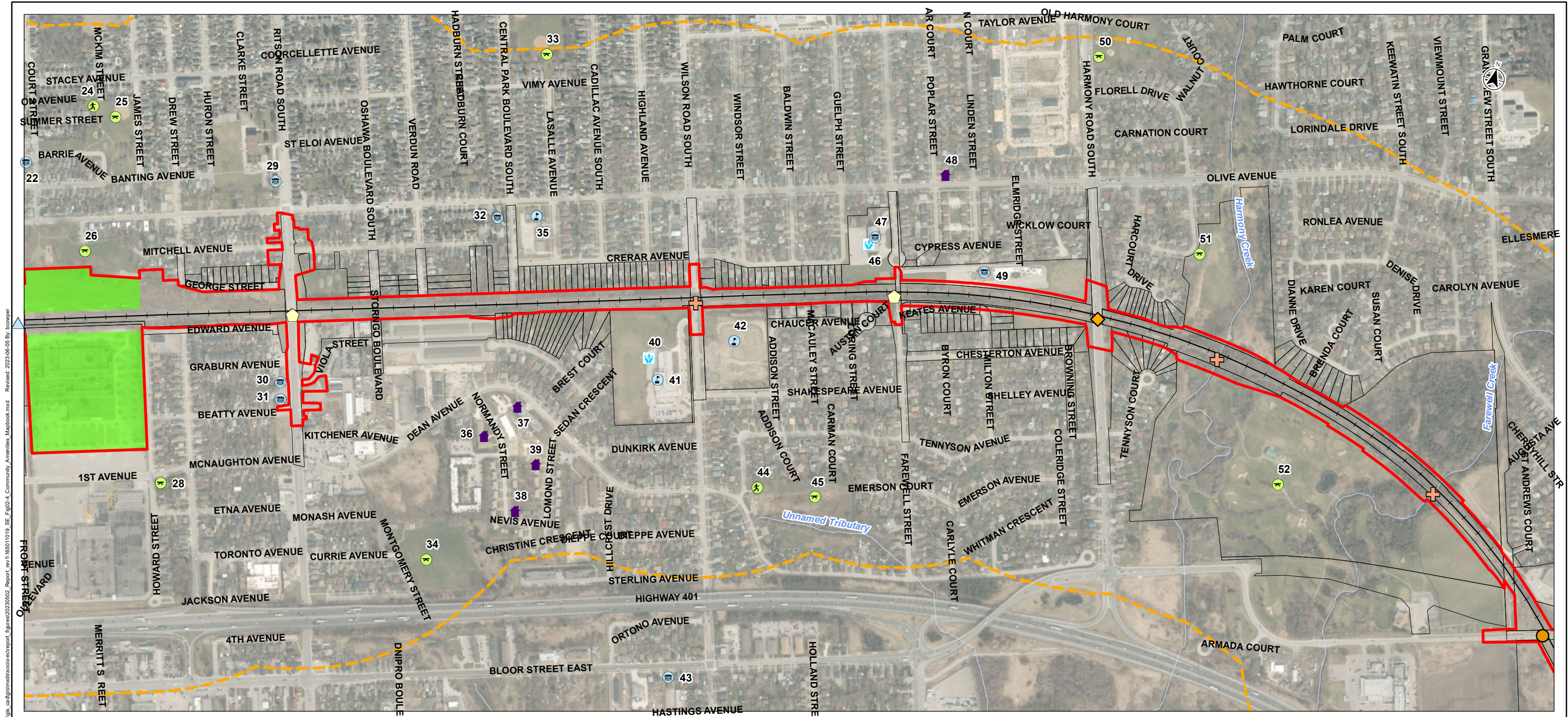
Figure No.: 2.4.2

Title: **Community Amenities within the Study Area**



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- Legend**
- Project Footprint
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 - Proposed Bridge Replacement
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 - Proposed Bridge Expansion
 - Existing Railway
 - Watercourse
 - Property Boundary

- Community Features**
- Childcare
 - Community Resources
 - Housing
 - Park and Open Space
 - Place of Worship
 - School

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Project Location
Region of Durham
165011019 REVA
Prepared by BCC on 2023-06-05
Technical Review by EFC on 2021-07-13

Client/Project
METROLINX
OSHAWA TO BOWMANVILLE RAIL SERVICE EXTENSION
PROJECT

Figure No.

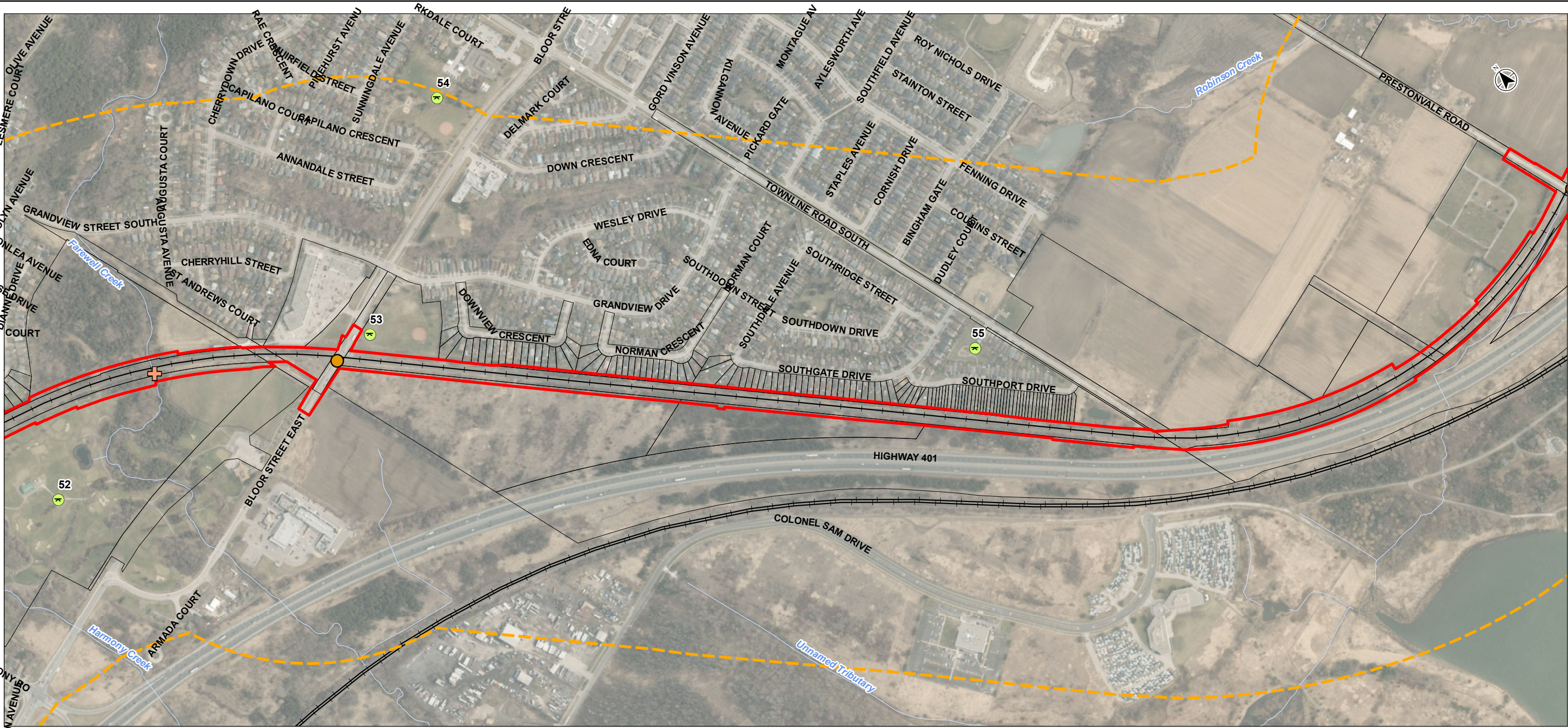
2.4.3

Title

**Community Amenities within
the Study Area**

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- Legend**
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 - Proposed New Bridge
 - Proposed Upgrades to At-Grade Crossing
 - Existing Railway
 - Watercourse
 - Property Boundary
 - Community Features**
 - Park and Open Space

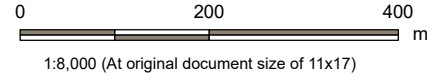


Project Location
Region of Durham
165011019 REVA
Prepared by BCC on 2023-06-05
Technical Review by EFC on 2021-07-13

Client/Project
METROLINX
OSHAWA TO BOWMANVILLE RAIL SERVICE EXTENSION
PROJECT

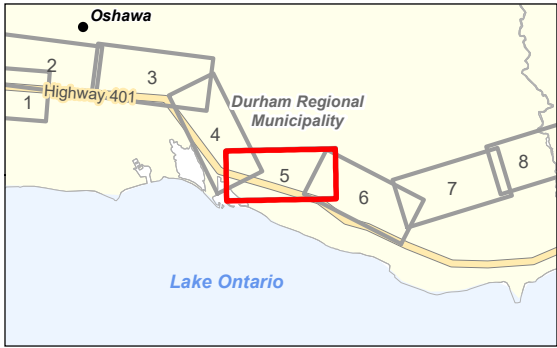
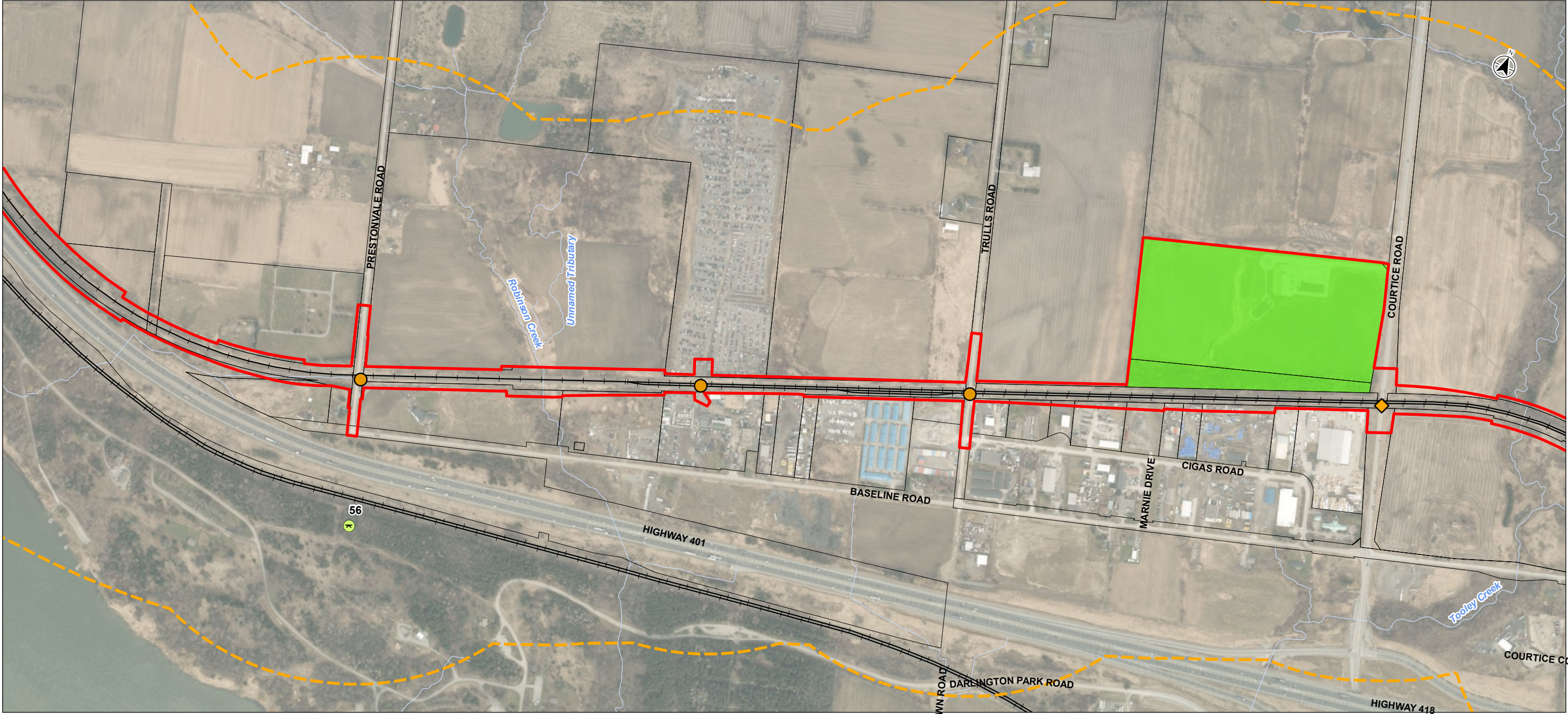
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2.4.4

Title
**Community Amenities within
the Study Area**



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- Legend**
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 - Park and Open Space
- Community Features**

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Project Location
Region of Durham
165011019 REVA
Prepared by BCC on 2023-06-05
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Client/Project
METROLINX
OSHAWA TO BOWMANVILLE RAIL SERVICE EXTENSION
PROJECT

Figure No.

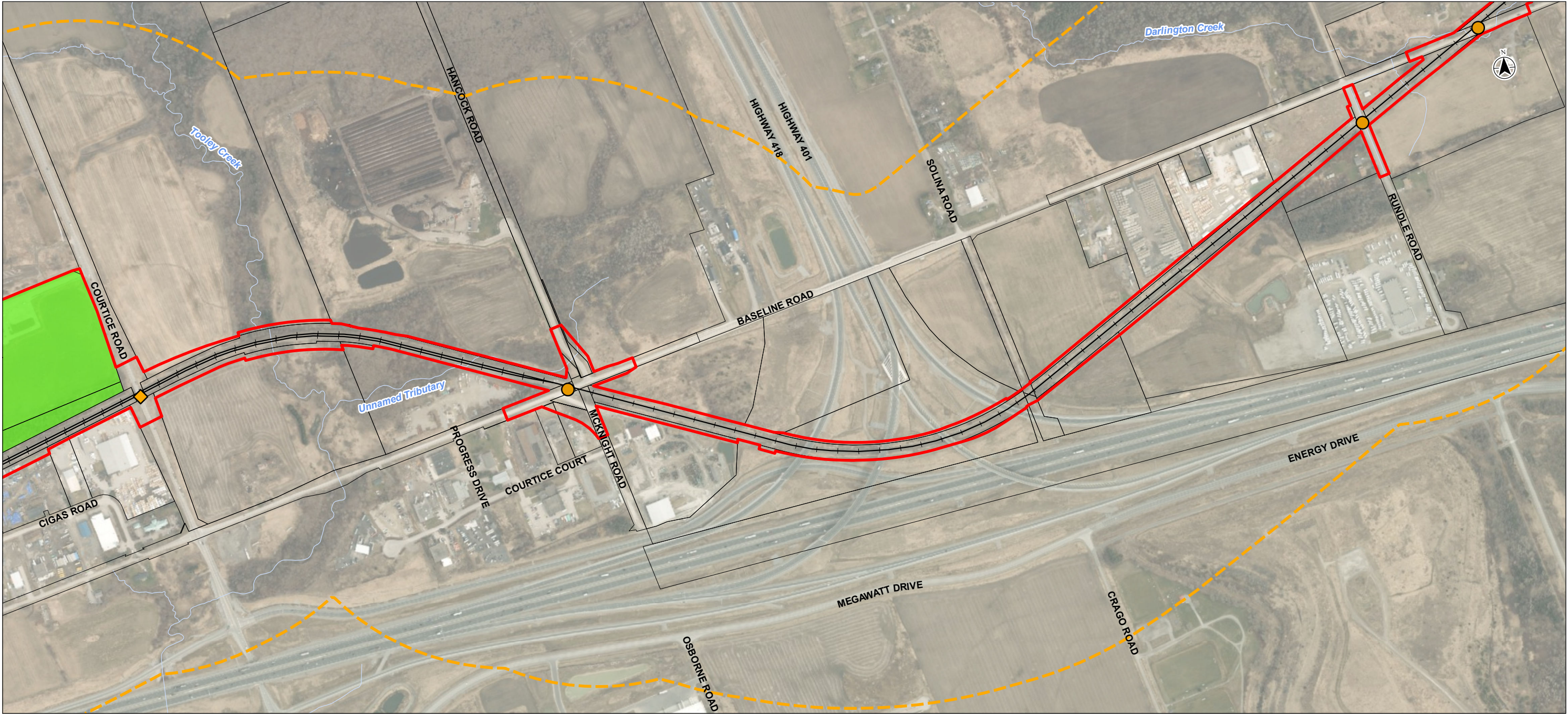
2.4.5

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**Community Amenities within
the Study Area**

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0 200 400 m
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Project Location
Region Municipality
of Durham

165011019 REVA
Prepared by BCC on 2023-06-05
Technical Review by EFC on 2021-07-13

Client/Project
METROLINX
OSHAWA TO BOWMANVILLE RAIL SERVICE EXTENSION
PROJECT

Figure No.









2.4.6

Title

**Community Amenities within
the Study Area**

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- Legend**
-  Project Footprint
 -  Socio-Economic Study Area (500 m Buffer)
 -  Proposed New Bridge
 -  Proposed Upgrades to At-Grade Crossing
 -  Existing Railway
 -  Watercourse
 -  Property Boundary
- Community Features**
-  Childcare

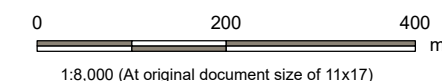


Project Location	165011019 REVA
Region Municipality of Durham	Prepared by BCC on 2023-06-05 Technical Review by EFC on 2021-07-13

Client/Project
METROLINX
OSHAWA TO BOWMANVILLE RAIL SERVICE EXTENSION
PROJECT

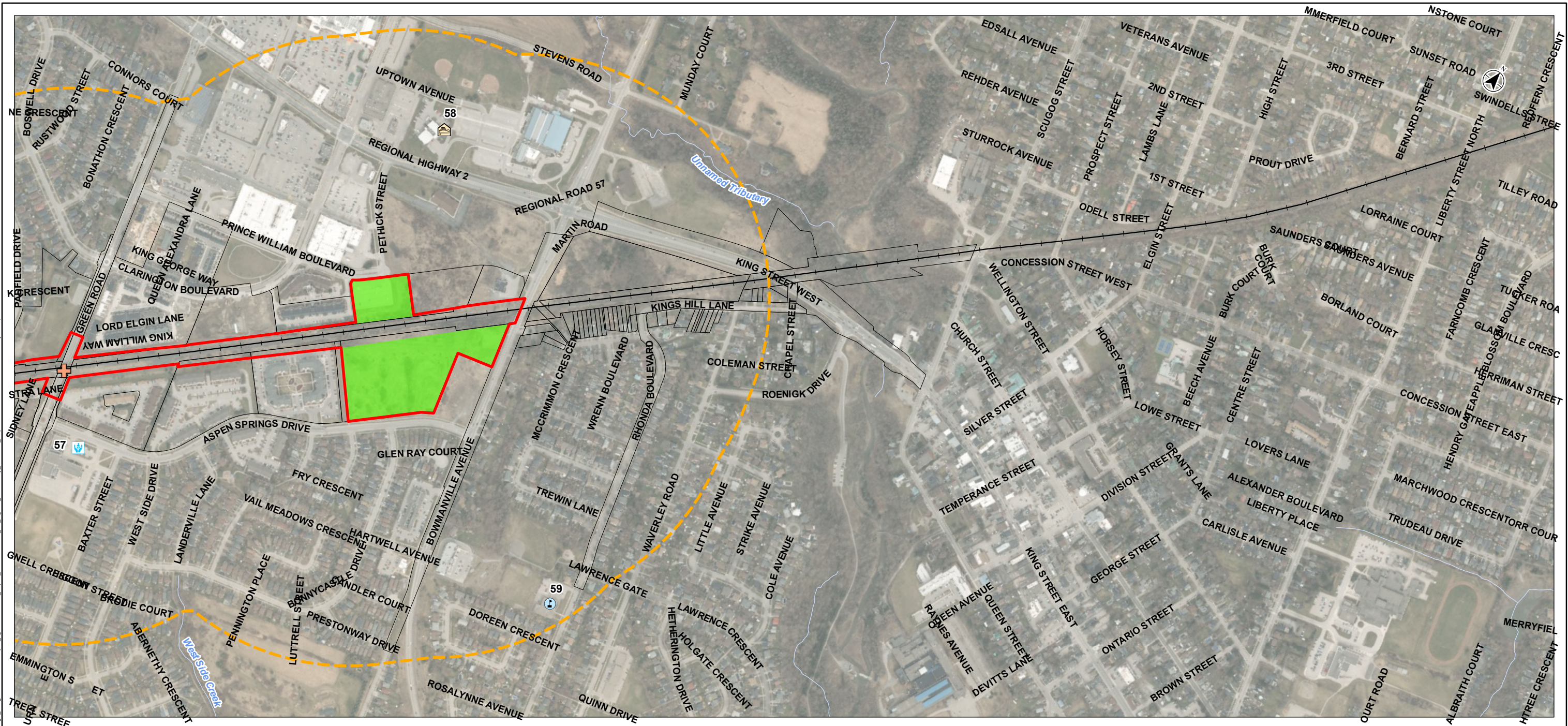
Figure No. **2.4.7**

Title
Community Amenities within the Study Area



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- Legend**
- Project Footprint
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 - + Proposed New Bridge
 - Existing Railway
 - Watercourse
 - Property Boundary
- Community Features**
- + Childcare
 - + Emergency Services
 - + School



Project Location
Region of Durham

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Client/Project
METROLINX
OSHAWA TO BOWMANVILLE RAIL SERVICE EXTENSION PROJECT

Figure No.

2.4.8

Title

**Community Amenities within
the Study Area**

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Addendum to Oshawa to Bowmanville Rail Service Extension Environmental Project Report: Socio-Economic and Land Use Characteristics Assessment

Description of Existing Conditions
September 25, 2023

2.4.4.1 Institutional Uses

There are 14 places of worship, 8 schools and one emergency service station located in the Study Area as shown in Table 2.6.

Table 2.6: Institutional Uses within the Study Area

Feature Type	Map ID	Feature Name	Address
Place of Worship	11	Paroisse Assomption de Notre Dame	384 Hillside Ave, Oshawa
Place of Worship	15	Grace Lutheran Church LCC	540 Cromwell Ave, Oshawa
Place of Worship	21	St. James Presbyterian Church	486 Simcoe St S, Oshawa
Place of Worship	19	Holy Cross Roman Catholic Church	373 Simcoe St S, Oshawa
Place of Worship	20	New Life Seventh day Adventist Church	33 Olive Ave, Oshawa
Place of Worship	29	United Pentecostal Church of Oshawa	320 Ritson Rd S, Oshawa
Place of Worship	22	Church of the Good Shepard	300 Court St, Oshawa
Place of Worship	30	Protection of the Mother of God Catholic Church Slovak	464 Ritson Rd S, Oshawa
Place of Worship	31	Community Baptist Church	4470 Ritson Rd S, Oshawa
Place of Worship	32	St. Hedwig's Roman Catholic Church	411 Olive Ave, Oshawa
Place of Worship	47	Evangel Pentecostal Church	374 Farewell St, Oshawa
Place of Worship	49	Hellenic Orthodox Church Evangelismos Tis Theotokou	399 Farewell St, Oshawa
Place of Worship	27	St. George The great Martyr Ukrainian Catholic Church	597 Albert St, Oshawa
Place of Worship	43	Slavic Church of Evangelical Christians & Baptists	521 Bloor St E, Oshawa
School	9	College Hill Public School	530 Laval St, Oshawa
School	12	École élémentaire catholique Corpus-Christi	362 Hillside Ave, Oshawa
School	10	St. Thomas Aquinas Catholic School	400 Pacific Ave, Oshawa
School	16	Village Union Public School	155 Gibb St, Oshawa
School	35	St. Hedwig Catholic School	421 Olive Ave, Oshawa
School	41	David Bouchard Public School	460 Wilson Rd S, Oshawa
School	42	Gertrude Colpus Public School	570 Shakespeare Ave, Oshawa
School	59	Blaisdale Montessori School	80 Rhonda Boulevard, Bowmanville
Emergency Services	58	Clarington Fire Station 1	2430 Durham Regional Hwy 2, Bowmanville



Addendum to Oshawa to Bowmanville Rail Service Extension Environmental Project Report: Socio-Economic and Land Use Characteristics Assessment

Description of Existing Conditions

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The eight schools are located within Oshawa. There are three Catholic elementary schools, four public elementary schools, and one private school. There are 14 places of worship within the Study Area, all of which are located in Oshawa. The Clarington Fire Station 1 is located in Bowmanville and is the only emergency service station located within the Study Area.

2.4.4.2 Recreational Uses and Parks and Open Spaces

Parks and open spaces within the Study Areas are shown in Table 2.7. They are of various sizes and provide a range of services and facilities for these neighbourhoods.

Table 2.7: Recreational Uses and Parks and Open Spaces within the Study Area

Feature Type	Map ID	Feature Name	Address
Park and Open Space	6	Radio Park	200 Grenfell St, Oshawa
Park and Open Space	1	Durham Court Park	330 Waverly St S, Oshawa
Park and Open Space	7	Laval Drive Park	475 Salisbury St, Oshawa
Park and Open Space	5	Warne Park	362 Bristol Crescent, Oshawa
Park and Open Space	18	Storie Park	101 Mill St, Oshawa
Park and Open Space	34	Choplin Park	595 Montgomery St, Oshawa
Park and Open Space	45	Kingside Park	537 Tennyson Av, Oshawa
Park and Open Space	51	Florell Park	Florell Dr, Oshawa
Park and Open Space	52	Grandview Park North	?
Park and Open Space	53	Grandview Park South	1101 Bloor St. E., Oshawa
Park and Open Space	56	Darlington Provincial Park	1600 Darlington Park Rd, Bowmanville
Park and Open Space	26	Cowan Park	118 Olive Ave, Oshawa
Park and Open Space	24	Sunnyside Park	260 McKim St., Oshawa
Park and Open Space	33	Eastview Park	433 Eulalie Ave., Oshawa
Park and Open Space	54	Terry Fox Park	1300 Bloor St. E., Oshawa
Park and Open Space	55	Southport Park	946 Townline Rd S, Oshawa
Park and Open Space	50	Harmony Village Park	171 Harmony Rd S, Oshawa
Park and Open Space	28	Howard Park	513 Howard St., Oshawa
Park and Open Space	3	Glen Stewart Park	201 Cabot St., Oshawa

There are 19 parks and open spaces located within the Study Area. Of the 19 parks and open spaces, 18 are located in Oshawa. These parks and open spaces provide active and passive recreational activities, such as use of sports fields, splash pads, or open space and gazebos for relaxing. Darlington Provincial Park, located in Bowmanville, is a small provincial park bordering the north shore of Lake Ontario.



Addendum to Oshawa to Bowmanville Rail Service Extension Environmental Project Report: Socio-Economic and Land Use Characteristics Assessment

Description of Existing Conditions
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2.4.4.3 Community Groups and Resources

Community services within the Study Area are shown in Table 2.8. They provide a range of services and assistance, from childcare to housing assistance to recreational facilities.



Addendum to Oshawa to Bowmanville Rail Service Extension Environmental Project Report: Socio-Economic and Land Use Characteristics Assessment

Description of Existing Conditions

September 25, 2023

Table 2.8: Community Groups and Resources within the Study Area

Feature Type	Map ID	Feature Name	Address
Childcare	8	SKD Bilingual Child Care Centre, College Hill	530 Laval St, Oshawa
Childcare	14	St. Thomas Aquinas YMCA Before and After School	400 Pacific Avenue, Oshawa
Childcare	13	Les Lucioles, Oshawa (Francophone childcare)	362 Hillside Avenue, Oshawa
Childcare	40	SKD Bilingual Child Care Centre, David Bouchard	460 Wilson Road South, Oshawa
Childcare	46	Evangel Day Care Centre	374 Farewell Avenue, Oshawa
Childcare	57	Compass ELC, Bowmanville Holy Family	125 Aspen Springs Drive, Bowmanville
Housing	4	Oshawa Valley Co-Op	420 Bristol Cr, Oshawa
Housing	23	Legion Manor	470 Albert St. S, Oshawa
Housing	36	Durham Regional Local Housing Corporation - Normandy Hall	460 Normandy St, Oshawa
Housing	37	Durham Regional Local Housing Corporation - Dean Heights	439 Dean Av, Oshawa
Housing	39	Durham Regional Local Housing Corporation - Lomond	Lomond St/Christine Cr, Oshawa
Housing	38	Durham Regional Local Housing Corporation - Nevis/Normandy/Christine	Nevis St, Oshawa
Housing	48	Durham Regional Local Housing Corporation - Linden/Poplar	Linden St/Poplar St, Oshawa
Community Resources	17	Storie Community Centre	101 Mill St, Oshawa
Community Resources	25	Sunnyside Community Centre	260 McKim St, Oshawa
Community Resources	44	Kingside Community Centre	537 Tennyson Av, Oshawa
Community Resources	2	Glen Stewart Park Recreational Facility	201 Cabot St, Oshawa

Within the Study Area there are six childcare facilities, seven housing co-operatives, three community centres, and one recreational facility.



Addendum to Oshawa to Bowmanville Rail Service Extension Environmental Project Report: Socio-Economic and Land Use Characteristics Assessment

Description of Existing Conditions
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There are five childcare facilities in Oshawa and one in Bowmanville. There are two bilingual childcare centres, SKD Bilingual Child Care Centre (College Hill) and SKD Bilingual Child Care Centre. There is one Francophone childcare centre, Les Lucioles.

There are seven housing co-operatives located in Oshawa, including five operated by the Durham Regional Local Housing Corporation. There is one Legion Manor, and one Oshawa Valley Co-Op building within the Study Area.

Within the Study Area there are four community resources, including three community centres and one recreational facility. The community resources are all located in Oshawa.

2.4.5 Development Applications

Development applications for properties located within the Study Area are presented in Table 2.9 and Figure 2.5.

Table 2.9: Development Applications within the Study Area

Street #	Street	Proposal	Type of Application	Status
N/A	Dean Avenue opposite Normandy Street	88 stacked townhouses	Site Plan Approval, Draft Plan of Condominium	Under construction.
N/A	NW Corner Stevenson Road South & Champlain Avenue	Parking lot for the storage of new vehicles	Site Plan Approval	Application is in process.
39	McGrigor Street	33-unit apartment building	Site Plan Approval	Application is in process.
63	Albany Street	6 storey, 99-unit apartment building	Zoning By-law Amendment	Zoning approved in 2019.
64	Albany Street	11 storey, 100-unit apartment building	Zoning By-law Amendment	Zoning approved in 2020.
426	Front Street			
135	Bruce Street	Rezoning to permit 2,145 apartments, 96 townhouses & limited commercial uses	Zoning By-law Amendment	Zoning By-law Amendment for Phase 1 to permit the construction of 509 apartment units has been approved. Not yet under construction. Rezoning for the



Addendum to Oshawa to Bowmanville Rail Service Extension Environmental Project Report: Socio-Economic and Land Use Characteristics Assessment

Description of Existing Conditions

September 25, 2023

Street #	Street	Proposal	Type of Application	Status
				balance of the site remains in process.
223	Albert Street	New 10-unit apartment building	Site Plan Approval	Application is in process.
227	Simcoe Street South	New commercial development including an office, retail & soup kitchen	Site Plan Approval	Under construction.
250	Harmony Road South	212 townhouses	Site Plan Approval	Under construction.
255	Tresane Street	New 4-unit apartment building	Site Plan Approval & Part Lot Control	Application is in process.
446	Simcoe Street South	New 50-unit apartment building	Site Plan Approval	Application is in process.
480, 484, 490, 506	Ritson Road South	40 stacked townhouses	Zoning By-law Amendment	Application is in process.
485	Normandy Street	50 stacked townhouses	Site Plan Approval	Application is in process.
505	Simcoe Street South	Create a severed lot to the east, retaining lands with apartment building to the west	Land Division	Application is in process.
642	Champlain Avenue	New self-storage facility	Site Plan Approval	Under construction.
883	Thornton Road South	New 40, 877 m ² warehouse building	Site Plan Approval	Under construction.
63	Albany Street	New 99-unit apartment building	Zoning By-law Amendment	Zoning approved.
10	Aspen Springs Drive	One nine-storey mid-rise building and one 25-storey twin-tower mixed-use building, featuring 607 residential units and approximately 625 square metres of ground-floor commercial space.	Zoning By-law Amendment	Application is in process.



Addendum to Oshawa to Bowmanville Rail Service Extension Environmental Project Report: Socio-Economic and Land Use Characteristics Assessment

Description of Existing Conditions

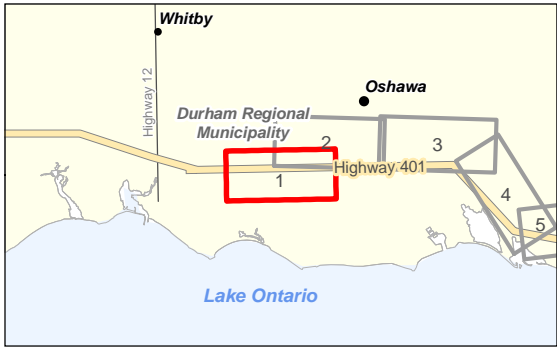
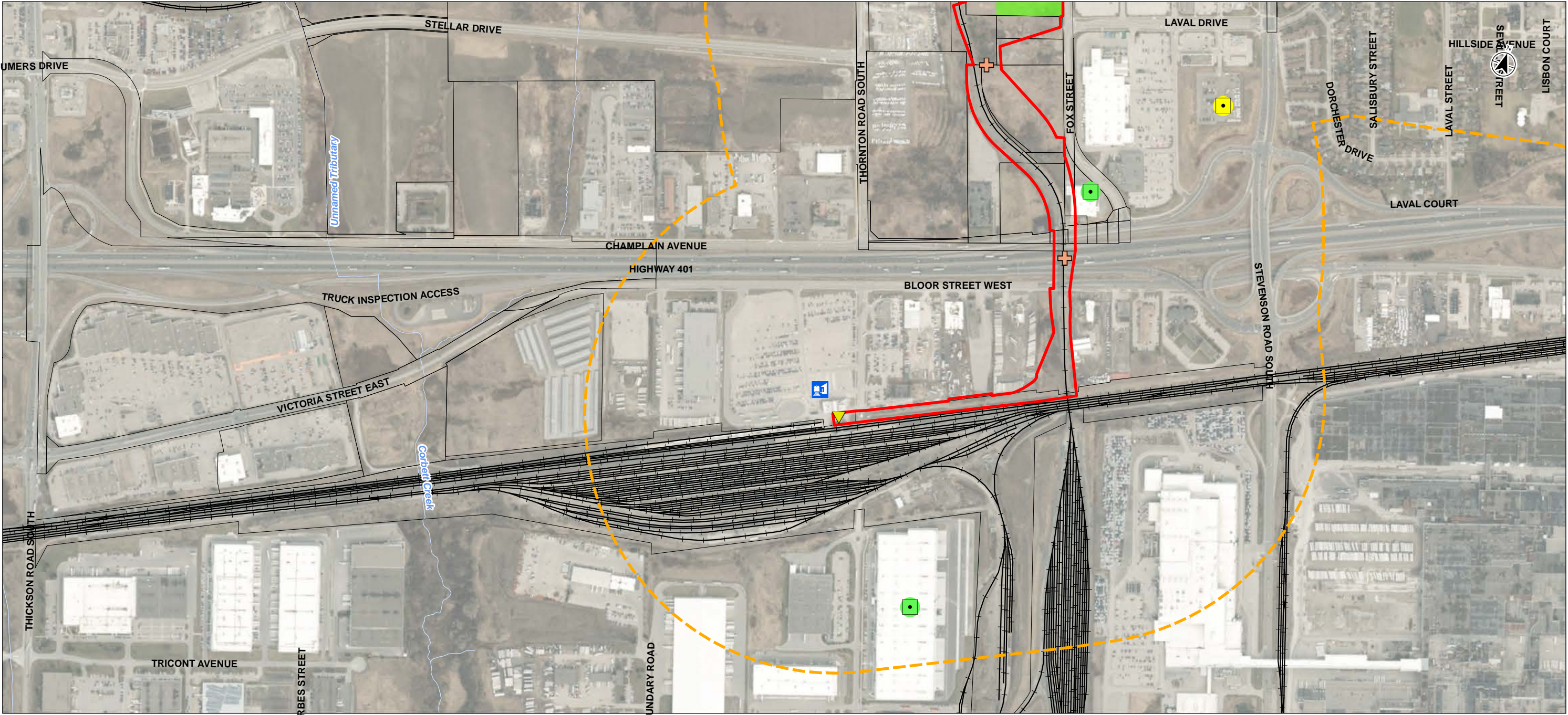
September 25, 2023

Street #	Street	Proposal	Type of Application	Status
46	Stevens Road	A seven-storey assisted care facility, an eight-storey assisted care facility, a 10-storey multi-unit building, and three townhouse blocks with 11 units.	Official Plan Amendment and Zoning By-law Amendment	Application is in process.
1558	Green Road	Plan of subdivision with a total of 194 residential units consisting of 53 single-detached units, 36 townhouse units and two blocks with a total of 105 units, including stacked townhouses and mid-rise apartment buildings as well as blocks for Environmentally Protected lands.	Draft Plan of Subdivision and rezoning	Application is in process.
394	Simcoe Street South	Proposal to remove the existing hotel on site and add 10 residential units to the existing 25 residential units on the property.	Building permit	Application to be submitted.

Source: City of Oshawa, D. Sappleton, email message to author, July 6, 2021.; Municipality of Clarington. 2023.



\\ao215-rplsa01\work_group\016501\active\65011019 - Bowmanville\402 - Amendment2 - Assignment11 - data\gis\mxd\active\65011019 - SE - Fig2-5 - Development Applications - Mapbook.mxd Revised: 2023-06-30 By: bcwower

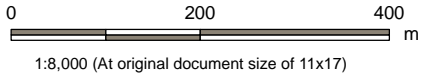


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- Legend**
- Project Footprint
 - Socio-Economic Study Area (500 m Buffer)
 - Existing Durham College Oshawa GO Station
 - Proposed Pedestrian Bridge Extension
 - Proposed New Bridge
 - Proposed GO Station Location
 - Existing Railway
 - Watercourse
 - Property Boundary
 - Site Plan Approval
- Active Developments**
- Site Plan Approval

- Application Status**
- Application Approved
 - Application in Progress



Project Location 165011019 REVA
Regionan Municipality Prepared by SVD on 2023-06-30
of Durham Technical Review by EFC on 2021-07-13

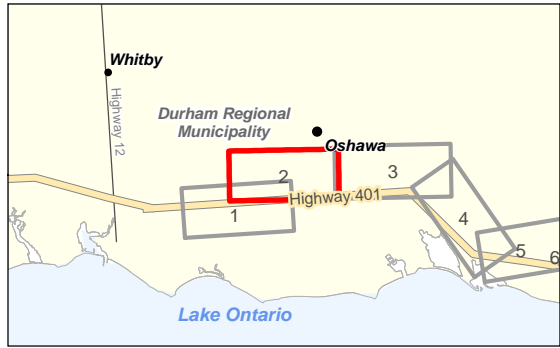
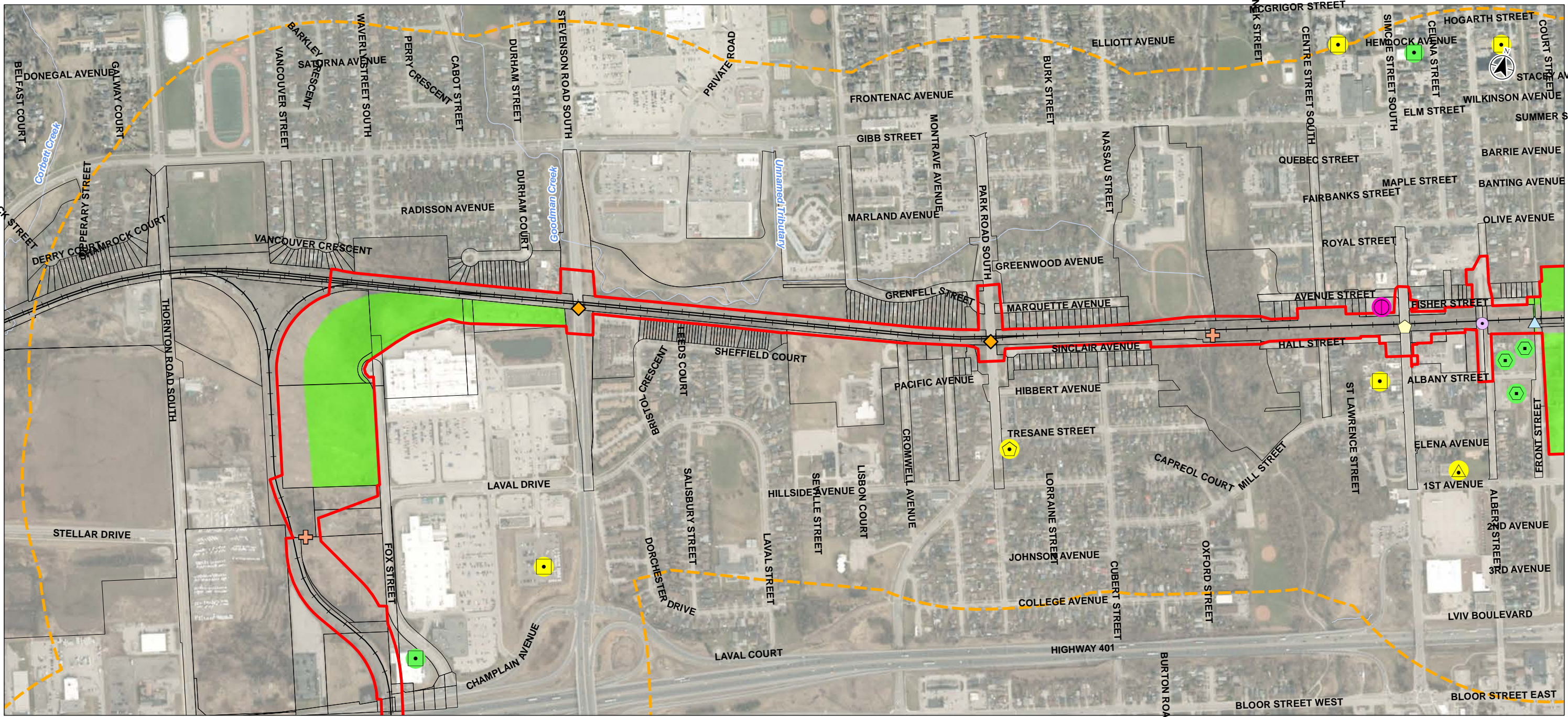
Client/Project
METROLINX
OSHAWA TO BOWMANVILLE RAIL SERVICE EXTENSION
PROJECT

Figure No.
2.5.1

Title
**Development Applications
within the Study Area**

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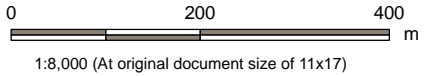
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 - Proposed Bridge Removal
 - Proposed New Multi-Use Grade-Separated Crossing
 - Proposed Bridge Expansion
 - Proposed GO Station Location
 - Existing Railway
 - Watercourse
 - Property Boundary

- Active Developments**
- Building Permit
 - Land Division
 - Site Plan Approval
 - Site Plan Approval & Part Lot Control
 - Zoning By-law Amendment
- Application Status**
- Application Approved
 - Application in Progress
 - Application to be Submitted



Project Location: Region of Durham
165011019 REVA
Prepared by SVD on 2023-06-30
Technical Review by EFC on 2021-07-13

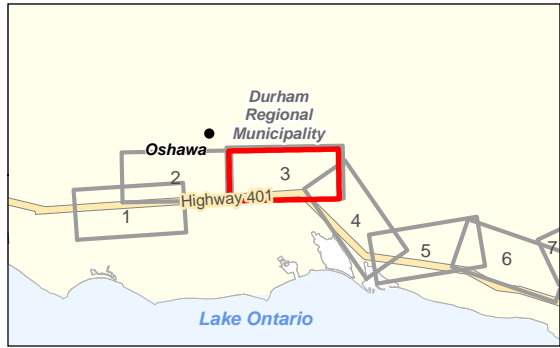
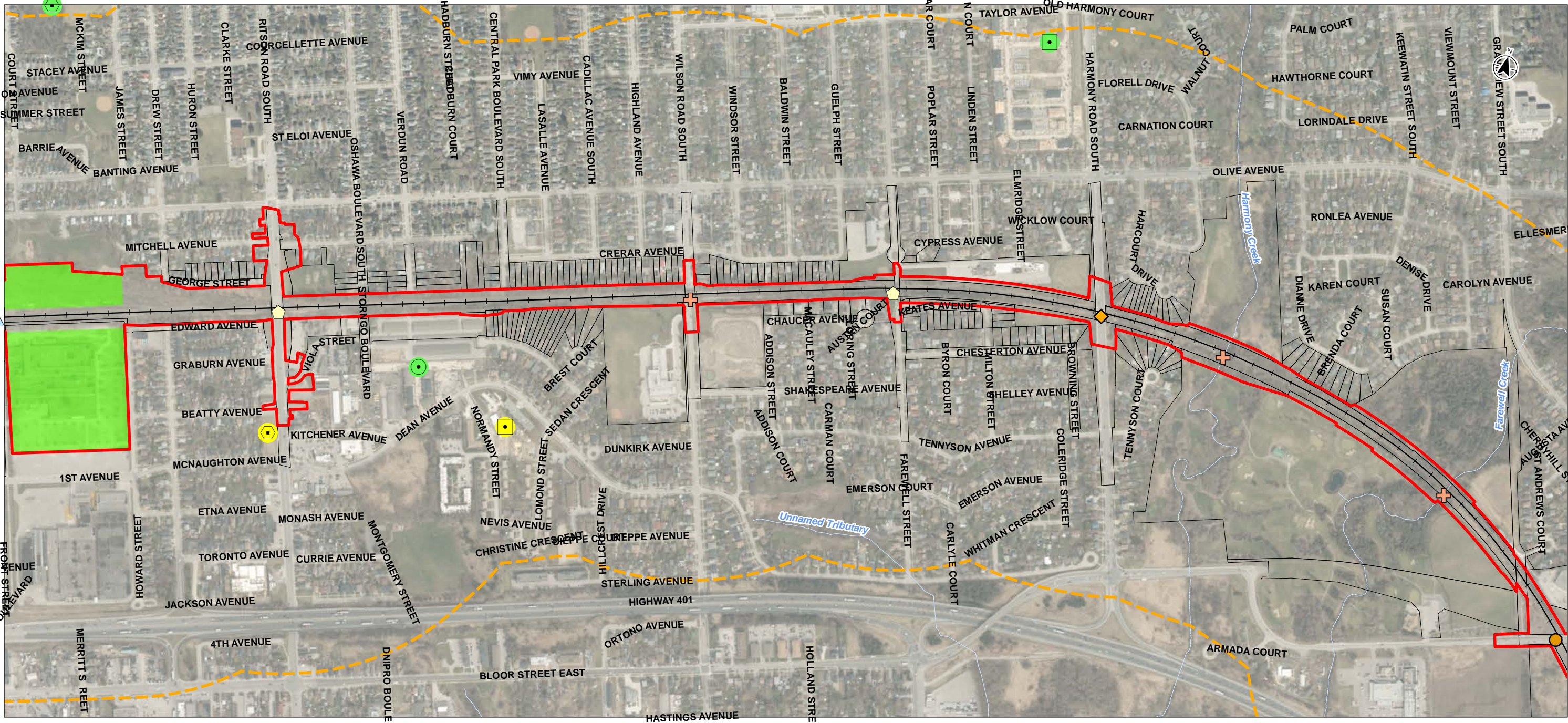
Client/Project: METROLINX
OSHAWA TO BOWMANVILLE RAIL SERVICE EXTENSION PROJECT

Figure No.: 2.5.2

Title: Development Applications within the Study Area

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 - Property Boundary

- Active Developments**
- Site Plan Approval
 - Site Plan Approval, Draft Plan of Condominium
 - Zoning By-law Amendment
- Application Status**
- Application Approved
 - Application in Progress



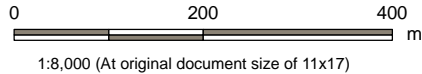
Project Location
Region of Durham

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Technical Review by EFC on 2021-07-13

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OSHAWA TO BOWMANVILLE RAIL SERVICE EXTENSION PROJECT

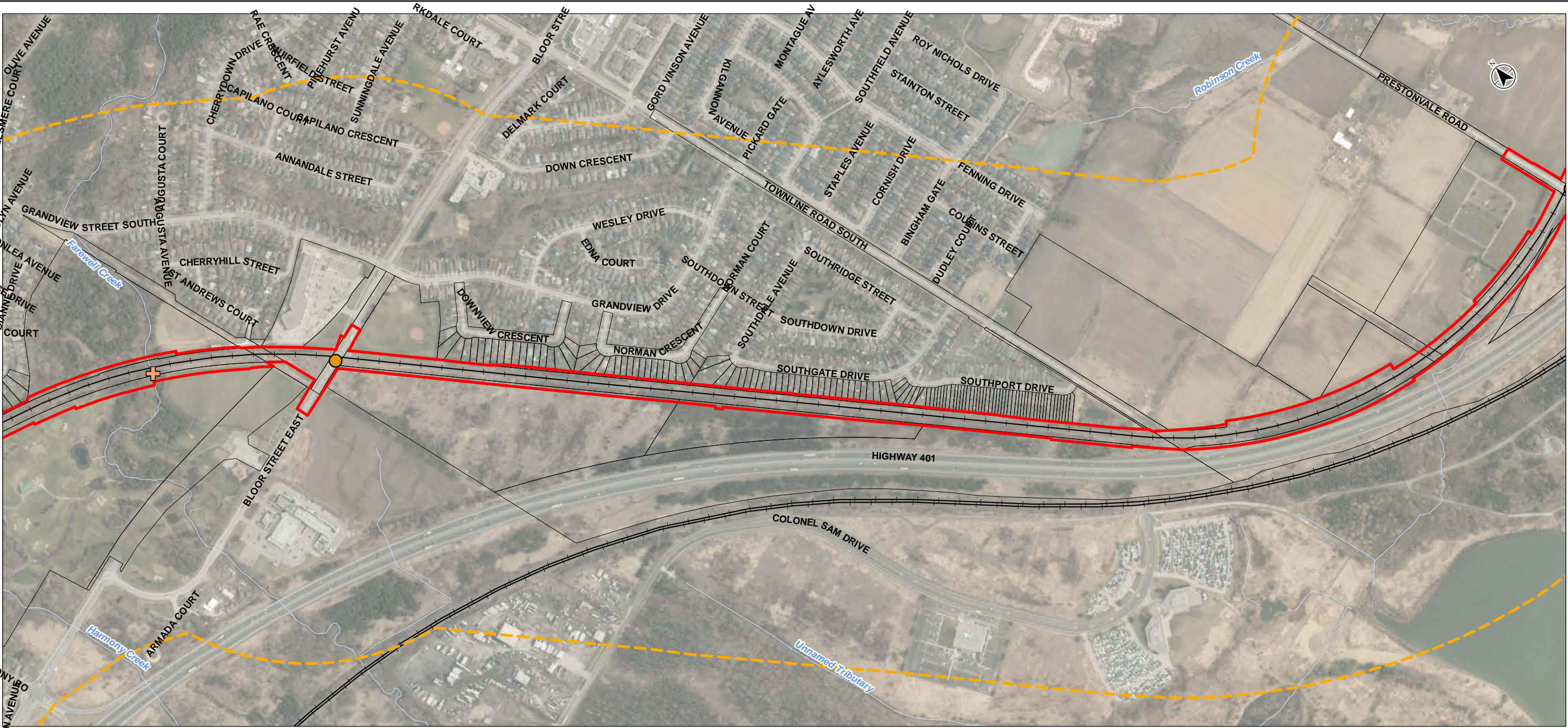
Figure No.
2.5.3

Title
Development Applications within the Study Area



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Revised: 2023-06-30 By: bcowner



- Legend
- Project Footprint
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Technical Review by EFC on 2021-07-13

Client/Project
METROLINX
OSHAWA TO BOWMANVILLE RAIL SERVICE EXTENSION
PROJECT

Figure No.

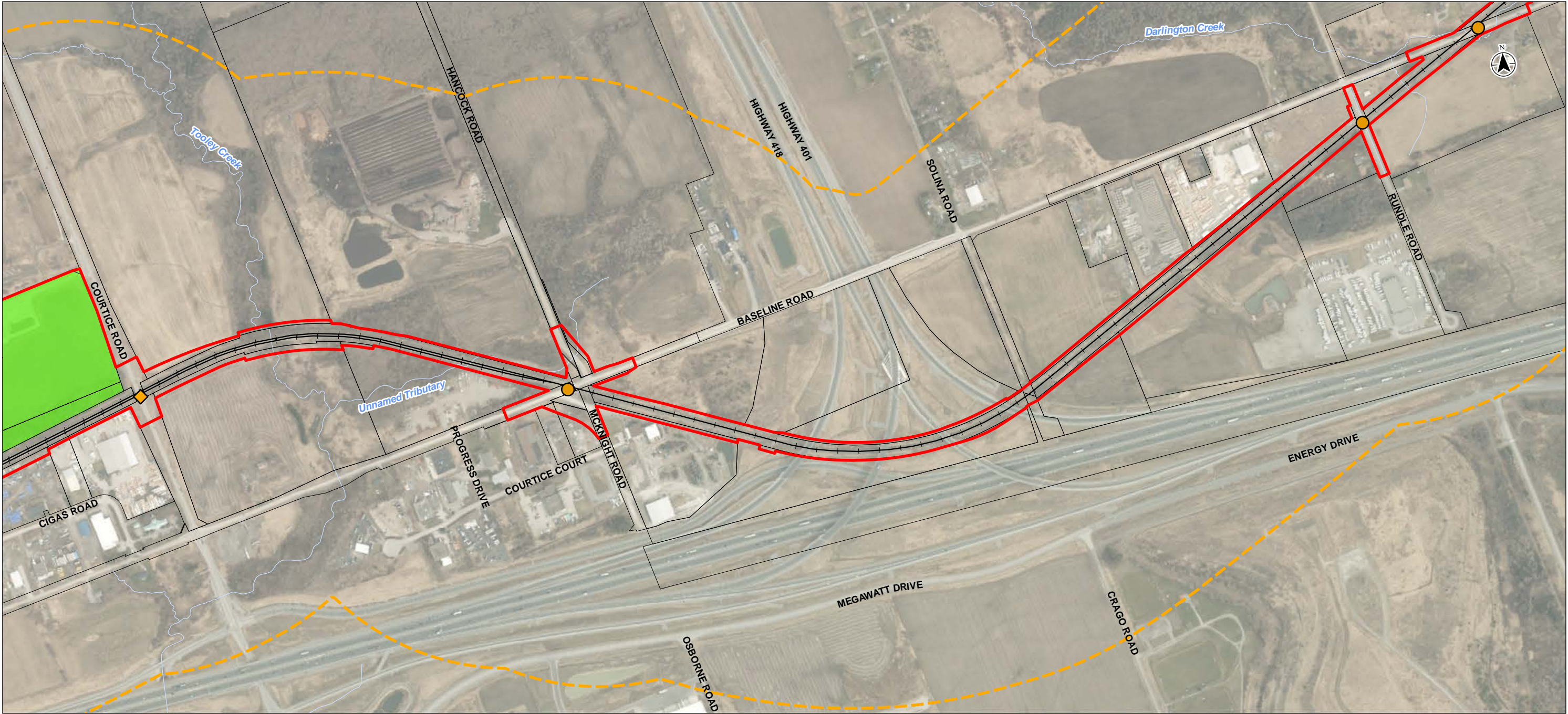
2.5.4

Title

**Development Applications
within the Study Area**

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Project Location
Region of Durham

165011019 REVA
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Technical Review by EFC on 2021-07-13

Client/Project
METROLINX
OSHAWA TO BOWMANVILLE RAIL SERVICE EXTENSION
PROJECT

Figure No.

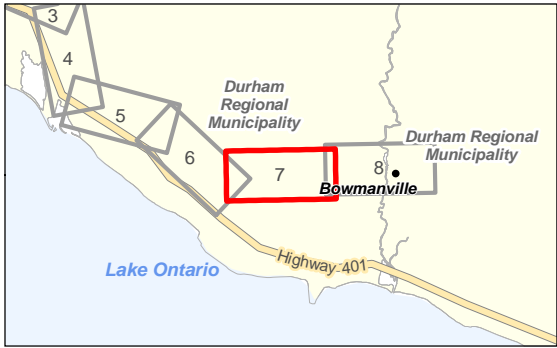
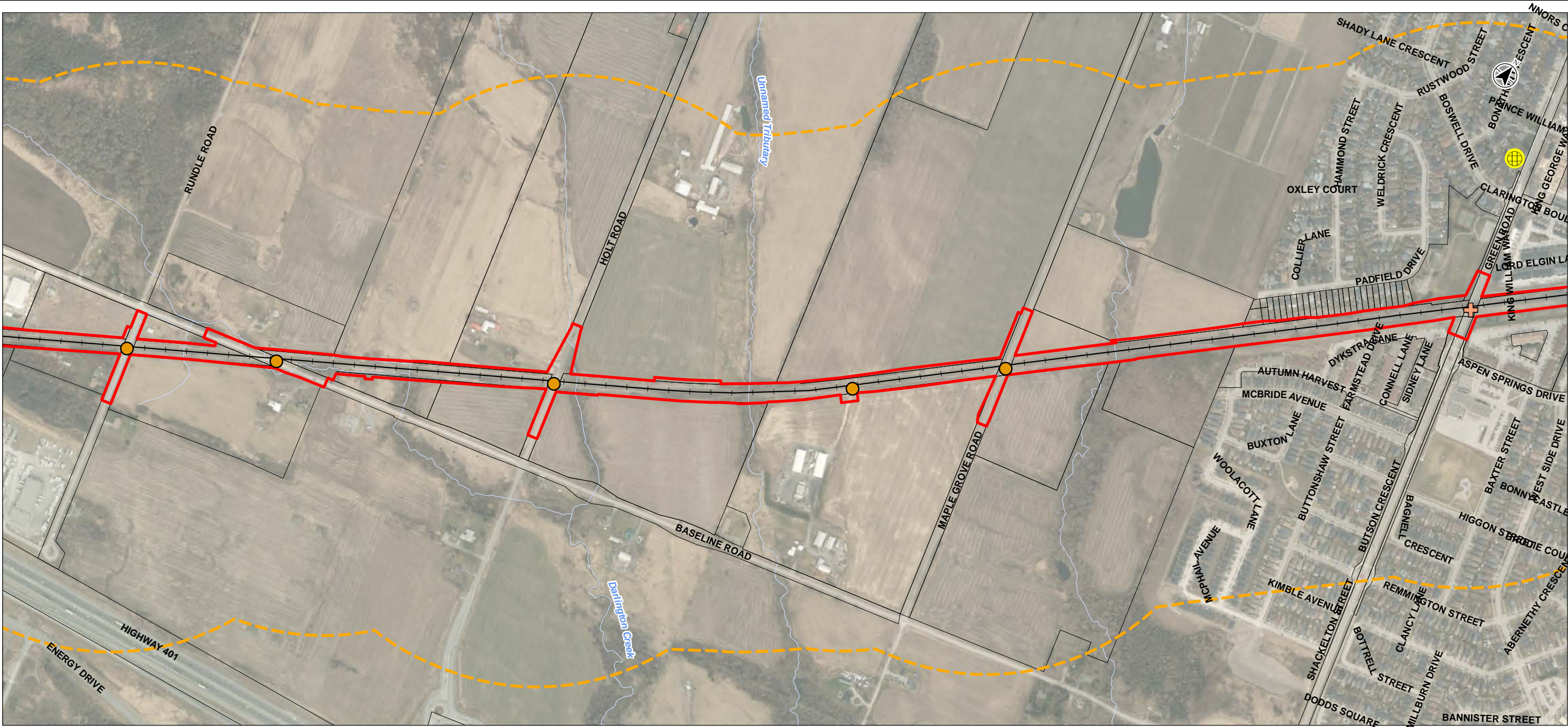
2.5.6

Title

**Development Applications
within the Study Area**

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 - Existing Railway
 - Watercourse
 - Property Boundary
- Active Developments**
- Draft Plan of Subdivision and Rezoning
- Application Status**
- Application in Progress



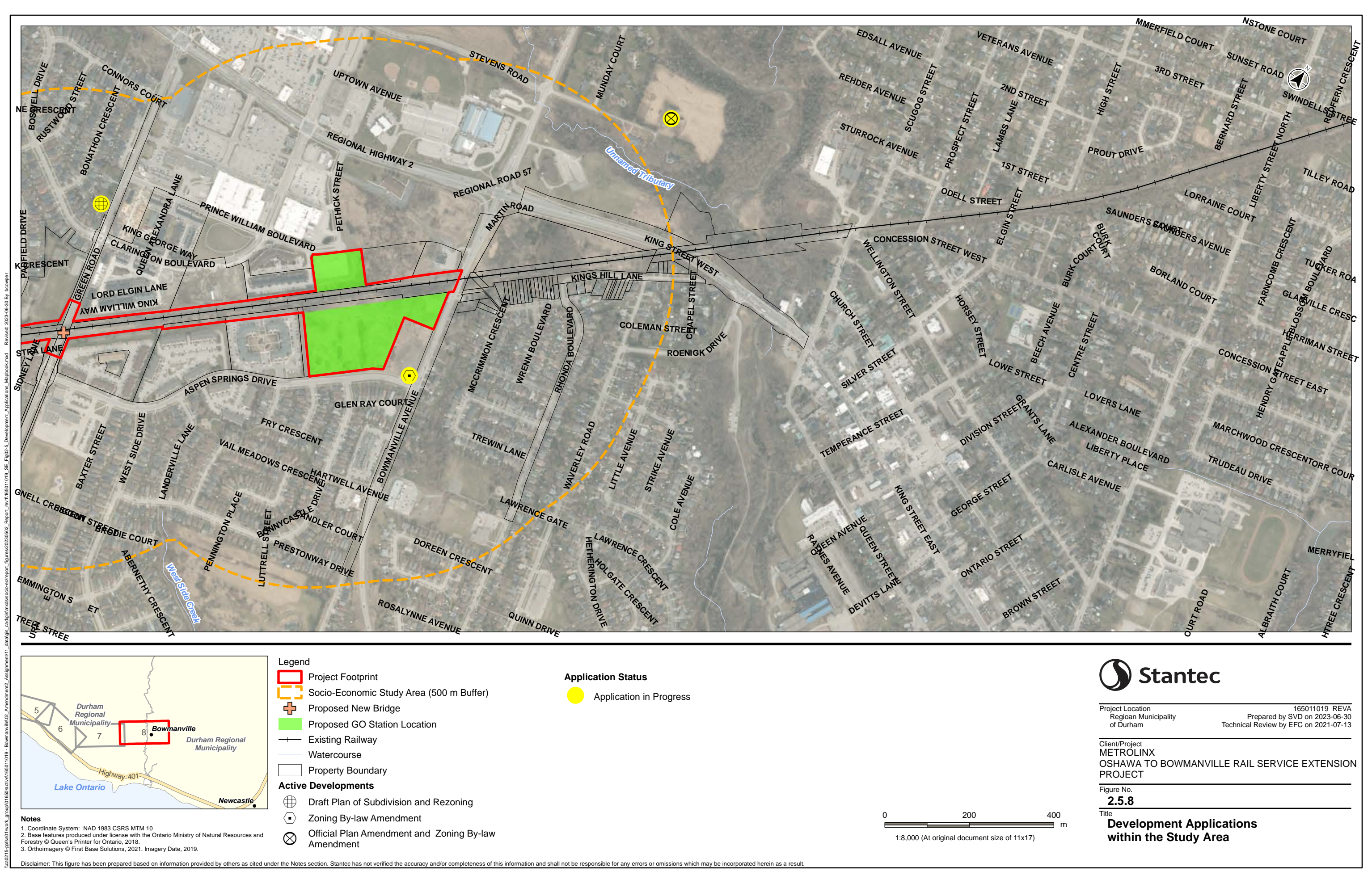
Project Location 165011019 REVA
Region Municipality Prepared by SVD on 2023-06-30
of Durham Technical Review by EFC on 2021-07-13

Client/Project
METROLINX
OSHAWA TO BOWMANVILLE RAIL SERVICE EXTENSION
PROJECT

Figure No.
2.5.7

Title
**Development Applications
within the Study Area**

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Addendum to Oshawa to Bowmanville Rail Service Extension Environmental Project Report: Socio-Economic and Land Use Characteristics Assessment

Description of Existing Conditions
September 25, 2023

2.5 Built form and Visual Characteristics

The general visual character of the Study Area varies between urban/suburban with some park land, which transitions to agricultural lands and back to urban/suburban. The Study Area has level topography, with some areas of slight elevation. The Study Area includes small waterways, such as Darlington Creek, Harmony Creek, and Tooley Creek. The Study Area also includes prominent natural features such as McLaughlin Bay Wildlife Reserve and Darlington Provincial Park. The general visual characteristics of nine neighbourhoods along the Project Footprint are described below.

2.5.1 Whitby South

The Study Area overlaps a small portion of the Whitby South neighbourhood. The rail corridor is surrounded by industrial areas to the north and south, which are interspersed with open spaces. The rail corridor is partially shielded by vegetation that parallels the tracks. However, train movements are visible in surrounding industrial areas. No segments of rail corridor within the Project Footprint overlap the Whitby South neighbourhood. There are no existing rail-road crossings in the section of the Whitby South neighbourhood that overlaps the Project Footprint.

2.5.2 Lakeview

The Study Area encompasses the DC Oshawa GO, including the accompanying parking lot. The rail corridor is surrounded by industrial and commercial areas to the north and south, with some open green space to the southeast. As the rail turns and heads northwest, the rail crosses over Highway 401 via an elevated crossing. The McLaughlin Bay Wildlife Reserve is located in the Lakeview neighbourhood. The segment of rail corridor within the Project Footprint is 0.6 km long in the Lakeview neighbourhood. Lakeview has an existing rail bridge within the Project Footprint: a rail bridge over Highway 401 and Bloor Street West. The existing bridge structure is visible to vehicles, cyclists, and pedestrians using Bloor Street west and vehicles on Highway 401 (see Figure 2.6).



Addendum to Oshawa to Bowmanville Rail Service Extension Environmental Project Report: Socio-Economic and Land Use Characteristics Assessment

Description of Existing Conditions

September 25, 2023

Figure 2.6: Existing Rail Bridge over Bloor Street and Highway 401



Source: Google 2020a. Existing Rail Bridge over Bloor Street and Highway 401 [Image]. Scale unknown. Oshawa, Ontario.

2.5.3 Gibb West

The rail corridor enters the Gibb West neighbourhood crossing through open green space. The rail corridor is partially shielded by vegetation that parallels the tracks. There are commercial buildings to the north of the rail corridor, as well as to the west. As the rail corridor divert to the east, residential neighborhoods composed of multi-family homes to the north. The residential area is mostly shielded by vegetation that parallels the tracks. The rail corridor passes below Stevenson Road. Multi-family homes and Co-Operative homes are located to the south of the rail corridor after Stevenson Road, which are shielded by vegetation that parallel the tracks. Large open spaces and parks and multi-family homes are located to the north, which are only partially shielded by vegetation that parallel the tracks. The rail corridor passes below Park Road South, which marks the transition to single-family dwellings both to north and south of the tracks. The crossing over Park Road south is seen in Figure 2.7 and shows the general character of road bridges over the rail corridor in the Study Area.



Addendum to Oshawa to Bowmanville Rail Service Extension Environmental Project Report: Socio-Economic and Land Use Characteristics Assessment

Description of Existing Conditions
September 25, 2023

Figure 2.7: Existing Bridge over Park Road South



Source: Google 2020b. Existing Bridge over Park Road South [Image]. Scale unknown. Oshawa, Ontario.

The tracks then pass over Oshawa Creek via an elevated crossing. The Joseph Kolodzie Oshawa Creek Bike Path runs underneath the rail bridge over Oshawa Creek. The segment of rail corridor within the Project Footprint is 2.7 km long in the Gibb West neighbourhood.

2.5.4 Downtown Oshawa

The rail corridor enters Downtown Oshawa with residential areas immediately to the north and south. The residential areas include both single-family dwelling and multi-unit dwellings, which transitions to commercial areas to the south as the rail approaches Simcoe Street. The existing tracks run below a bridge that carries Simcoe Street over the rail corridor. The residential and commercial areas are shielded by vegetation that parallels the tracks. The tracks then pass under the Albert Street bridge which carries the road over the rail corridor (see Figure 2.8 and Figure 2.9).



Addendum to Oshawa to Bowmanville Rail Service Extension Environmental Project Report: Socio-Economic and Land Use Characteristics Assessment

Description of Existing Conditions
September 25, 2023

Figure 2.8: Existing Albert Street Crossing



Figure 2.9: Side View of Existing Albert Street Crossing



The Michael Starr Trail crosses the rail corridor via an at-grade crossing just east of Albert Street. The former Ontario Malleable Iron Company and Knob Hill Farms site is



Addendum to Oshawa to Bowmanville Rail Service Extension Environmental Project Report: Socio-Economic and Land Use Characteristics Assessment

Description of Existing Conditions
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located east of Albert Street and south of the existing tracks. The former industrial site is followed by more residential areas to the north and south of the tracks. These residential areas are primarily single-family dwellings, with some multi-family units dispersed throughout. There are several parks throughout the residential areas to the north. The residential areas are shielded by vegetation that parallels the tracks; however, train movements may be visible to some residents. The rail corridor passes below Ritson Road South. After Ritson Road South, there is a commercial area to the south of the tracks, which is followed by high density residential areas. The residential area is primarily single-family dwellings. The residents are shielded by vegetation that parallels the tracks. The segment of rail corridor within the Project Footprint is 2 km long in the Downtown Oshawa neighbourhood. Many of the existing rail-road crossings in the Downtown Oshawa neighbourhood also border the Central Park neighbourhood.

2.5.5 Central Park

The rail corridor passes through residential areas to the north, which consists of primarily single-family dwellings. The rail corridor passes over Wilson Road South via an elevated crossing (see Figure 2.10).

Figure 2.10: Existing Rail Bridge at Wilson Road South



Source: Google 2020c. Existing Rail Bridge at Wilson Road South [Image]. Scale unknown. Oshawa, Ontario.



Addendum to Oshawa to Bowmanville Rail Service Extension Environmental Project Report: Socio-Economic and Land Use Characteristics Assessment

Description of Existing Conditions
September 25, 2023

Following Wilson Road South, residential areas are located to the south of the rail corridor and consist of primarily single-family dwellings. There is a walking trail that crosses the tracks to connect Farewell Street over the tracks via a multi-use bridge (see Figure 2.11).

Figure 2.11: Existing Farewell Street Multi-Use Bridge



The rail corridor then passes below Harmony Road South. Residential areas are partially shielded by vegetation that parallels the tracks. The segment of rail corridor within the Project Footprint is 0.8 km long in the Central Park neighbourhood.



Addendum to Oshawa to Bowmanville Rail Service Extension Environmental Project Report: Socio-Economic and Land Use Characteristics Assessment

Description of Existing Conditions
September 25, 2023

2.5.6 Grandview South

The rail corridor enters the Grandview South neighbourhood in an area that consists primarily of single-family dwellings located to the north and northeast, as well as south of the tracks. As the rail corridor turns and begins travelling southeast, residential areas continue to the northeast and east of the tracks. Lands to the southwest of the tracks include open spaces and a golf course. The residential areas are shielded by vegetation that parallels the tracks; however, train movements may be visible. The rail corridor passes over Bloor Street East at-grade. The segment of rail corridor within the Project Footprint is 2.8 km long in the Grandview neighbourhood. Grandview South has three rail crossings: a rail bridge over Harmony Creek, a rail bridge over Farewell Creek, and an at-grade crossing at Bloor Street East.

2.5.7 Courtice South

Within the Study Area, the neighbourhood of Courtice South consists of agricultural lands to the northeast of the tracks, as well as a small portion of land to the southeast of the tracks. The existing tracks cross Prestonvale Road at-grade. The rail corridor is partially shielded by vegetation that parallels the tracks. The segment of rail corridor within the Project Footprint is 1 km long in the Courtice South neighbourhood.

2.5.8 Darlington

Within the Study Area, the Darlington neighbourhood consists of agricultural lands and industrial and commercial lots to both the north and south of the tracks. There are very few residential buildings, except for a few single-family homes north of the tracks. The rail corridor is paralleled by intermittent vegetation to the north and south of the tracks. There is a private at-grade rail crossing between Prestonvale Road and Trulls Road at Dom's Auto Parts. The rail corridor crosses Trulls Road then passes below Courtice Road before turning and heading southeast. The rail corridor then crosses Baseline Road West at-grade. As the rail corridor approaches Highway 418, commercial areas are located to the south of the tracks. The rail corridor passes below Highway 418 and turns to the northeast. As the rail corridor approaches Rundle Road, there are a few single-family homes to the north and south. The rail corridor crosses both Rundle Road and Baseline Road West at-grade. The rail corridor continues towards Bowmanville and crosses Holt Road, a private crossing west of Maple Grove Road and Maple Grove Road at-grade. Figure 2.12 which depicts the current at-grade crossing at Holt Road, shows the general character of at-grade crossings within the Study Area.



Addendum to Oshawa to Bowmanville Rail Service Extension Environmental Project Report: Socio-Economic and Land Use Characteristics Assessment

Description of Existing Conditions

September 25, 2023

Figure 2.12: Existing At-Grade Crossing at Holt Road



The segment of rail corridor within the Project Footprint is 6.6 km long in the Darlington neighbourhood.

2.5.9 Bowmanville South

The Bowmanville South neighbourhood transitions from agricultural lands back to primarily residential areas, which consist of single-family homes to the north and multi-unit buildings to the south. The track is elevated slightly, as the topography changes to small hills. The rail corridor crosses over Green Road via an elevated crossing. The residential areas are shielded by vegetation that parallels the tracks to the north and south. As the rail approaches Bowmanville Avenue, multi-unit housing is located to the north and south. Residential buildings to the north are shielded by noise walls that parallel the tracks. There are also commercial areas to the north. The rail corridor passes below Bowmanville Avenue. The segment of rail corridor within the Project Footprint is 1.9 km long in the Bowmanville South neighbourhood.



Addendum to Oshawa to Bowmanville Rail Service Extension Environmental Project Report: Socio-Economic and Land Use Characteristics Assessment

Description of Existing Conditions

September 25, 2023

2.5.10 Bowmanville North

The portion of the Bowmanville North neighbourhood within the Socio-Economic and Land Use Assessment Area consists of a church and a vegetation area. The rail corridor is not visible from the Bowmanville North neighbourhood and no segments of rail corridor overlap this neighbourhood.

2.6 Utilities

A preliminary list of the type and owners of utilities in the Study Area is presented in Table 2.10. However, the potential for utility conflicts will be further confirmed as the Project progresses through detailed design.

Table 2.10: Utilities in the Study Area

Utility Type	Owners
Watermains, Culverts, Sanitary Sewers and Storm Sewers	Region of Durham, City of Oshawa, Municipality of Clarington, Canadian Pacific Railway, and private ownership
Pipelines and Gas	Enbridge Gas Inc.
Hydro, Railway Lighting, and Street Lighting	Hydro One Networks Inc., Oshawa Public Utilities Company, Canadian Pacific Railway, and Canadian National Railway Company
Communications	Rogers Communications Canada, Zayo Canada, and Bell Canada



Addendum to Oshawa to Bowmanville Rail Service Extension Environmental Project Report: Socio-Economic and Land Use Characteristics Assessment

Effects Assessment, Mitigation and Monitoring of the Preferred Design
September 25, 2023

3.0 Effects Assessment, Mitigation and Monitoring of the Preferred Design

This effects assessment identifies potential socio-economic and land use effects associated with the construction and operations phases of the Project and proposes mitigation and monitoring measures where potential effects are predicted, aiming to avoid or reduce these adverse effects. The assessment of potential effects and appropriate mitigation measures in this section specifically addresses Project effects on land use and property, built form and visual characteristics, and utilities.

3.1 Land Use and Property

Land use and property refers to the changes in land use or property ownership, through either permanent or temporary property acquisition, changes in access, and nuisance effects that may result from construction and operations of the Project.

3.1.1 Potential Effects

3.1.1.1 Construction

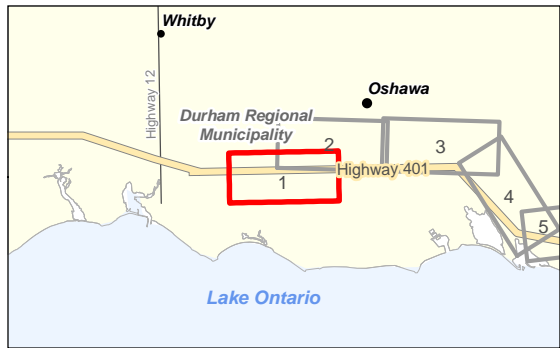
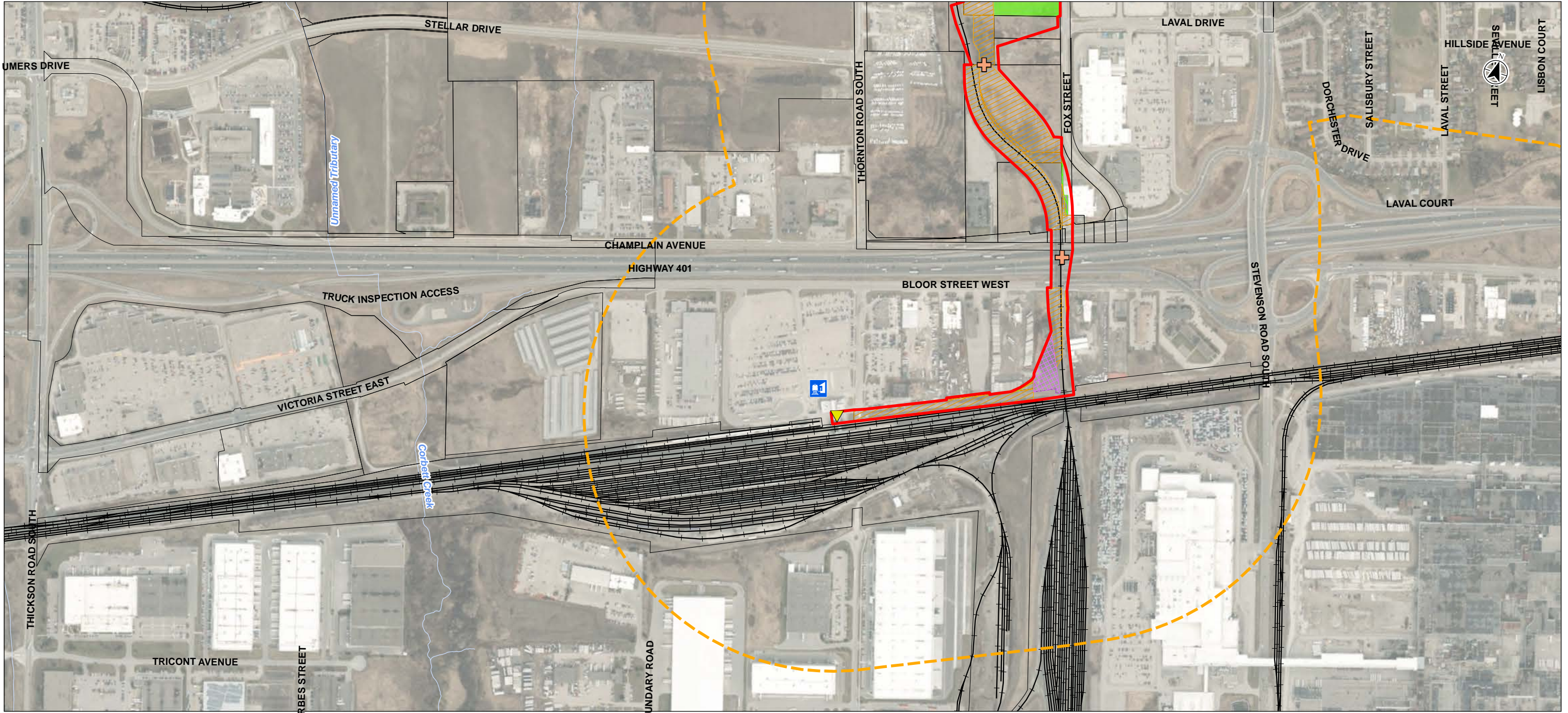
As most construction activities will take place within the existing rail and road corridors, no changes in land use are anticipated for trackwork and bridges/overpasses. Project components that require permanent land acquisition and result in a change in land use may require discussions with municipalities regarding alignment with existing Official Plans and zoning requirements.

GO stations for the Project will be pursued through Metrolinx's Transit-Oriented Communities program. Third parties will be required to follow the established municipal planning approvals process for each location. Transit-Oriented Community development is not considered in this report.

Construction of the Project according to the current design will result in permanent property acquisitions and temporary easements, as shown in Figure 3.1 and summarized in Table 3.1. Potential temporary or permanent easements and permanent property acquisitions are denoted by a “●”. If no potential property acquisition or easement is anticipated in a given section, a “-” is indicated. Specific property requirements will be determined during the detailed design stage, should there be any deviations from the conceptual design.



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 - Waterbody
 - Property Boundary
 - Proposed Property Acquisition
 - Proposed Property Permanent Easement
 - Proposed Temporary Easement

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Project Location 165011019 REVA
Region Municipality of Durham Prepared by BCC on 2023-06-05
Technical Review by EFC on 2021-07-13

Client/Project
METROLINX
OSHAWA TO BOWMANVILLE RAIL SERVICE EXTENSION
PROJECT

Figure No.

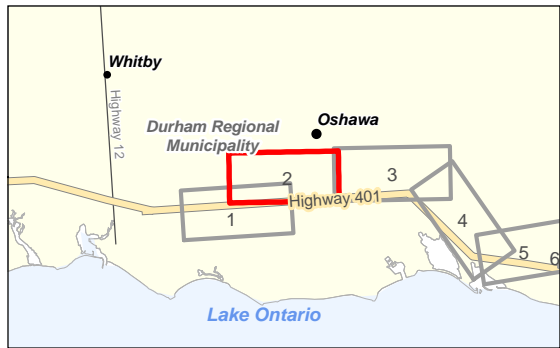
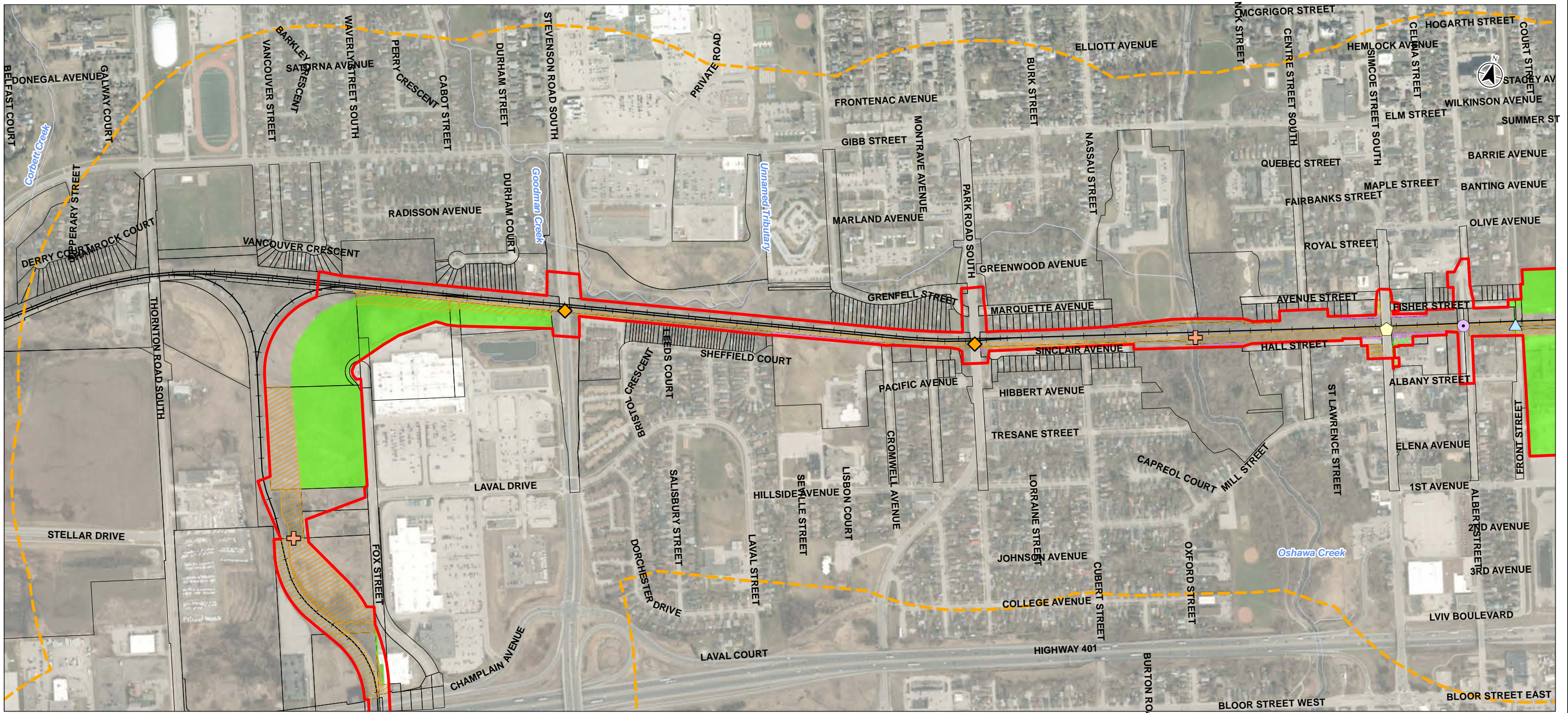
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Title

**Proposed Permanent and Temporary
Property Impacts within the Project**

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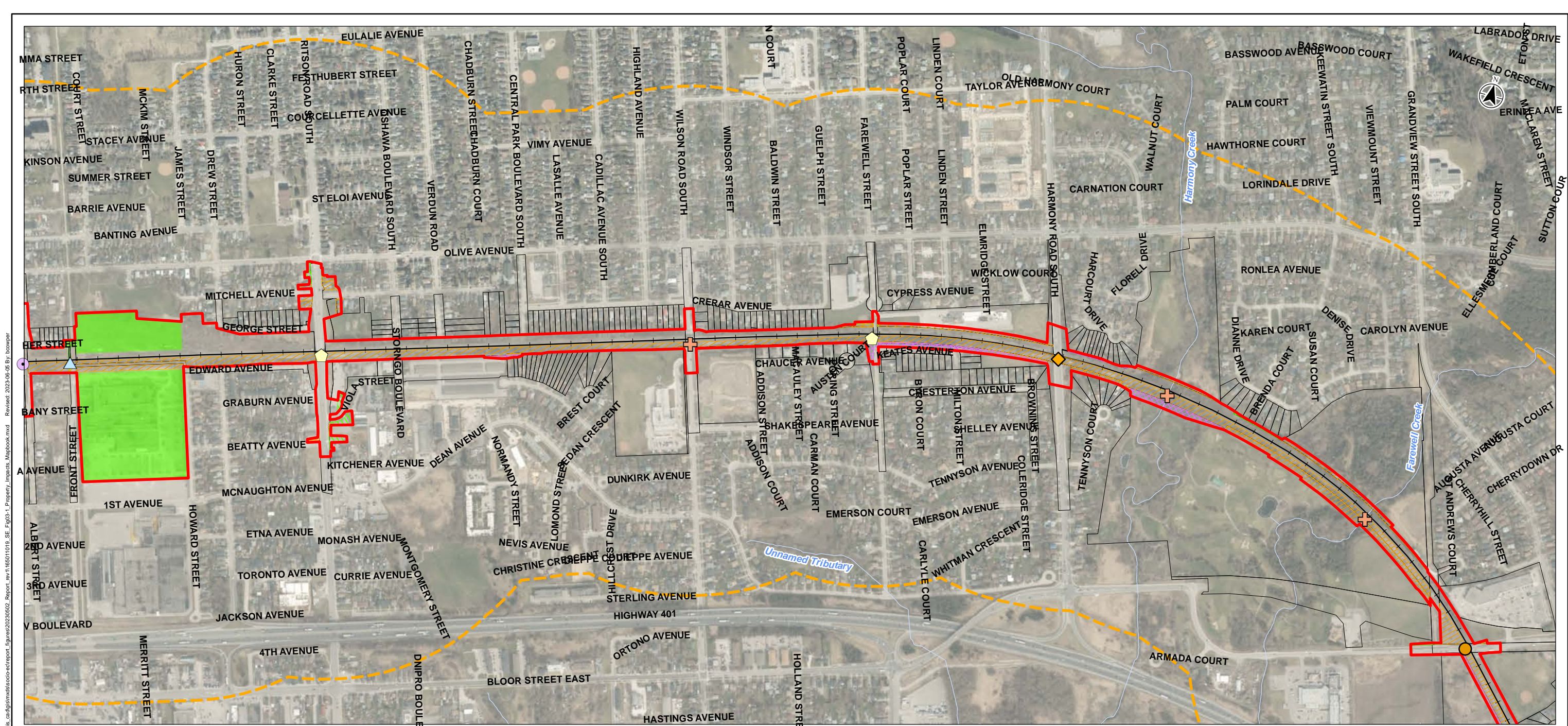
Figure No.

3.1.2

Title

**Proposed Permanent and Temporary
Property Impacts within the Project**

Disclaimer: This figure has been prepared based on information provided by others as cited under the Notes section. Stantec has not verified the accuracy and/or completeness of this information and shall not be responsible for any errors or omissions which may be incorporated herein as a result.



Notes

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Legend

- | | |
|---|--------------------------------------|
| Project Footprint | Waterbody |
| Socio-Economic Study Area (500 m Buffer) | Property Boundary |
| Proposed New Bridge | Proposed Property Acquisition |
| Proposed Bridge Replacement | Proposed Property Permanent Easement |
| Proposed Bridge Removal | Proposed Temporary Easement |
| Proposed New Multi-Use Grade-Separated Crossing | |
| Proposed Upgrades to At-Grade Crossing | |
| Proposed Bridge Expansion | |
| Proposed GO Station Location | |
| Existing Railway | |
| Watercourse | |

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Project Location 165011019 REVA
Regionan Municipality Prepared by BCC on 2023-06-05
of Durham Technical Review by EFC on 2021-07-13

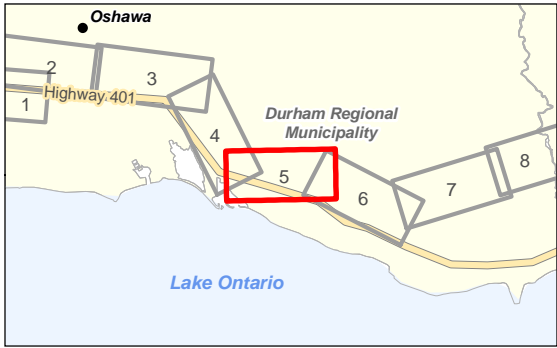
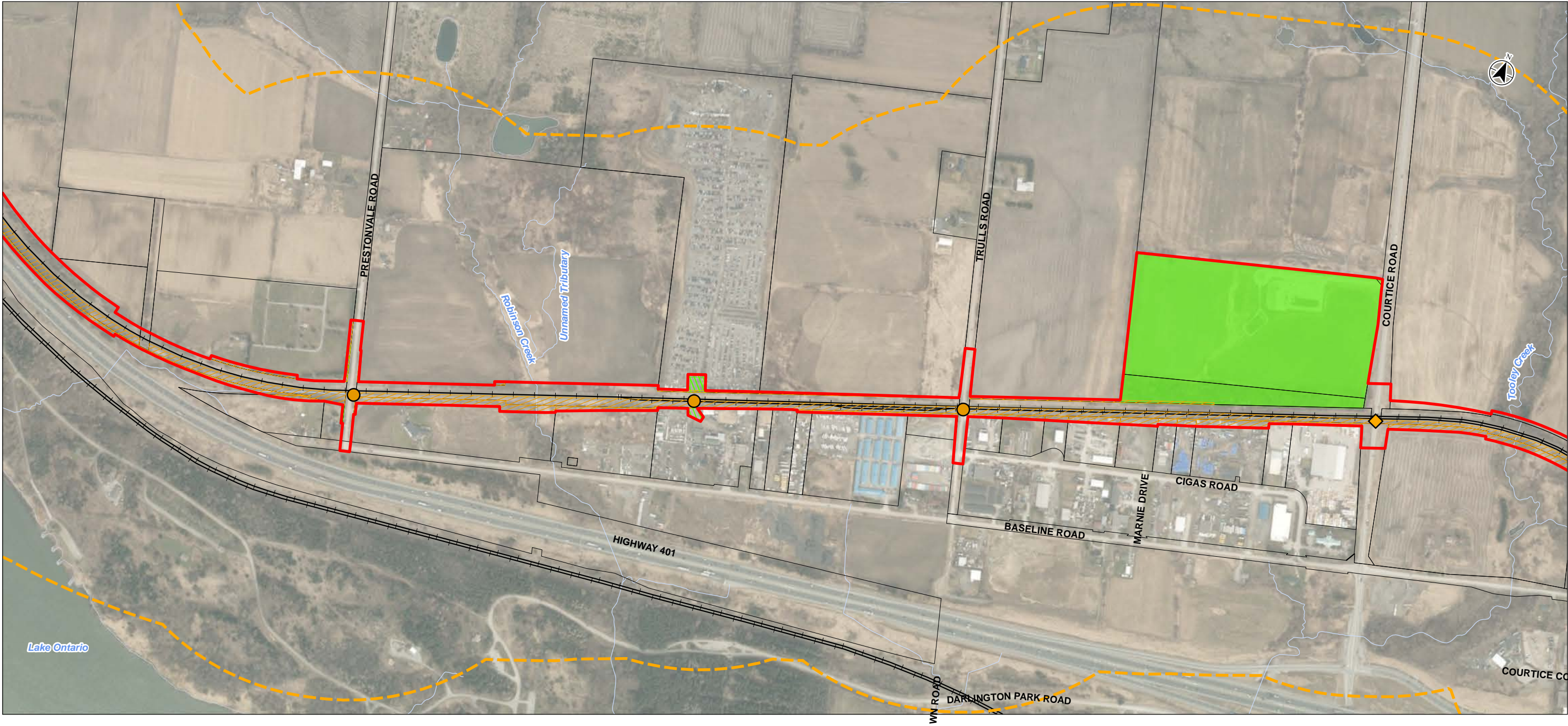
Client/Project
METROLINX
OSHAWA TO BOWMANVILLE RAIL SERVICE EXTENSION
PROJECT

Figure No.
3.1.3

Title
**Proposed Permanent and Temporary
Property Impacts within the Project**

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- Legend**
- Project Footprint
 - Socio-Economic Study Area (500 m Buffer)
 - Proposed Upgrades to At-Grade Crossing
 - Proposed Bridge Expansion
 - Proposed GO Station Location
 - Existing Railway
 - Watercourse
 - Waterbody
 - Property Boundary
 - Proposed Property Acquisition
 - Proposed Temporary Easement

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Project Location
Region of Durham
165011019 REVA
Prepared by BCC on 2023-06-05
Technical Review by EFC on 2021-07-13

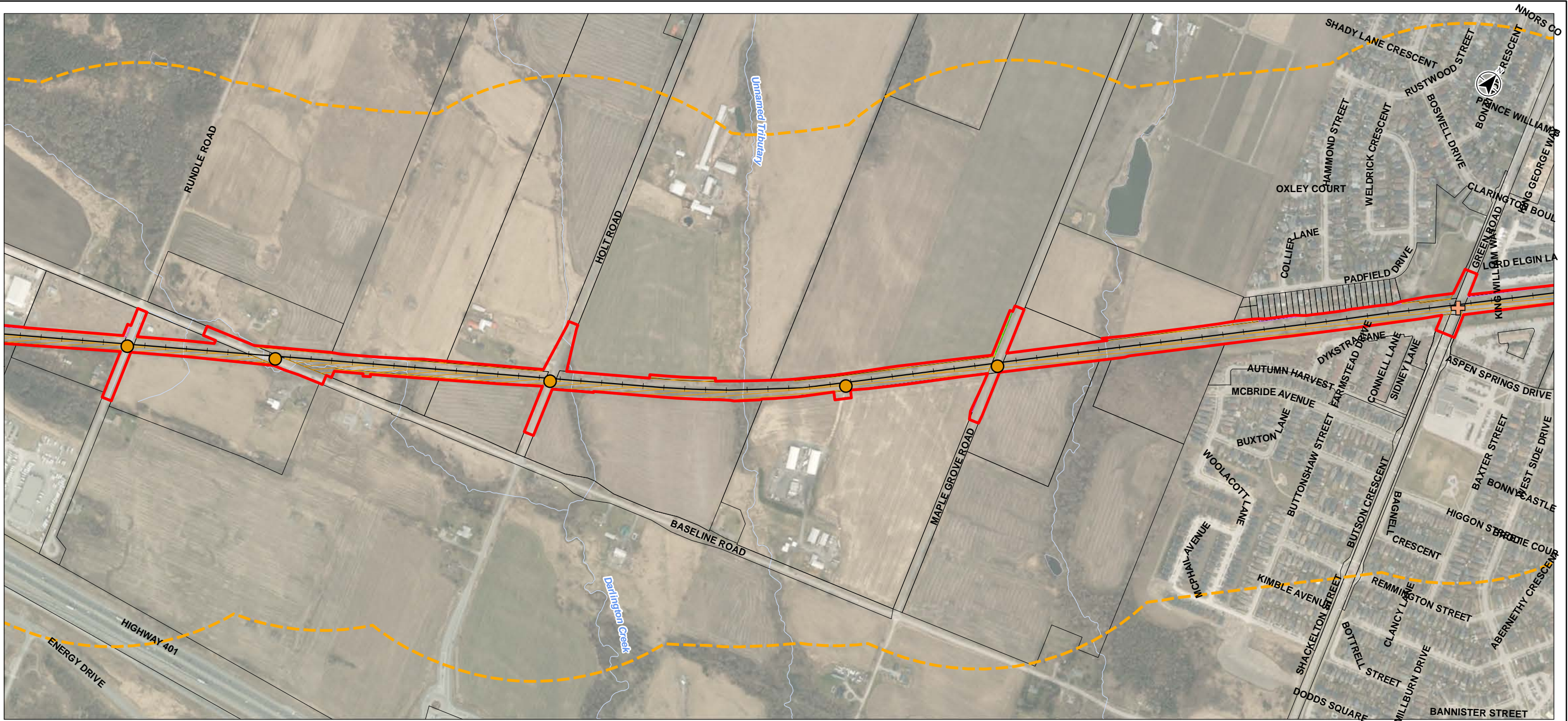
Client/Project
METROLINX
OSHAWA TO BOWMANVILLE RAIL SERVICE EXTENSION
PROJECT

Figure No.
3.1.5

Title
**Proposed Permanent and Temporary
Property Impacts within the Project**

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- Legend**
- Project Footprint
 - Socio-Economic Study Area (500 m Buffer)
 - Proposed New Bridge
 - Proposed Upgrades to At-Grade Crossing
 - Existing Railway
 - Watercourse
 - Waterbody
 - Property Boundary
 - Proposed Property Acquisition
 - Proposed Property Permanent Easement
 - Proposed Temporary Easement

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Project Location 165011019 REVA
Region Municipality Prepared by BCC on 2023-06-05
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Client/Project
METROLINX
OSHAWA TO BOWMANVILLE RAIL SERVICE EXTENSION
PROJECT

Figure No.

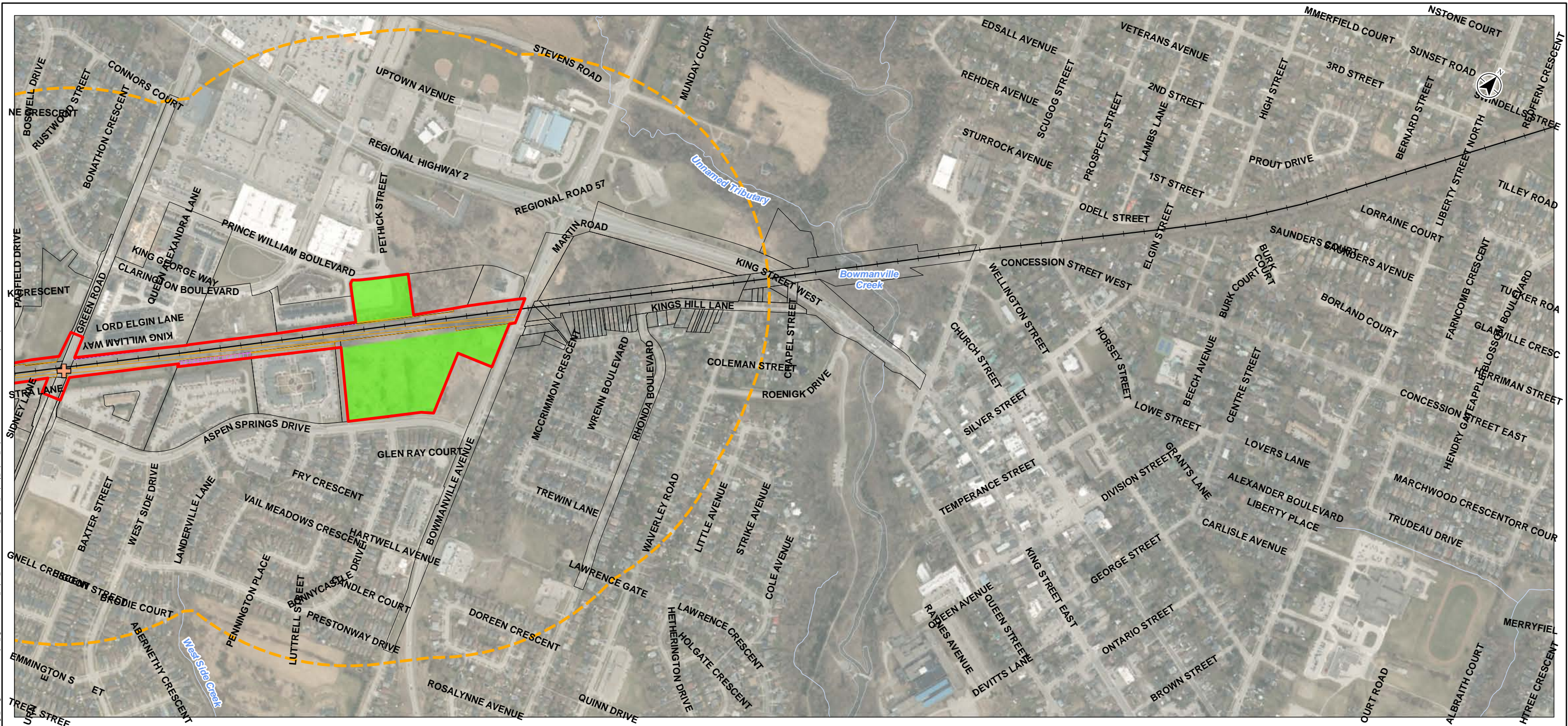
3.1.7

Title

**Proposed Permanent and Temporary
Property Impacts within the Project**

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- Legend**
- Project Footprint
 - Socio-Economic Study Area (500 m Buffer)
 - Proposed New Bridge
 - Proposed GO Station Location
 - Existing Railway
 - Watercourse
 - Waterbody
 - Property Boundary
 - Proposed Property Acquisition
 - Proposed Property Permanent Easement

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Project Location
Region of Durham
165011019 REVA
Prepared by BCC on 2023-06-05
Technical Review by EFC on 2021-07-13

Client/Project
METROLINX
OSHAWA TO BOWMANVILLE RAIL SERVICE EXTENSION
PROJECT

Figure No.

3.1.8

Title

**Proposed Permanent and Temporary
Property Impacts within the Project**

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Addendum to Oshawa to Bowmanville Rail Service Extension Environmental Project Report: Socio-Economic and Land Use Characteristics Assessment

Effects Assessment, Mitigation and Monitoring of the Preferred Design
September 25, 2023

Table 3.1: Summary of Proposed Permanent and Temporary Property Impacts within the Project Footprint

Section Description	Temporary Easement	Permanent Easement	Permanent Partial Property Acquisition
Northeast of the existing DC Oshawa GO and south of the 401 on the west side of the rail corridor	-	•	•
North of Champlain Avenue to the termination of Fox Street on the east side of the rail corridor	•	-	•
Termination of Fox Street to Cromwell Avenue on the south side of the rail corridor	•	•	•
Cromwell Avenue to the eastern termination of Sinclair Avenue on the south side of the rail corridor	-	•	•
East of the termination of Sinclair Avenue to the western termination of Hall Street on the south side of the rail corridor	•	•	•
East of the western termination of Hall Street to Howard Street on the south side of the rail corridor	•	•	•
Howard Street to Farewell Street on the south side of the rail corridor	-	•	•
Northwest side of Farewell Street on the north side of the rail corridor	-	-	•
East of Farewell Street to Tennyson Court on the south side of the rail corridor	-	•	•
East of Tennyson Court to Bloor Street on the south and west side of the rail corridor	•	•	•
Bloor street to Southwest of Southport Drive on the southwest side of the rail corridor	-	•	•
Southwest of Southport Drive to Prestonvale Road on the southwest and south side of the rail corridor	-	-	•
Prestonvale Road to Trulls Road on the south side of the rail corridor	•	-	•
Trulls Road to Courtice Road on the south side of the rail corridor	-	-	•
Courtice Road to Hancock Road on the south side of the rail corridor	-	•	•
Hancock Road to Holt Road on the south and west side of the rail corridor	-	-	•
Holt Road to Green Road on the south side of the rail corridor	-	•	•



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Section Description	Temporary Easement	Permanent Easement	Permanent Partial Property Acquisition
Green Road to Martin Road on the south side of the rail corridor	-	•	•

Complete or partial acquisition of privately held properties and the issuance of temporary easements will directly affect residential properties and commercial businesses through changes in ownership and use. Utility realignment works may also require easements on private properties and within municipal lands and rights of way. Where properties will be fully acquired, access by previous owners will not be permitted.

The proposed removal of the Albert Street bridge will require additional coordination with the Region of Durham and the City of Oshawa during detailed design. There may be property impacts to accommodate dead ends at the termination of each road segment, if required. During construction, Albert Street will be barricaded at each road terminus section until the permanent civil construction works are completed and the road closure is finalized.

Changes in access across the rail corridor will be temporarily modified during construction of the bridges, overpasses, and multi-use crossings. Traffic (including vehicular, pedestrian and cyclists) will be re-rerouted along alternative existing routes. This will result in inconvenience and additional travel time. Final construction sequencing will be determined during detailed design and is subject to change.

Construction of new tracks at the DC Oshawa GO will require an extension to the existing pedestrian bridge so that pedestrians can access the tracks. During construction activities, passengers may be temporarily inconvenienced as parking facilities are reduced, site access is temporarily altered or relocated, and pedestrian access to the DC Oshawa GO platform and other station facilities are altered. As a result, some delays may occur, and lineups may be longer than usual for short periods of time.

Residential, institutional, and commercial properties close to the Project Footprint may experience nuisance effects from construction activities such as construction noise and vibration. Fugitive dust within the context of socio-economic and land use may also be a nuisance effect but is expected to be low and short term in duration as its limited to construction activities. Further information on changes to air quality and noise and vibration from the Project is available in the Air Quality Assessment and Noise and Vibration Assessment (Appendices A3 and A4 to the EPR Addendum). There may be a loss of privacy due to the increased number of workers and traffic in the vicinity of the Project Footprint and increased lighting required for construction activities. Furthermore,



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there is the potential for safety concerns based on additional hazards as a result of visual distractions associated with detours and land restrictions required for construction which may lead to an increase in traffic delays and possible traffic accidents. Construction zones have the potential to obstruct sight lines to properties resulting in security concerns. Erosion and sediment may be released onto neighbouring properties and adjacent roadways during construction activities. These nuisance effects are expected to be short term during the Project's construction.

3.1.1.2 Operations

The Project conforms with provincial and municipal land use policies, which prioritize developments in major transit corridors through an increase in mix of uses that are supportive of future use of transit. Discussions with relevant municipalities regarding land use changes will be undertaken prior to construction. No further consultation would be required during operations. Once construction has been completed and service is in place, the Project will have long-term benefits to the Study Area through improved access to public transit.

After construction of the Project is completed, temporary easements and temporary property acquisitions will no longer be required, and the land will be returned to its original use. No new property acquisitions or easements will be required during operations.

As identified in Section 3.1.1.1, there may be property impacts to accommodate road terminus segments such as dead ends or embankments in the vicinity of Albert Street. Removal of the Albert Street bridge will require traffic (i.e., vehicular, pedestrian, and cyclist) to be re-routed along alternative existing routes. This will result in adjustments to travel pathways and may result in additional travel time for certain destinations.

Detours required during the construction of the bridges, multi-use crossings, and overpasses will no longer be required during operations and traffic (i.e., vehicular, pedestrian, and cyclist) can return to existing routes. Structural work will at a minimum maintain existing configurations and service levels, and are not anticipated to substantially alter use during operation.

The existing rail corridor is well-established. Operational effects of GO trains such as noise, vibration, and dust may increase the duration or magnitude of these effects, however no new effects are anticipated for the rail corridor.



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Four new GO stations are proposed which have the potential to result in increased nuisance effects, including noise, vibration, dust, light and traffic. The GO stations will be developed within mixed-use development that is placed within a short distance of the stations to increase the use of the public transit, reduce traffic, and promote complete communities.

The Project includes an extended pedestrian bridge at DC Oshawa GO and a multi-use bridge at Farewell Street to allow pedestrians and cyclists to cross the rail corridor. Crossings are currently available in these locations and new structures will have a similar form/function to existing multi-use bridges and no change in access is anticipated. Similar to the existing multi-use bridges, there may have opportunities for entrapment or concealment along the crossing structure and associated ramps. There may be a lack of sightlines when traversing the ramps and crossing structure due to corners and the concrete structure of the ramps and crossing corridor. Other safety concerns, including potential for materials to be thrown from the ramp of a multi-use bridge, will be addressed during detailed design.

A multi-use crossing will be constructed at the Michael Starr Trail to replace the existing at-grade crossing. Although there is an existing at-grade, signalized multi-use crossing at this location, the crossing is being adjusted to meet the access and safety requirements for the new service levels. The multi-use crossing may have a risk of entrapment or isolation. There may be opportunities for concealment within the ramps or crossing corridor. If a tunnel crossing is implemented, visibility of the tunnel may be limited from the street and sightlines from associated ramps into the tunnel may be limited. If a bridge crossing is implemented, effects will be similar to the potential effects described at Farewell Street. Once a crossing type has been finalized additional safety measures will be addressed during detailed design.

3.1.2 Mitigation and Monitoring

3.1.2.1 Construction

Table 3.2 presents the proposed measures to mitigate effects on land use and property during construction and associated monitoring activities.

Table 3.2: Summary of Proposed Construction Mitigation Measures and Monitoring for Land Use and Property

Environmental Component	Potential Effect	Mitigation Measure(s)	Monitoring
Property	Property acquisition – permanent	<ul style="list-style-type: none">Specific property requirements will be confirmed during design. Where access to property is required, ongoing consultation with affected	<ul style="list-style-type: none">None anticipated at this time.



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Environmental Component	Potential Effect	Mitigation Measure(s)	Monitoring
	and temporary	<p>landowners will help identify appropriate site-specific mitigation measures.</p> <ul style="list-style-type: none"> Select staging/laydown areas in accordance with Metrolinx procedures. Staging/laydown areas should be located in areas that reduce adverse effects to sensitive receptors. 	
All land uses and adjacent lands	Nuisance effects from construction activities	<ul style="list-style-type: none"> Mitigation measures related to potential nuisance effects from air and noise are outlined in the Air Quality and Noise and Vibration Assessments, which are provided under separate cover. An Erosion and Sediment Control Plan will be developed in accordance with the Toronto and Region Conservation Area's Erosion and Sediment Control Guideline for Urban Construction (December 2019), as amended from time to time, that addresses sediment release to adjacent properties and roadways. A Communications Protocol will be developed in accordance with the Project Agreement, which will indicate how and when surrounding property owners and tenants will be informed of anticipated upcoming construction works, including work at night, if any. Develop a Complaints Protocol in accordance with the Project Agreement. 	<ul style="list-style-type: none"> When applicable, monitoring related to potential nuisance effects are outlined in the Air Quality and Noise and Vibration commitment tables. Erosion and sediment control monitoring to be conducted as per the Project Agreement. Number and resolution of complaints received.
	Land use and access disruption	<ul style="list-style-type: none"> Provide well connected, clearly delineated, and appropriately signed walkways and cycling route options, with clearly marked detours where required. Provide temporary lighting and wayfinding signs and cues for navigation around the construction site. 	<ul style="list-style-type: none"> Temporary access paths, walkways, cycling routes and fencing should be monitored. Number and resolution of complaints received.



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Environmental Component	Potential Effect	Mitigation Measure(s)	Monitoring
		<ul style="list-style-type: none"> Develop a plan to reduce the effects of light pollution in accordance with the Project Agreement. Access to nearby land uses will be maintained to the extent feasible for vehicular, pedestrian and cyclist traffic. Potentially affected residents, tenants and business owners will be notified of initial construction schedules, as well as modifications to these schedules as they occur. Temporary vehicular and pedestrian facilities will comply with accessibility standards. 	
	Change in land use	<ul style="list-style-type: none"> A range of municipal permits and approvals may be required for the Project, particularly as pertaining to municipally owned lands and infrastructure. All required permits and approvals shall be obtained. However, Metrolinx as a Crown Agency of the Province of Ontario is exempt from certain municipal processes and requirements. In these instances, Metrolinx will engage with the municipalities to incorporate municipal requirements as a best practice, where practical, and may obtain associated permits and approvals. Continue to consult with relevant municipalities regarding impacts to land use and access as Project planning and design progress. 	<ul style="list-style-type: none"> None anticipated at this time.

3.1.2.2 Operations

Table 3.3 presents the proposed measures to mitigate effects on land use and property during operations and associated monitoring activities.

Table 3.3: Summary of Proposed Operations Mitigation Measures and Monitoring for Land Use and Property



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Environmental Component	Potential Effect	Mitigation Measure(s)	Monitoring
All land uses and adjacent lands	Access effects related to risk of entrapment or concealment in bridge or tunnel structures	<ul style="list-style-type: none">Implement Crime Prevention Through Environmental Design principals to address these concerns during detailed design.	<ul style="list-style-type: none">None anticipated at this time.
All land uses and adjacent lands	Nuisance effects from operations	<ul style="list-style-type: none">Develop a Complaints Protocol in accordance with the Project Agreement.	<ul style="list-style-type: none">Number and resolution of complaints received.

Property impacts and acquisition requirements are in development and Metrolinx has started property acquisition. Property impacts will continue to be addressed during the construction. No other direct negative effects to land uses are anticipated during the operations phase of the Project, therefore no additional mitigation measures are considered necessary.

3.2 Built form and Visual Characteristics

This section describes the potential effects to the built form and visual characteristics of the Study Area resulting from the physical works associated with Project construction and infrastructure in operations. Built form relates to the character, function, orientation, configuration and heights of buildings, in consideration of their orientation to open spaces and streets. The qualitative assessment considers anticipated changes to the local built form and viewshed.

3.2.1 Potential Effects

3.2.1.1 Construction

Temporary effects to built form and visual characteristics may be experienced as a result of construction of infrastructure. Construction activities may result in increased lighting in construction sites during night activities and removal of vegetation to accommodate construction access and equipment operation. Visual effects related to the temporary storage of construction equipment, materials, hoarding, stockpiling of materials, and construction zone are anticipated. The effects would be temporary and limited to the construction phase of the Project.

3.2.1.2 Operations

Following the completion of construction, equipment and temporary storage areas would be removed/rehabilitated and there would be no further visual effects in operations.



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There is the potential for visual effects related to lighting during operations. As required and in accordance with applicable standards, lighting for applicable Project components will be required to improve visibility for traffic, pedestrians and cyclists. At a number of locations, infrastructure is proposed to be reconstructed and potential effects from lighting will not differ substantially from existing conditions.

New or expanded bridges and one tunnel are proposed at 16 locations along the rail corridor to accommodate new trackwork. Table 3.4 provides a summary the operational visual effects of the new or expanded bridges and tunnel along the rail corridor.

Table 3.4: Summary of Visual Effects from Bridge/Tunnel Infrastructure Along the Rail Corridor

Location	Existing Infrastructure	Description of Proposed Infrastructure	Visual Effects
DC Oshawa GO	Pedestrian bridge	Pedestrian bridge extension to access the VIA platform	The new enclosed bridge over the new GO track will be similar to the existing bridge. No change to the existing view from surrounding land uses.
Highway 401	Rail bridge	New bridge to be located to the east of the existing bridge	A similar rail bridge structure over Highway 401 already exists and the new bridge will be adjacent to the existing bridge. A substantial amount of infrastructure already exists in the area and the addition of the bridge will not change the character of the view from surrounding land uses.
GM Spur	Rail tracks are present; no bridge infrastructure	The new GO Track will pass over the realigned GM Spur track	A new bridge will be visual on the landscape, within the context of an industrialize/commercial area.
Stevenson Road Bridge	Road overpass which accommodates two CP Rail tracks.	Existing bridge expanded southward to accommodate proposed GO track	The expanded overpass will have a similar profile to the existing when viewed from a distance. No change to the existing view from surrounding land uses.



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Location	Existing Infrastructure	Description of Proposed Infrastructure	Visual Effects
Park Road Bridge	Road overpass which accommodates two CP Rail tracks.	Existing bridge expanded southward to accommodate proposed GO track	The expanded overpass will have a similar profile to the existing when viewed from a distance. No change to the existing view from surrounding land uses.
Simcoe Street Bridge	Road overpass which accommodates one CP Rail track.	Reconstruct road overpass	The expanded overpass will have a similar profile to the existing when viewed from a distance. No change to the existing view from surrounding land uses.
Albert Street Bridge	Road overpass which accommodates one CP Rail track.	Bridge removal	The removal of the existing bridge will change the existing view from surrounding land uses. New infrastructure will include a retaining wall on the south side of the rail corridor and barricades at the terminus of Albert Street, both north and south of the rail corridor.
Michael Starr Trail	At-grade multi-use crossing	New multi-use crossing	Retaining walls may be required for a tunnel, which would change the view from land uses directly surrounding Michael Starr Trail. From a distance, the replacement of the at-grade crossing with a tunnel would be a negligible change to the viewshed. A new bridge would be more visually prominent than the existing multi-use crossing when viewed from surrounding land uses.
Ritson Road Bridge	Road overpass which accommodates one CP Rail track.	Remove existing and reconstruct road overpass	The expanded overpass will have a similar profile to the existing when viewed from a distance. No change to the existing view from surrounding land uses.



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Location	Existing Infrastructure	Description of Proposed Infrastructure	Visual Effects
Wilson Road Bridge	Single track bridge	New double track bridge	The new bridge will have a similar profile when viewed from a distance. No change to the existing view from surrounding land uses.
Farewell Street Multi-Use Bridge	Multi-use bridge	Reconstruct multi-use bridge	A new multi-use bridge will resemble the existing multi-use bridge in this location. No change to the existing view from surrounding land uses.
Harmony Road Bridge	Road overpass which accommodates one CP Rail track.	Existing bridge expanded southward to accommodate proposed GO tracks	The expanded overpass will have a similar profile to the existing when viewed from a distance. No change to the existing view from surrounding land uses.
Harmony Creek Bridge	Double track bridge	New double track bridge	The new bridge will have a wider span than the existing bridge, however the profile will be similar when viewed from a distance. No change to the existing view from surrounding land uses.
Farewell Creek Bridge	Single track bridge	New double track bridge	The new bridge will have a wider span than the existing bridge, however the profile will be similar when viewed from a distance. No change to the existing view from surrounding land uses.
Courtice Road Bridge	Road overpass which accommodates two CP Rail tracks.	Existing bridge expanded southward to accommodate proposed GO track	The expanded overpass will have a similar profile to the existing when viewed from a distance. No change to the existing view from surrounding land uses.
Green Road Bridge	Single track bridge	New single track bridge	The new bridge will have a similar profile when viewed from a distance. No change to the existing view from surrounding land uses.



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The new tracks will be placed adjacent to the existing CP Rail tracks within the rail corridor. The horizontal expansion of the tracks will maintain a similar view as the existing rail corridor at ground level and will not result in a substantial slightline changes from a distance.

Retaining walls will be used at several locations along the rail corridor to provide track protection and address differences in grading. The new retaining walls will be more visually prominent to nearby land uses as they will result in increased grades affecting sightlines and/or will replace the current existing vegetation.

Four new GO stations will be constructed along the rail corridor. Fox Street (B1 Thornton's Corner) will be constructed adjacent to a power centre and surrounding residential and industrial and uses. Front Street (B2 Ritson) will be constructed on the site of the former Ontario Malleable Iron Company and Knob Hill Farms. The new GO station will be constructed adjacent to commercial, light industrial, institutional, and residential land uses. If multi-story buildings are constructed as a part of the GO station, the site may be more visually prominent than the existing buildings when viewed from nearby properties. Courtice Road (B3 Courtice) will be constructed adjacent to industrial and agricultural land uses at an existing GO bus stop location. The new GO station will be more visually prominent than the existing site from surrounding land uses. Bowmanville Avenue (B4 Bowmanville) will be constructed adjacent to a multi-storey condominium complex and surrounding residential and commercial land uses. Station structures may be more visually prominent than existing conditions when viewed from surrounding land uses.

3.2.2 Mitigation and Monitoring

3.2.2.1 Construction

Table 3.5 presents the proposed measures to mitigate effects on built form and visual characteristics during construction and associated monitoring activities.



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Table 3.5: Summary of Proposed Construction Mitigation Measures and Monitoring for Built form and Visual Characteristics

Environmental Component	Potential Effect	Mitigation Measure(s)	Monitoring
Built Form / Visual Characteristics	Visual effects from construction areas/activities	<ul style="list-style-type: none"> A screened enclosure for the development site may be provided, with particular attention to the waste disposal and material storage areas. Consideration will be given to providing temporary landscaping along the borders of the construction site between site fencing/enclosure and walkways, where space allows, and where necessary. Construction schedule delays will be avoided to the extent possible in order to reduce the duration of construction and corresponding visual effects. Retain existing vegetation to the extent practicable. 	<ul style="list-style-type: none"> Construction activities will be monitored by a qualified Environmental Inspector to confirm that all activities are conducted in accordance with mitigation plans and within specified areas.
Light Pollution	Light trespass, glare and light pollution effects	<ul style="list-style-type: none"> Comply with all local applicable municipal by-laws and Ministry of Transportation (MTO) practices for lighting in areas near or adjacent to highways and roadways regarding outdoor lighting for both permanent and temporary construction activities, and incorporate industry best practices provided in ANSI/IES RP-8-18 – Recommended Practice for Design and Maintenance of Roadway and Parking Facility Lighting, as described in the Project Agreement. The Constructor will perform the Works in such a way that any adverse effects of construction lighting are controlled or mitigated in such a way as to avoid unnecessary and obtrusive light with respect to adjoining residents, communities and/or businesses. 	<ul style="list-style-type: none"> Number and resolution of complaints received.



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3.2.2.2 Operations

Table 3.6 presents the proposed measures to mitigate effects on built form and visual characteristics during operations and associated monitoring activities.

Table 3.6: Summary of Proposed Operations Mitigation Measures and Monitoring for Built form and Visual Characteristics

Environmental Component	Potential Effect	Mitigation Measure(s)	Monitoring
Built Form / Visual Characteristics	Visual effects from new infrastructure	<ul style="list-style-type: none">Metrolinx will consider maintenance of vegetation to the extent possible and replanting of vegetation to maintain natural buffers where appropriate and feasible.Artificial lighting will be incorporated as per applicable lighting standards.	<ul style="list-style-type: none">No monitoring required.

3.3 Utilities

This section describes the potential conflicts with utilities resulting from the physical works associated with Project construction and the potential for ongoing maintenance requirements during operations.

3.3.1 Potential Effects

3.3.1.1 Construction

Project construction will result in effects to utilities through physical works and construction activities within the Study Area.

Utilities that may need to be relocated due to the Project include communication cables, fibre optic cables, gas, hydro, sewer lines, and watermain.

Properties located within the Study Area may experience temporary service interruptions during utility realignment/relocation. Realignment work may result in the need for temporary road or lane closures changing access to nearby properties, and could temporarily affect pedestrian, cyclist and vehicle movement. In addition, construction or relocation of utilities and retaining walls may impact additional trees and vegetation on top of or adjacent to construction work. Further investigations may identify additional specific utility conflicts as design advances. Approaches to relocate or avoid impacts to these utilities will be refined with utility owners as detailed design progresses.

3.3.1.2 Operations



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No negative effects to utilities are anticipated during the operations phase of the Project because utilities will be reinstated or relocated to maintain existing function. No changes to current maintenance activities are anticipated.

3.3.2 Mitigation and Monitoring

3.3.2.1 Construction

Table 3.7 presents the proposed measures to mitigate effects on utilities and associated monitoring activities.



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Table 3.7: Summary of Proposed Construction Mitigation Measures and Monitoring for Utilities

Potential Effect	Mitigation Measure(s)	Monitoring
Interference with local utilities	<ul style="list-style-type: none"> Develop and implement a detailed Utility Infrastructure Relocation Plan that identifies all utilities anticipated to be impacted by the construction works, all relevant utility agencies and authorities, and outlines the approach to the utility relocation process. The Utility Infrastructure Relocation Plan will be developed in accordance with the Project Agreement. Additional surveys shall be performed prior to construction to field locate and verify the existing utilities within the project area and document their condition. Perform all work identified in the Utility Infrastructure Relocation Plan to protect, support, safeguard, remove, and relocate all Utility Infrastructure. Obtain permits and consents from and with all Utility Companies with respect to the design, construction, installation, servicing, operation, repair, preservation, relocation, and or commissioning of Utility Infrastructure. Reduce impact to the Train Service Plans and to continuity of service and disruption to property owners and customers of the Utility Companies to the satisfaction of the Utility Companies and Metrolinx. Where new utility crossings are proposed, application for a new utility crossing agreement will be required. Where modifications to an existing utility crossing takes place, updates to an existing utility crossing will be needed. 	<ul style="list-style-type: none"> Maintain regular communication and coordination through issuance of regular progress reports and updates to applicable utility agencies. Record all installation tolerances and how they are to be monitored. Perform inspection and testing to identify successful utility relocation and safe and efficient installation. In the event of potential effects to critical utilities, instrumentation and monitoring shall be carried out to protect the critical utilities and structures and reduce risks of damage due to construction activities. Develop and implement tracking system for as-built deliverables.



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Potential Effect	Mitigation Measure(s)	Monitoring
	<ul style="list-style-type: none">• Post- construction inspections of the new utility infrastructure shall be undertaken for applicable works upon completion of the construction works to document condition.• Obtain as-built plans of the relocated infrastructure from utility agencies per as-built preparation standards CSA S250-11 – Mapping of Underground Utility Infrastructure (2011), as amended from time to time.	
Relocation or realignment of utilities and retaining walls may impact additional trees and vegetation	<ul style="list-style-type: none">• Any relocation or construction of utilities and retaining walls on City of Oshawa or Municipality of Clarington property may require consultation in order to proceed with tree injury or removal.	<ul style="list-style-type: none">• No monitoring required

3.3.2.2 Operations

As utilities will be reinstated to maintain existing function, no additional mitigation measures are necessary. To the extent feasible and as applicable, utilities will be relocated/realigned to reduce the potential for additional maintenance requirements over and above current maintenance activities.



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4.0 Conclusion

This socio-economic and land use characteristics study identified the existing and future conditions of the Study Area and assessed the potential effects of the Project on socio-economic and land use characteristics. The effects of the Project are set in the context of an existing rail corridor within several land use categories.

The Project conforms with provincial and municipal land use policies which prioritize developments in major transit corridors through an increase in a mix of uses that are supportive of future use of transit. The proposed Project will be constructed in a Study Area containing residential, commercial, institutional, open space and industrial land uses. To accommodate the Project, some property acquisition is expected during project construction for portions of properties aligned within the proposed Project Footprint. Potential nuisance effects during construction to nearby residents and business are anticipated to be of short-term duration and managed with standard mitigation measures for construction activities. During operations, there is the potential for increased nuisance effects with GO Train traffic along the rail corridor.

Temporary effects to built form and visual characteristics may be experienced due to construction of infrastructure, lighting, vegetation removal, temporary storage sites for equipment, staging/laydown areas, stockpiling of materials and other construction activities.

Utility realignments will also be required where conflicts occur with existing utilities. This may result short-term effects on utilities to residents, businesses, institutions and surrounding communities through temporary service interruptions and temporary road or lane closures.

Long-term benefits of the Project will include new GO train service to Bowmanville, four new GO stations, and enhanced pedestrian and cyclist access at the Michael Starr Trail with the removal of the at-grade crossing. With the implementation of proposed mitigation measures, socio-economic and land use effects during construction are anticipated to be short term and limited to the Study Area.



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