REPORT

Upper Wellington Street (Limeridge Road East to Stone Church Road East) Municipal Class Environmental Assessment

Environmental Study Report

Submitted to:

City of Hamilton

Submitted by:

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Technical Studies by WSP Canada Inc. (Formerly Wood E&I Solutions)

Transportation Assessment

Natural Environment Assessment

Phase I Environmental Site Assessment

Cultural Heritage Assessment

Stage 1 Archaeological Assessment

Stormwater Management Assessment

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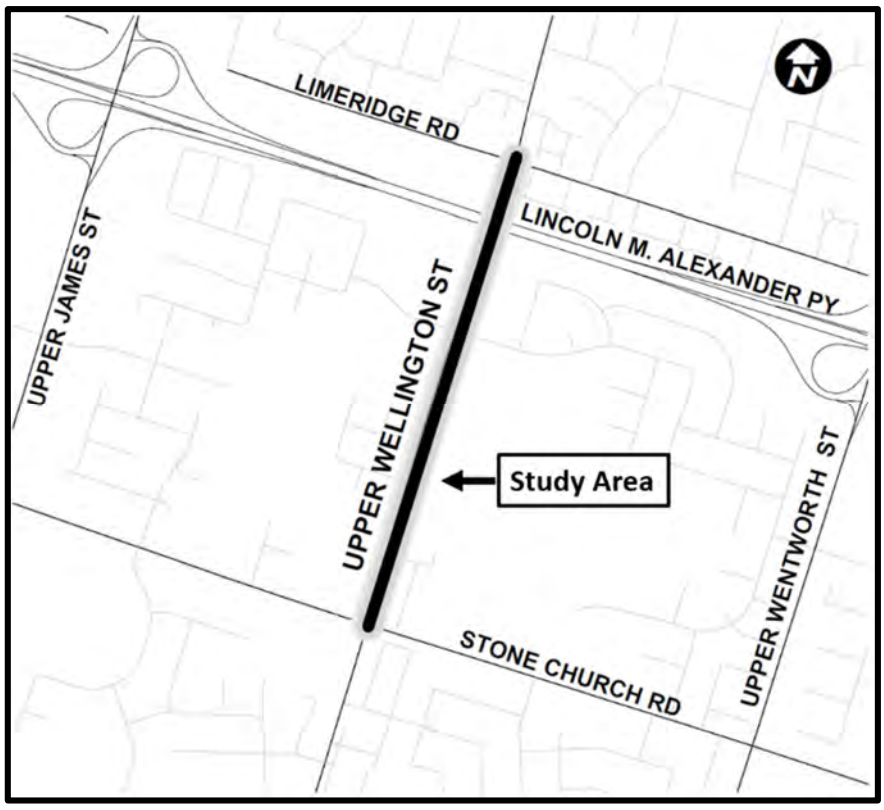
Executive Summary

The City of Hamilton has completed a Schedule ‘C’ Municipal Class Environmental Assessment to identify transportation and stormwater/drainage improvements for Upper Wellington Street, from Stone Church Road East to Limeridge Road East (Study Corridor). Through this Class EA Study, the City has taken the opportunity to transform this segment of Upper Wellington Street into a “Complete Street”, that is safe and comfortable for all road users: pedestrians, cyclists, transit users, and drivers, and people of all ages and abilities.

Figure E-1: Upper Wellington Street Class Environmental Assessment Study Area



This study built on the recommendations of the South Mountain Area Transportation Master Plan (2000; reviewed in 2006) and the City’s Transportation Master Plan (2007; reviewed and updated in 2018), which identified the need for widening of this corridor. The Study was carried out in accordance with the requirements outlined in Municipal Class Environmental Assessment document (2023), and it addressed the requirements of Phase 1 – Phase 4 of the Municipal Class EA process. This report documents the planning, decision-making and consultation process for the Class EA Study.

The following four (4) alternative solutions were initially identified and evaluated to identify a preliminary preferred solution.

- **Alternative Solution 1 - Do Nothing:** No improvements to the Upper Wellington Street.
- **Alternative Solution 2 - Manage Transportation Demand:** Using policies, programs, and services to influence travel behavior.
- **Alternative Solution 3 - Improve Other North-South Roads:** Improvements to the other north-south roads: Upper Wentworth Street to the east, or Upper James Street to the west.
- **Alternative Solution 4 - Improve Upper Wellington Street (Four-lane Cross-section):** Widening of Upper Wellington Street between Stone Church Road East and Towercrest Drive / Sirente Drive from two traffic lanes to four traffic lanes, providing/extending dedicated turn lanes, providing active transportation facilities and/or improving transit system efficiency between Stone Church Road East and Towercrest Drive / Sirente Drive.

To identify the impacts and advantages of each alternative solution, evaluation criteria were developed within each of the categories related to transportation, social, natural, and cultural environments and technical and cost considerations. The **Alternative Solution 4 – Improve Upper Wellington Street (Four-lane Cross-section)** was initially identified as the preliminary preferred solution.

Public Information Centre #1 was held in June 2021 to share the preliminary preferred solution for review and input by the Indigenous Nations, the public, impacted property owners, government agencies, utilities owners, and interested stakeholder groups. Some members of the public questioned the need for a four-lane cross-section, noting that the section of Upper Wellington Street, to the south of Stone Church Road, has a three-lane cross-section and inquired if a three-lane cross-section would work in the subject section. The members of public also shared additional concerns related to the proposed widening, including impacts on private property, loss of trees, and a possibility of increased vehicle speeds along the Study Corridor.

As a result of feedback from the public at Public Information Centre #1, further analysis was suggested by the City staff to build a potential case for a three-lane cross-section. A thorough review was conducted to assess the growth rate along Upper Wellington Street based on the available historical data along other parallel corridors. Based on the updated traffic assessment, it was determined that Upper Wellington Street is a good candidate for a three-lane cross-section. Benefits of a three-lane cross-section compared to a four-lane include:

- Consistency with the existing cross-section south of Stone Church Road
- Overall less property impacts, less likelihood of impacts to utilities and mature trees
- Lower operating speeds and safer conditions for all road users
- More attractive to cyclists
- Lower overall construction costs

Accordingly, Alternative Solution 4 was revised to include the following improvements for the Study Corridor:

- **Stone Church Road East to Towercrest Drive / Sirente Drive:** Widening from two to three traffic lanes, including a dedicated centre turn lane and active transportation facilities.
- **Towercrest Drive / Sirente Drive to Limeridge Road East:** Road diet to reduce from a four-lane cross-section with a two-lane cross-section with a centre turn lane at the intersections, and active transportation facilities.

These improvements were carried forward as preferred solution. Road design options were developed for the preferred solution. For the purpose of development of road design options, the Study Corridor was divided into two (2) segments:

- Segment 1: Upper Wellington Street, from Stone Church Road East to Towercrest Drive/Sirente Drive
- Segment 2: Upper Wellington Street, from Towercrest Drive/Sirente Drive to Limeridge Road East

The following two (2) road design options were developed for the preferred solution:

- Road Design Option 1: Three-lane Cross-section with Sidewalks and On-Street Bike Lanes
- Road Design Option 2: Three-lane Cross-section with Sidewalks and Off-Street Bike Lanes

Multi-use paths (MUPs) were not carried forward for evaluation because of factors as they would create inconsistencies with existing bike lane on the south of Stone Church Road and future bike lane north of Limeridge Road, require extensive intersection rebuilds, pose potential for safety concerns by not separating pedestrians and cyclists.

Both road design options were identified to have similar advantages and disadvantages. However, **Option 2 (Three-lane Cross-section with Sidewalks and Off-Street Bike Lanes)** was identified as preferred design due to the following key benefits:

- Physically separated bike lanes would offer the highest degree of safety and comfort for cyclists by eliminating the possibility of vehicle encroachment into the bike lanes. Additionally, transit and waste collection vehicles would no longer need to enter the bike lanes to pick up and drop off passengers and collect waste, respectively, eliminating potential conflict points between these vehicles and cyclists.
- The raised bike lanes would offer better connections to the transit stops along the corridor by allowing cyclists to seamlessly connect to/from the bus without having to jump the curb at the stop locations.
- It aligns with the recommendations of the City’s transportation plans, including Pedestrian Mobility Plan (2012), TMP Review and Update (2018), Cycling Master Plan Review and Update (2018), Cycling Committee’s Motion (2022), Complete Streets Design Guidelines (2022), and the Accelerated Active Transportation Implementation Plan (2023).

- This option would be more preferred from an equity point of view, as physically separated facilities would offer the highest degree of safety and comfort for the vulnerable road users.

Public Information Centre #2 was held in December 2024 to share the preferred design for review and input by the Indigenous Nations, the public, impacted property owners, government agencies, utilities owners, and interested stakeholder groups.

The preferred design for Segment 1 features road-widening from a two-lane cross-section to a three-lane cross-section. It proposes 3.3-meter vehicular through-lanes, a 3-meter center-turn lane. It also proposes 1.5-meter off-street bike lanes and 1.8-meter sidewalks on both sides, separated by a 0.6-meter buffer and physically separated from vehicular traffic lanes by 3-meter planting strips/boulevards.

For Segment 2, road diet is proposed to reduce the existing four-lane cross-section to a two-lane cross-section. It proposes 3.3-meter vehicular through-lanes and dedicated turning lanes at intersections. The reclaimed space accommodates 1.8 metre bike lanes, 1.5 metre buffer for streetscaping elements, and maintaining existing 1.6-metre sidewalks with 0.6-metre buffer. Over the Lincoln M. Alexander Parkway overpass, the design transitions to leverage the existing 2.0-meter bridge sidewalks and repurpose the existing roadway platform for 1.8-meter bike lanes, physically separated from vehicular traffic by medians, reducing impacts to the existing bridge and structure.

The final cross-sections are provided in Figure E-2, Figure E-3, and Figure E-4. This study developed the design to a functional level. Further design details and refinements will be addressed during the detailed design phase of the project.

Figure E-2: Preferred Design for Segment 1

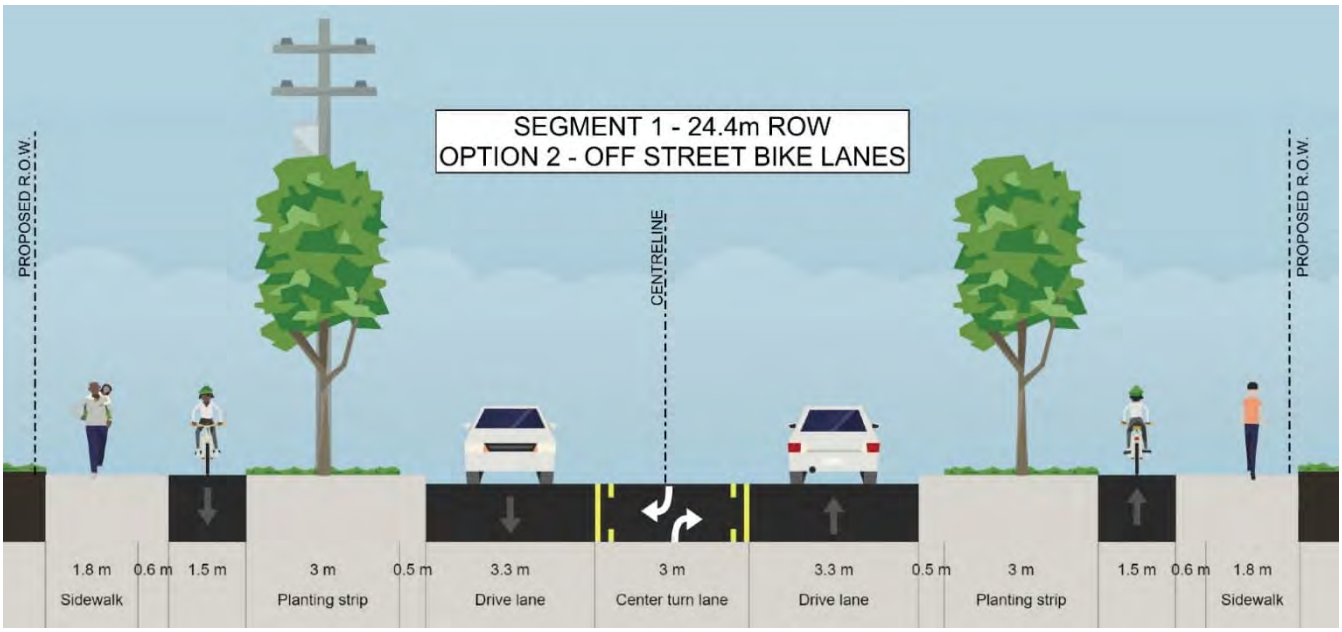


Figure E-3: Preferred Design for Segment 2

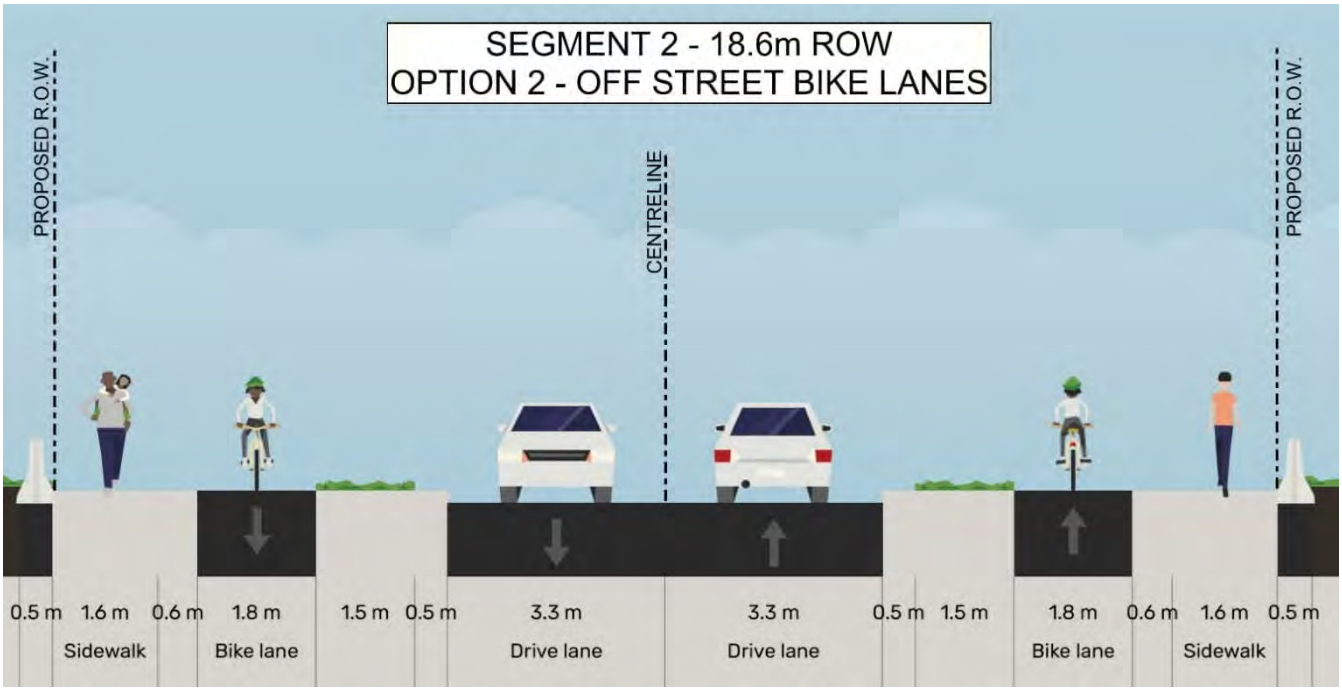
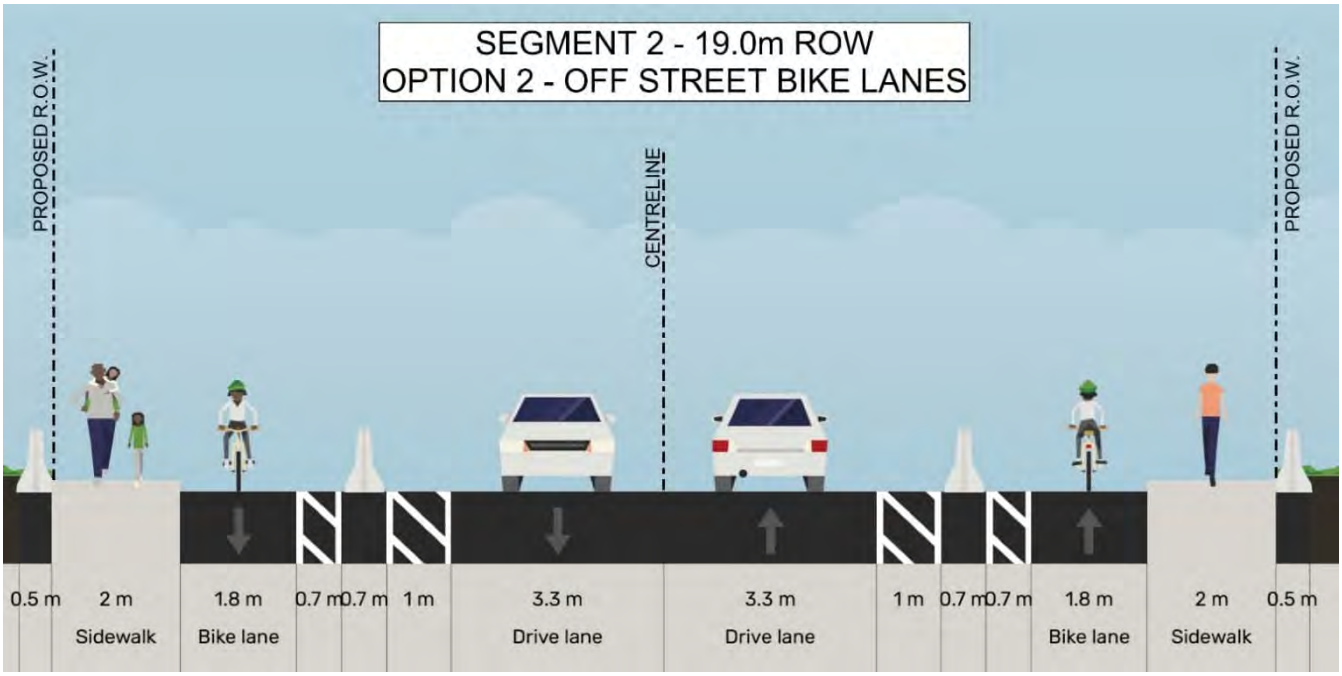


Figure E-4: Preferred Design for Segment 2 (Over Lincoln M. Alexander Parkway)



The preliminary cost estimate for the proposed improvements, based on the Functional Design, is estimated to be approximately $14.3M. The cost estimate is based on April 2025 rates. The construction cost estimate would need to be reviewed and finalized during detailed design phase.

Based on current preliminary design, it is anticipated that removal of approximately 45 trees would be required to implement the proposed improvements. Tree impacts (injury and removals) would need to be confirmed during detailed design phase when the design is advanced to a sufficient level of detail and grading limits are defined. There may be opportunities at that time to reduce tree impacts through design refinements and/or through consideration of tree relocation strategies.

Based on City's Official Plan, the City shall reserve or obtain right-of-way dedications of up to 30.480 m for Upper Wellington Street, between Rymal Road and Mohawk Road. Preliminary property acquisition requirements are shown on design plans provided in Appendix H. Property impacts to will be confirmed during the detailed design phase when the project design is advanced to finalize the design and grading. There may be opportunities during the detailed design phase in consultation with the City to reduce impacts to properties through design refinements such as modifications to the boulevard.

This report has made commitments for the future work, including design considerations, technical studies, and required permits, approvals, and compliance actions. These commitments will be reviewed during detailed design, and confirmed at that time. Additional work will be completed as part of the future detailed design phase project.

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Appendix B: Natural Environment Report

Appendix C: Phase I Environmental Site Assessment

Appendix D: Cultural Heritage Report

Appendix E: Stage 1 Archaeological Assessment

Appendix F: Stormwater Management Report

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1 INTRODUCTION AND BACKGROUND

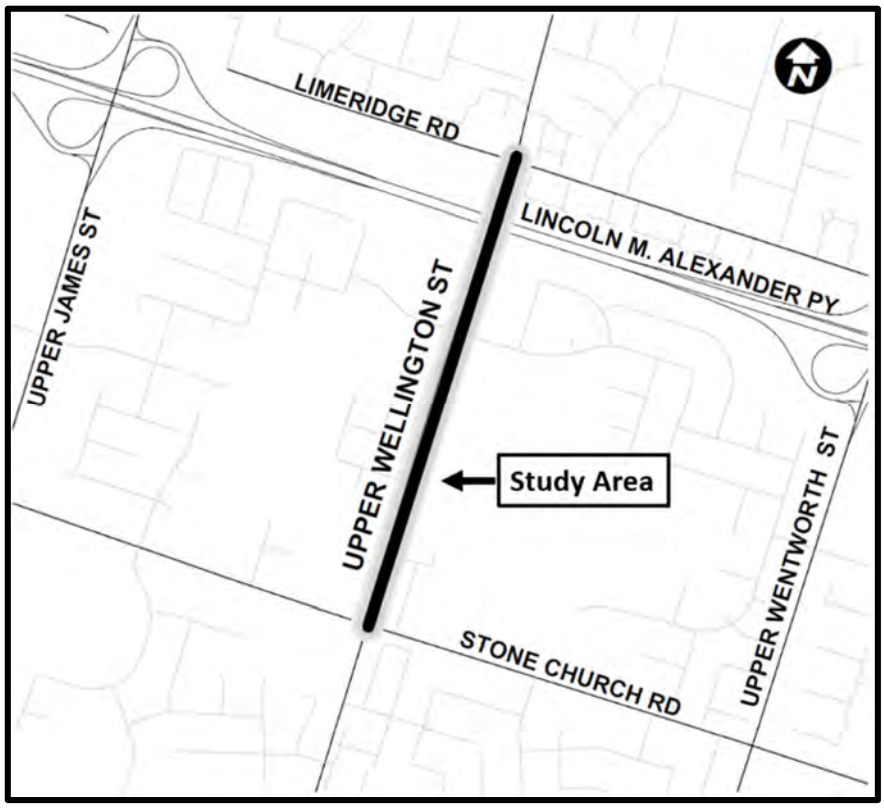
1.1 Study Purpose and Study Area

The City of Hamilton (the City) has completed a Schedule 'C' Municipal Class Environmental Assessment (Class EA / the Study) to identify transportation and stormwater/drainage improvements for Upper Wellington Street, from Stone Church Road East to Limeridge Road East (Study Corridor). Through this Class EA Study, the City has taken the opportunity to transform this segment of Upper Wellington Street into a "Complete Street", that is safe and comfortable for all road users: pedestrians, cyclists, transit users, and drivers, and people of all ages and abilities.

This study built on the recommendations of the South Mountain Area Transportation Master Plan (2000; reviewed in 2006) and the City's Transportation Master Plan (2007; reviewed and updated in 2018), which identified the need for widening of this corridor. The Study was carried out in accordance with the requirements outlined in Municipal Class Environmental Assessment document (Municipal Engineers Association, 2023), and it addressed the requirements of Phase 1 – Phase 4 of the Municipal Class EA process. This report documents the planning, decision-making and consultation process for the Class EA Study.

For the purposes of this study, the Study Area included Upper Wellington Street, between 50 metres south of Stone Church Road East and Limeridge Road East (interchangeably referred to in this report as Study Area) (Figure 1-1).

Figure 1-1: Upper Wellington Street Class Environmental Assessment Study Area



1.2 Environmental Assessment Process

The Ontario *Environmental Assessment Act* (R.S.O. 1990, c. E.18; EA Act) (Ontario, 1990) was put into place to provide for the protection, conservation and wise management of the environment within the province. The EA Act applies to all projects being undertaken by provincial, municipal or other public bodies within the province (unless explicitly exempted). It defines the environmental assessment studies that must be completed prior to commencement of any undertaking, as well as the proponent's obligations to consult with all affected and/or interested parties.

Under the EA Act, projects are classified as exempted, subject to an approved Class EA process, or subject to a full Individual Environmental Assessment. This environmental assessment was conducted in accordance with the requirements of the Municipal Class EA process (Municipal Engineers Association, 2023).

The Class EA process is a mechanism by which planning, and approval of municipal infrastructure is provided in an efficient, timely, economical and environmentally responsible manner. It represents a consistent, streamlined and easily understood process for planning and implementing municipal infrastructure projects.

The Municipal Class EA process is an approved process under Ontario's *EA Act*. All municipalities in Ontario are required to follow this approved process for the infrastructure planning projects. The Municipal Class EA process classifies projects according to their level of complexity and potential environmental impacts. These are termed "Schedules" and are summarized below.

Exempt Projects include various municipal maintenance, operational activities, rehabilitation works, minor reconstruction or replacement of existing facilities, and new facilities that are limited in scale and have minimal adverse effects on the environment. These projects were formerly classified as Schedule A and A+ projects. These projects are exempted from the requirements of the *Environmental Assessment Act* (Ontario, 1990).

Schedule B includes projects that involve improvements and minor expansion to existing facilities. There is a potential for some adverse environmental impacts and, therefore, the proponent is required to proceed through a screening process, including consultation with those affected. Schedule B projects are required to proceed through Phases 1, 2 and 5 of the Class EA process.

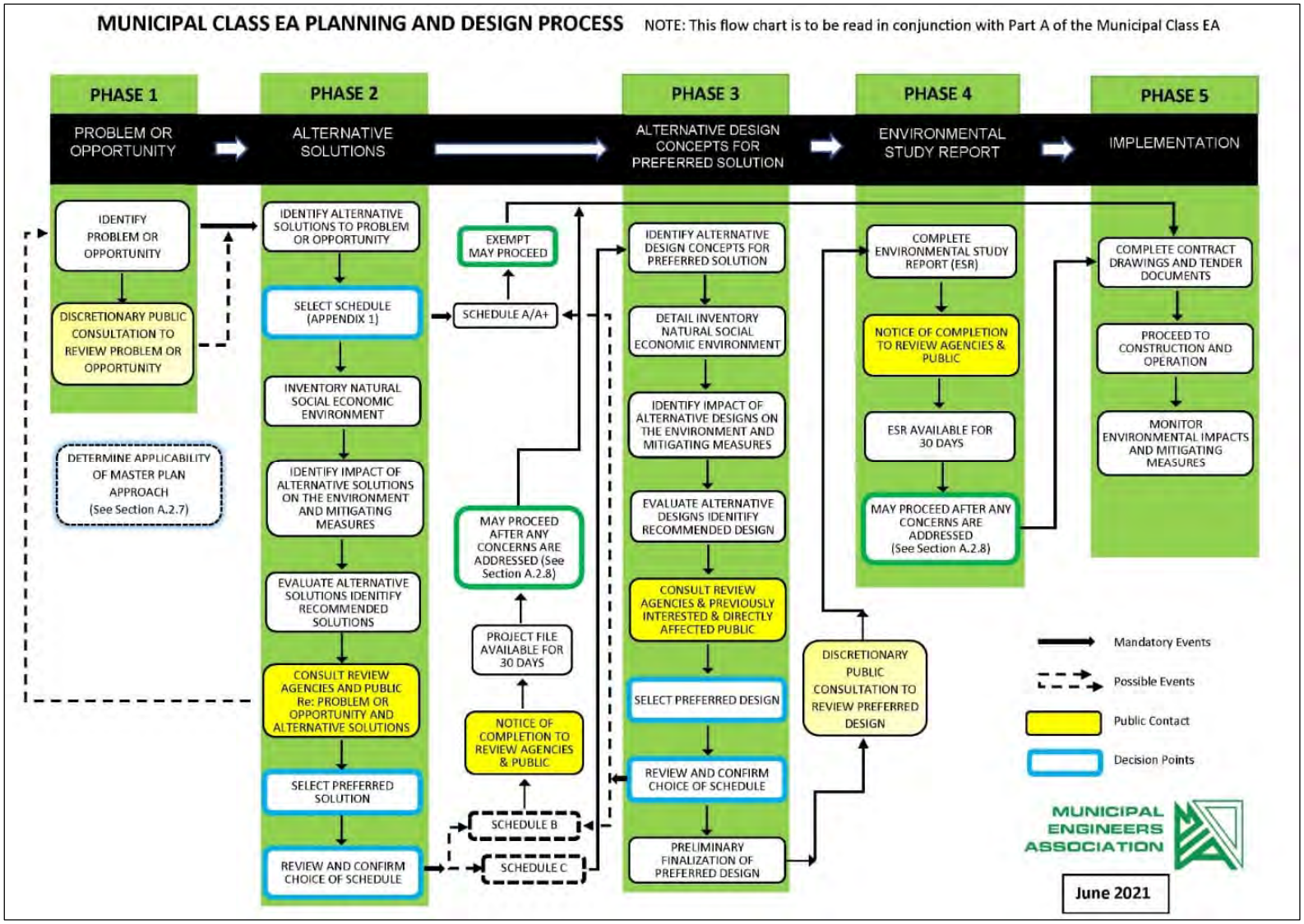
Schedule C includes projects that involve construction of new facilities and major expansion of existing facilities. These projects proceed through the environmental assessment planning process outlined in the Class EA document. These projects are required to fulfil the requirements of all five phases of the Class EA process, as described below.

- **Phase 1 – Problem or Opportunity Statement:** Identify the problem (deficiency) or opportunity.
- **Phase 2 – Alternative Solutions**: Identify and evaluate alternative solutions to address the problem or opportunity by taking into consideration the existing environment and establish the preferred solution considering public and review agency input.
- **Phase 3 – Alternative Design Concepts for the Preferred Solution:** Identify Alternative Design Concepts for the preferred solution implementation by taking into consideration the existing environment and establish the preferred design concept by considering public and review agency input.
- **Phase 4 – Environment Study Report**: Document and file the Environmental Assessment including the design and consultation process in an ESR for public review.
- **Phase 5 – Implementation:** Complete detailed design and required additional investigations, obtain permits and approvals, and proceed to construction and operation. Monitor construction for adherence to environmental provisions and commitments. Where special conditions dictate, also monitor the operation of the completed facility.

This study addressed the requirements of Phases 1, 2, 3, and 4. The City will undertake Phase 5 (detailed design, construction, and monitoring) as a separate undertaking in future.

A graphical illustration of the Municipal Class EA process is provided in the following figure.

Figure 1-2: Municipal Class Environmental Assessment Process



1.3 Purpose of Environmental Study Report

This Environmental Study Report presents the findings of the Class EA Study, detailing the planning, consultation, and decision-making conducted throughout Phases 1-4. Various technical studies were completed as part of this study that informed the development of this report. This report is organized to guide the readers through the Study process:

Section 1: Overview of the Study and its objectives.

Section 2: Review of past transportation planning studies and the Study Problem Statement (Class EA Phase 1).

Section 3: Description of the existing and future conditions (where relevant) along the Study Corridor.

Section 4: Identification and evaluation of Alternative Solutions to identify the Preferred Solution to address the problem (Class EA Phase 2).

Section 5: Development and evaluation of Road Design Options to select the Preferred Design for the Preferred Solution (Class EA Phase 3).

Section 6: Detailed description of the Preferred Design.

Section 7: Assessment of Project's potential environmental effects and mitigation measures.

Section 8: Outline of commitments for future work, including design considerations, required technical investigations, and permits, approvals and compliance actions.

Section 9: Documentation of the consultation program executed for this study.

Section 10: Closure and next steps.

Section 11: List of cited documents.

Technical studies completed as part of this study are provided in the following appendices:

- Appendix A: Transportation Assessment Report
- Appendix B: Natural Environment Report
- Appendix C: Phase I Environmental Site Assessment
- Appendix D: Cultural Heritage Report
- Appendix E: Stage 1 Archaeological Assessment
- Appendix F: Stormwater Management Report

1.4 Section 16 (6) Order Request Process

This report has documented the planning, consultation, and decision-making process for improvements to Upper Wellington Street, between Stone Church Road East and Limeridge Road East, in the City of Hamilton, in accordance with the Municipal Class EA process for a Schedule 'C' project. This report is available for review by the Indigenous Nations, the public,

impacted property owners, government agencies, utilities owners, and interested stakeholder groups. The location and timing of the review of this report is identified in the Notice of Study Completion. Interested persons are encouraged to provide written comments to the following contact in accordance with the timeline identified in the Notice of Study Completion:

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Senior Project Manager – Infrastructure Programming and Planning
City of Hamilton
megan.salvucci@hamilton.ca

The Minister of the Environment, Conservation and Parks has the authority and discretion to make an Order under Section 16 of the *Environmental Assessment Act*. A request may be made to the minister for an order requiring a higher level of study (i.e., requiring an individual/comprehensive EA approval before being able to proceed), or that conditions be imposed (e.g., require further studies), only on the grounds that the requested order may prevent, mitigate, or remedy adverse impacts on constitutionally protected Aboriginal and treaty rights. Requests on other grounds will not be considered.

Prior to requesting a Section 16(6) Order, the proponent should first try to resolve any concerns directly through the Class EA process. The minister must consider the factors set out in Section 16(5) of the *Environmental Assessment Act*. If a Section 16 Order request is made, the City cannot proceed with the Project until the minister makes a decision on the request. If the minister makes a Section 16 Order, the City may only proceed with the project if they follow the conditions in the Order.

Timing for an Order Request

At the conclusion of a project, the City posted a Notice of Study Completion, allowing for a minimum of 30-day public comment period for this report. The City cannot proceed with the Project until at least 30 days after the end of the public comment period. During the public comment period, anyone can review the documentation, submit any comments or concerns to the City and request a Section 16(6) Order.

How to make a request

To submit a Section 16(6) Order request, the following information must be provided to ensure that the ministry is able to efficiently begin reviewing the request:

- Name, address and email address;
- Project name;
- Proponent name;
- What kind of Order is being requested i.e., a request for additional conditions or a request for an individual environmental assessment;
- Details about the concerns about potential adverse impacts on constitutionally protected Aboriginal or treaty rights and how the proposed Order may prevent, mitigate potential

adverse impacts on Aboriginal and treaty rights, and any information in support of the statements in the request;

- Whether the concerned party belongs to, represents or has spoken with an Indigenous community whose constitutionally protected Aboriginal or treaty rights may be adversely impacted by the proposed project;
- Whether the concerned party has raised their concerns with the proponent, the proponent's response (if any) and why the concerns could not be resolved with the proponent; and
- Any other information to support the request.

Section 16 Order requests are made to the Minister of the Environment, Conservation and Parks and the Director of Environmental Assessment Branch, by using the following contact information. The request may be submitted by mail, email, fax or hand delivered to the Minister:

Minister of the Environment, Conservation and Parks

Ministry of Environment, Conservation and Parks
777 Bay Street, 5th Floor
Toronto ON M7A 2J3
Email: minister.mecp@ontario.ca

Director, Environmental Assessment Branch

Ministry of Environment, Conservation and Parks
135 St. Clair Ave. W, 1st Floor
Toronto ON, M4V 1P5
Email: EABDirector@ontario.ca

Requests should also be copied to the City contact identified above.

There is no appeal of the minister's decision with respect to a Section 16 Order. If the request for a Section 16(6) Order is denied by the minister, the City can proceed with the project. If the minister makes an Order, the City may only proceed with the project if they follow the conditions in the Order.

For more information and specific instruction and details on the process, please visit: https://www.ontario.ca/page/class-environmental-assessments-section-16-order

All personal information included in the request – such as name, address, telephone number and property location – is collected, under the authority of section 30 of the *Environmental Assessment Act* and is collected and maintained for the purpose of creating a record that is available to the general public. As this information is collected for the purpose of a public record, the protection of personal information provided in the *Freedom of Information and Protection of Privacy Act* (FIPPA) does not apply (s.37). Personal information you submit will become part of a public record that is available to the general public unless you request that your personal information remain confidential.

2 PROBLEM STATEMENT

Phase 1 of the Class EA process requires that a clear problem and opportunity statement should be identified for the proposed project. Municipalities generally undertake projects in response to certain identified problems or deficiencies. In other cases, there may be opportunities which need to be addressed. Previous studies/reports undertaken by a proponent may be available to assist in defining the problem.

This Class EA Study built on the recommendations of various previous transportation plans developed by the City. In support of this study, a transportation assessment was completed to assess traffic conditions along the Study Corridor and to confirm the number of required vehicular travel lanes to address traffic capacity issues.

A summary of past transportation plans is provided below. A summary of results of the transportation assessment are provided in Section 3.1.3, and the full Transportation Assessment Report is provided in Appendix A.

2.1 Municipal Transportation Plans

2.1.1 South Mountain Area Transportation Master Plan (2000)

The South Mountain Area Transportation Master Plan (SMATMP), 2000, addressed the requirements of Phases 1 and 2 of the Municipal Class EA process. It described existing and future conditions, identified problems/opportunities and examined alternative solutions for the South Mountain Area, which encompasses the current Study Area. The transportation problems considered in the SMATMP, 2000, included: road capacity and Level of Service (LOS), road and corridor safety, and road condition. To address these problems, the following alternative solutions were identified and evaluated as part of the SMATMP, 2000:

- Transit;
- Limit or manage growth;
- Traffic diversion;
- Build new roads;
- Expand/upgrade roads; and
- Do nothing

Based on the evaluation of alternative solutions the SMATMP, 2000, confirmed that the preferred solution for the South Mountain Area was to expand or upgrade existing roads with consideration of improved bike and pedestrian facilities. It recommended that Upper Wellington Street between south of the Lincoln Alexander Parkway and Stone Church Road be widened from two (2) lanes to five (5) lanes (4 travel lanes and a two-way left-turn lane).

2.1.2 South Mountain Area Transportation Master Plan Review (2006)

The SMATMP Review was completed in 2006, which involved reviewing City's new directions on transportation policy, assessing changes in the South Mountain Area, reviewing and

updating short-term and long-term transportation problem areas, and identifying need for detailed analysis.

As a result of the activities outlined above, the SMATMP Review, 2006, reconfirmed the recommendations of the SMATMP, 2000. It identified that a number of road improvements were required in the South Mountain Area in both the short-term (0-5 year) and long-term horizon (> 5 years). The widening of Upper Wellington Street from south of the Lincoln Alexander Parkway to Stone Church Road from 2 to 5 lanes (4 travel lanes and a two-way left-turn lane) was identified as a long-term recommendation. It also confirmed this undertaking as a Schedule 'C' project under the Municipal Class EA process.

It also noted that the Growth-Related Integrated Development Strategy (GRIDS) may result in changes to population and employment projections. Accordingly, the long-term roadway improvement needs (2011-2021) for the South Mountain Area should be re-examined once GRIDS and the City-wide Transportation Master Plan (TMP) have been completed (Dillon Consulting Limited, 2006).

2.1.3 City of Hamilton Transportation Master Plan (2007)

The City of Hamilton Transportation Master Plan (TMP), 2007, was completed as part of the GRIDS, 2006, and it satisfied the requirements of Phases 1 and 2 of the Municipal Class EA process. Several broad strategies were examined as part of the development of the TMP, 2007, to address the City's transportation needs to the 2031 planning horizon and beyond. These included the Status Quo Option (or Do Nothing), implementing 'Committed Projects' Only, Modest Transit Expansion, Aggressive Transit Expansion, Travel Demand Management (TDM), Roadway Capacity Optimization, and Roadway Capacity Expansion. The preferred overall strategy identified in the TMP, 2007, was to rely on transit and travel demand management, in combination with road capacity optimization to solve transportation problems, before looking to road expansion (including Escarpment crossings).

It recommended road widening and a two-way left-turn lane on Upper Wellington Street between Limeridge Road and Stone Church Road. This undertaking was identified as a Schedule 'C' project under the Municipal Class EA project. From an implementation perspective, the TMP, 2007, noted that the Schedule 'C' projects will proceed to Phases 3 and 4 of the planning and design process and will include the review and selection of a preferred design alternative (IBI Group, Dillon Consulting Limited and MRC, 2007).

2.1.4 City of Hamilton Cycling Master Plan (2009)

The Shifting Gears - Cycling Master Plan for the City of Hamilton was completed in 2009 to guide the development and operation of cycling infrastructure for the next twenty years. This Cycling Master Plan study was undertaken by following the Municipal Class EA process (Phases 1 and 2). It recommended bike lanes on Upper Wellington Street from Limeridge Road to Rymal Road. It identified the width of a bike lane to be ideally 1.5 m to 1.8 m, with an absolute minimum of 1.2 m. Note that this dimension is measured from the edge of pavement, and in the case of no gutter pan, can be to the face of the curb.

2.1.5 Hamilton Pedestrian Mobility Plan (2012)

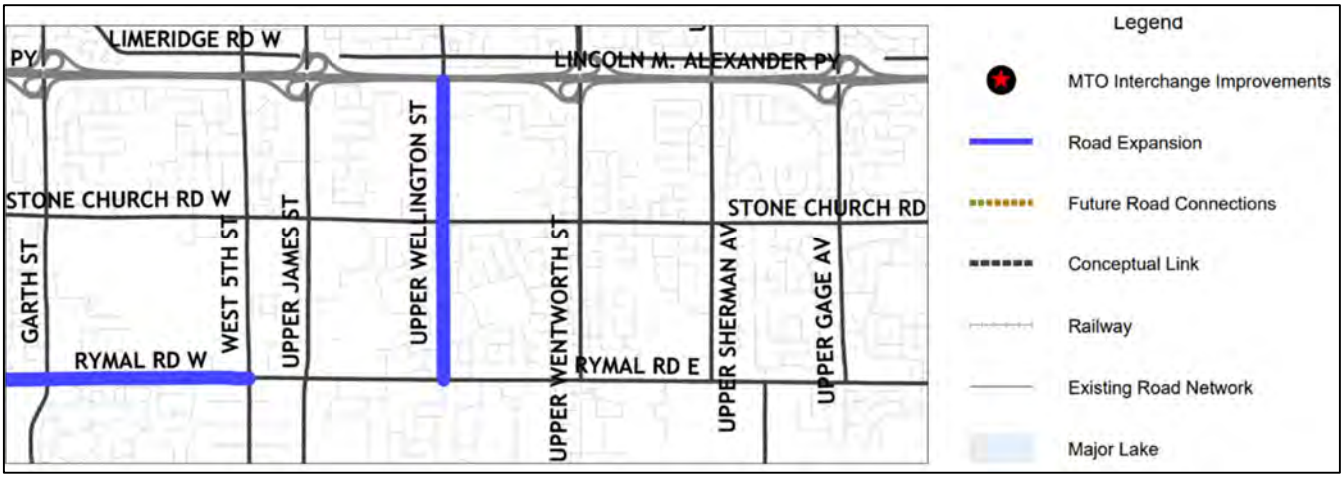
The Hamilton Pedestrian Mobility Plan, 2012, establishes a pedestrian framework for the City. It was completed following the Municipal Class EA process (Master Plan Approach #1), and it addressed the requirements of Phases 1 and 2. This plan identified “Context Areas” to characterize pedestrian environments by the type of built environment and streetscape throughout the city. The current Study Area falls within Suburban Context Area, for which the recommended Sidewalk Clear-Zone Width for local, collector, and arterial roads was identified to be minimum of 1.5 metres (City of Hamilton, 2012).

2.1.6 City of Hamilton Transportation Master Plan Review and Update (2018)

The Transportation Master Plan: City in Motion TMP, 2018, is a comprehensive review and update of the TMP, 2007 that continues to plan and build for the 2031 planning horizon and beyond. The TMP review and update was undertaken according to the Municipal Class EA process (Master Plan Approach #1), and it addressed the requirements of Phases 1 and 2.

Road network improvements were identified in the TMP Review and Update, 2018. The outcome of this plan validated the road network improvement projects identified in other sub-area studies within the City (such as, identification of the current study in the SMATMP, 2000 and SMATMP Review, 2006). The widening of Upper Wellington Street from south of the Lincoln Alexander Parkway to Stone Church Road was recommended as one of the network improvement projects (City of Hamilton, 2018a). It did not identify the number of lanes.

Figure 2-1: Excerpt - Hamilton Transportation Master Plan (2018) – Map 3B



2.1.7 City of Hamilton Cycling Master Plan Review and Update (2018)

A review and update of the Cycling Master Plan 2009: Shifting Gears was undertaken as part of the TMP review and update, 2018 (Master Plan Approach #1). It recommended a preferred cycling network for the City, including bike lanes on Upper Wellington Street from Limeridge Road to Rymal Road (City of Hamilton, 2018b).

2.1.8 Hamilton Complete Streets Design Guidelines (2022)

Complete Streets are streets that are safe and comfortable for all road users: pedestrians, cyclists, transit users, or drivers, and people of all ages and abilities. Complete, Livable, Better (CLB) Streets are Hamilton's version of Complete Streets. The CLB Streets approach is a shift away from traditional design that prioritizes the movement of motor vehicles. A CLB Street is also a public space that equitably considers the needs of all road users. Through proper design, CLB Streets can improve safety, accessibility, connectivity, sense of place and the public realm overall.

The City has developed Complete Streets Design Guidelines (2022). This document provides a set of consistent guidelines and tools to inform the design, implementation, maintenance and monitoring of CLB Streets across the city (City of Hamilton, 2022). Hamilton's Complete Streets approach identifies eight (8) typologies, approved by Council in 2021, which represent the diverse range of streets found throughout the city. An overview of City's Complete Streets Typologies is provided in the graphic below (Source: Hamilton Complete Streets Design Guidelines (2022).

Figure 2-2: Hamilton's Complete Streets Typologies

	URBAN AVENUES	TRANSITIONING AVENUES	MAIN STREETS	CONNECTORS	INDUSTRIAL STREETS	NEIGHBOURHOOD STREETS	RURAL ROADS	RURAL SETTLEMENT ROADS
CONTEXT	Urban	Urban / Suburban / Industrial	Urban	Urban / Suburban	Industrial	Urban / Suburban	Rural	Rural
PRIMARY STREET FUNCTION	Mobility and place-making	Mobility	Placemaking and access	Mobility and access	Access	Access	Mobility	Access
TYPICAL RIGHT OF WAY	20–26 m	36 m	18–20 m	20–26 m	26–30 m	15–20 m urban 20–26 m rural	26–36 m	20–26 m
NUMBER OF LANES	2–4	4	2	2	3	1–2	2	2
TARGET SPEED	40–50 km/h	50–60 km/h	30–40 km/h	30–40 km/h	40–50 km/h	30–40 km/h	60–80 km/h	40–50 km/h
CYCLING FACILITIES	Cycle tracks	Cycle tracks or multi-use paths	Shared lanes	Cycle tracks	Cycle tracks or multi-use paths	Mixed traffic or contraflow lane	Shared lanes, paved shoulder, or multi-use path	Bicycle lanes, cycle tracks, or multi-use paths
WALKWAY ZONE WIDTH	2.0–3.5 m	1.8–2.5 m	2.0–3.5 m	1.8–2.0 m	2.0 m	1.8 m	n/a	1.8 m

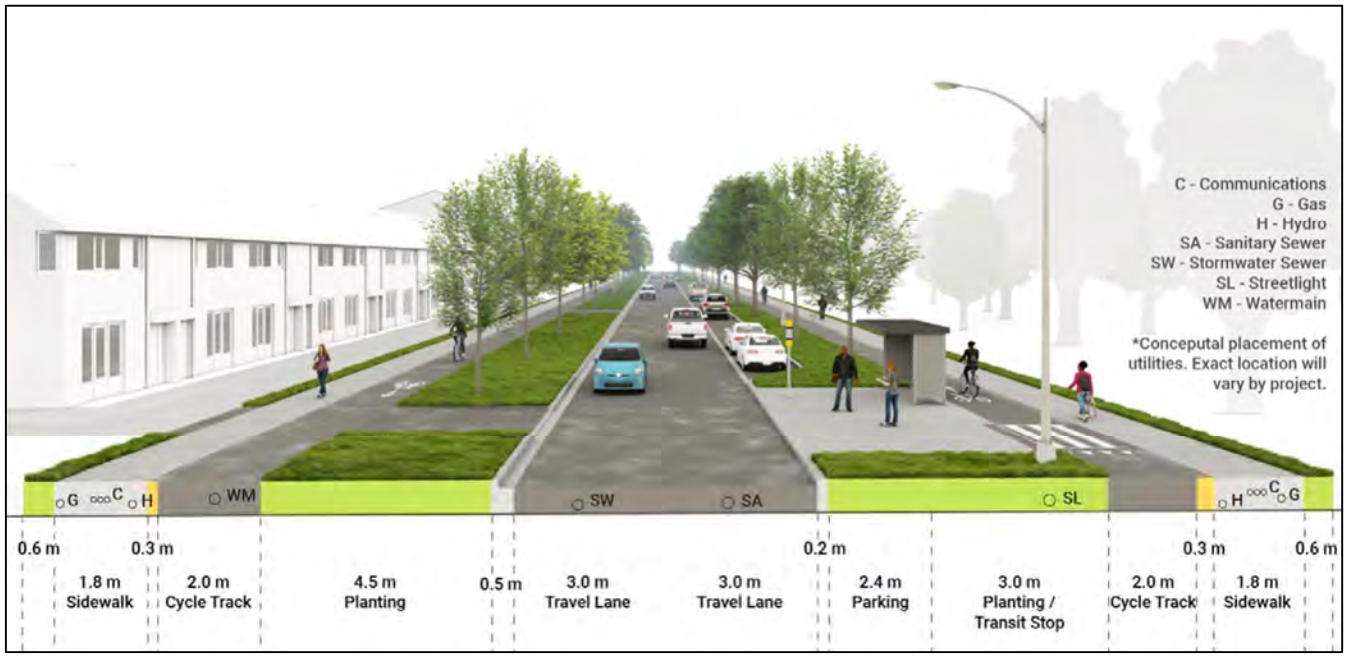
As part of the development of the Complete Streets Design Guidelines, a CLB Street Design Decision Support and Audit Tool was prepared. This tool is intended to help designers and planners to interpret the design manual and evaluate the street that is being designed. The use of the tool helps determine the best application and treatments to ensure the street being designed is a CLB street, considering the street context and the adjacent land uses in which the project is located. The tool can also be used to audit the conditions of existing streets to inform future needs and opportunities.

The audit tool was used to audit existing conditions of Upper Wellington Street and to inform future needs. The Study Corridor was assumed to be interpreted as “Connectors,” which “link residential and employment areas together and to other parts of the City” with “moderate people-movement capacity with moderate access control.” Characteristics for Connector Streets from Hamilton Complete Streets Design Guidelines (2022) are provided below.

Figure 2-3: Complete Livable Better Streets Typology for Connector Streets

CONTEXT	Urban/Suburban
STREET FUNCTION	Mobility and access
RIGHT OF WAY	20–26 m
NUMBER OF LANES	2
TARGET SPEED	30–40 km/h
CYCLING FACILITIES	Cycle tracks (on-street lanes, advisory lanes, or shared lanes may be appropriate depending on context)
PEDESTRIAN CLEAR ZONE WIDTH	1.8m, 2.0m adjacent to high pedestrian generators

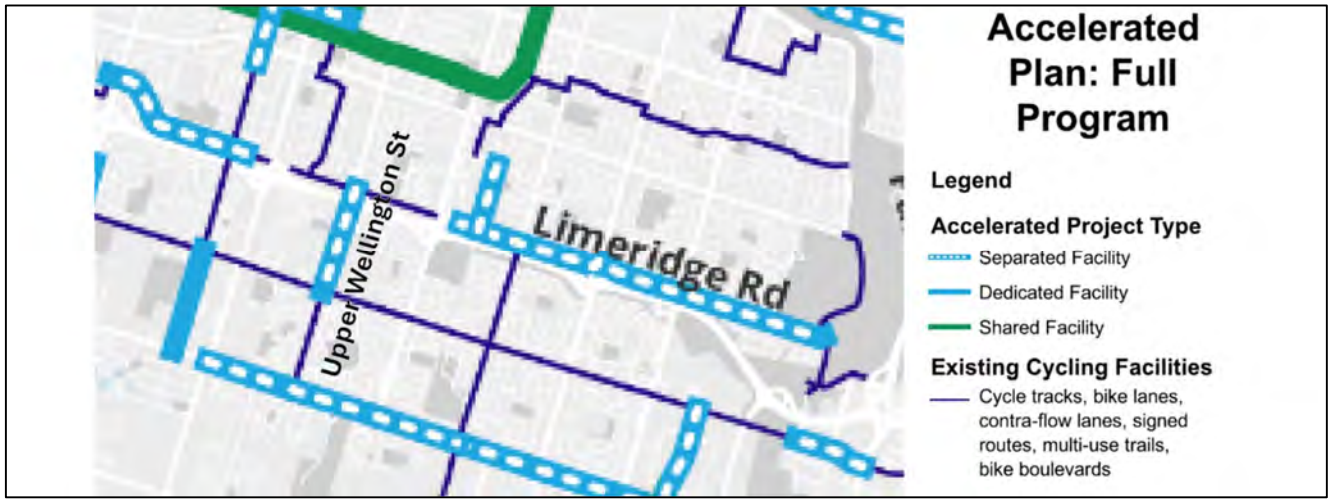
Figure 2-4: Schematic for Connector Streets



2.1.9 Accelerated Active Transportation Implementation Plan (2023)

The Accelerated Active Transportation Implementation Plan (2023) outlines a strategy to complete additional City-wide active transportation projects more quickly than in previous years, with an emphasis on cycling infrastructure. The plan was developed to guide the delivery of 151 km of new and upgraded cycling facilities that would be implemented from 2024 to 2028. This plan identified “separated cycle facilities” for Upper Wellington Street, between Stone Church Road East and Limeridge Road East (City of Hamilton, 2023). It identified the planned implementation of this project in year 2026.

Figure 2-5: Excerpt - Accelerated Active Transportation Implementation Plan (2023)



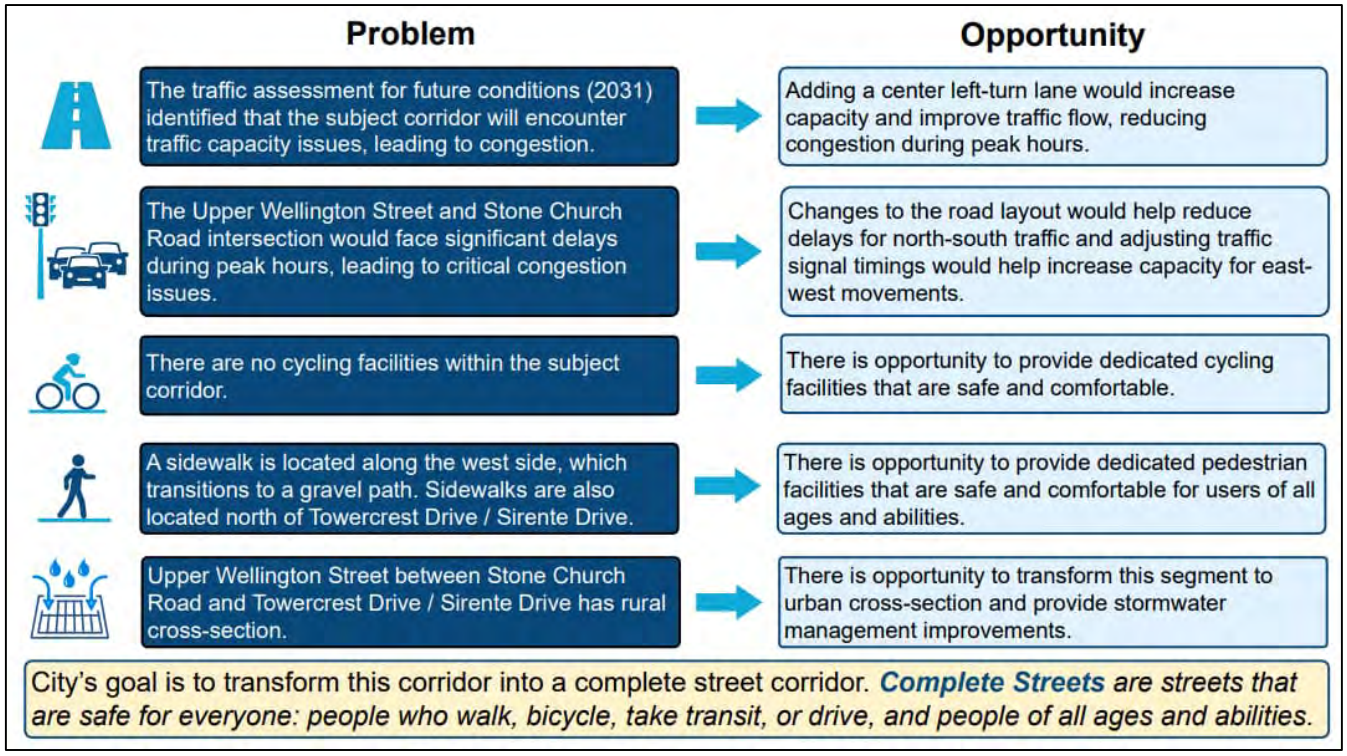
2.2 Problem Statement

As noted in Section 1.1, the City has taken the opportunity to transform the Study Corridor into a “Complete, Livable, Better Street”, that is safe and comfortable for all road users: pedestrians, cyclists, transit users, and drivers, and people of all ages and abilities. The following problem statement was developed as a vision for this Class EA Study:

As part of this Class EA Study, the transportation assessment identified that there are capacity deficiencies along Upper Wellington Street for the existing conditions (2020) and future conditions (2031). Building off the recommendations from the City’s transportation planning plans, the City of Hamilton is taking this opportunity to implement capacity and active transportation improvements on Upper Wellington Street, between Stone Church Road East and Limeridge Road East.

The following graphic summarizes problems and opportunities along the Study Corridor:

Figure 2-6: Problem and Opportunities along Study Corridor



The problem statement was presented at Public Information Centre (PIC) #1 in June 2021 and PIC #2 in December 2024 to gather feedback from Indigenous Nations, the public, impacted property owners, government agencies, utilities owners, and interested stakeholder groups. A description of consultation program is provided in Section 9.

3 EXISTING AND FUTURE CONDITIONS

This section provides a description / characterization of the existing and future conditions (where relevant) along the Study Corridor in the context of transportation, social environment, natural environment, cultural heritage environment, and technical environment.

3.1 Transportation

3.1.1 Roads and Active Transportation Facilities

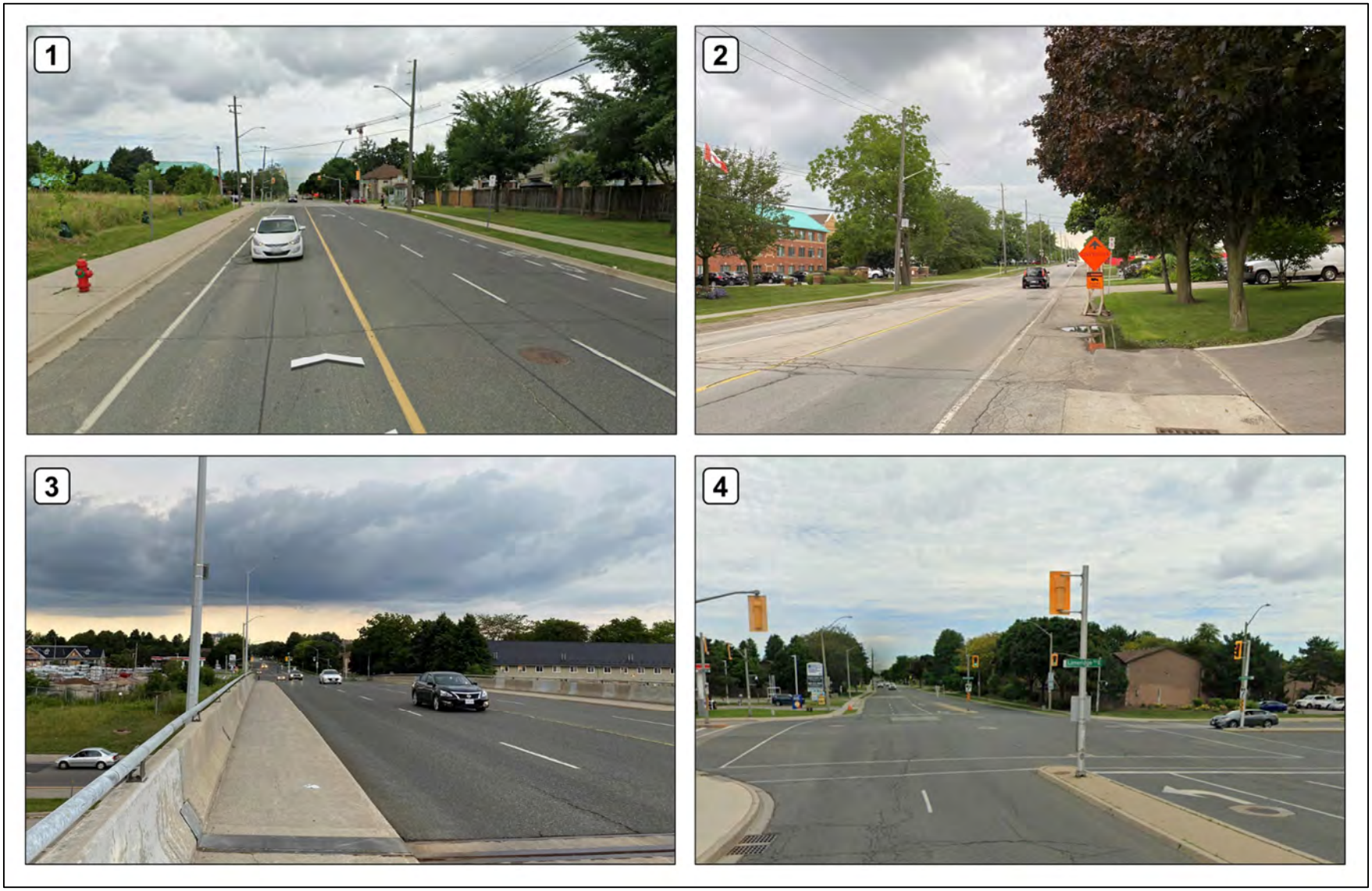
Upper Wellington Street is a key north-south road in the City of Hamilton, running from Rymal Road East in the south to Concession Street in the north, serving as a boundary between Ward 7 and Ward 8. It is classified as a minor arterial road in the Schedule C of the Urban Hamilton Official Plan (City of Hamilton, 2013).

The Study Corridor is approximately 1.1 km in length, extending from approximately 50 metres south of Stone Church Road East to Limeridge Road East. From south to north, it intersects with Stone Church Road East, Desoto Drive, Towercrest Drive / Sirente Drive, and Limeridge Road East. It is not designated as a full-time or part-time truck route in the City Truck Route Master Plan Update (IBI Group, 2022). The posted speed limit in the Study Corridor is 40 km/h.

The existing characteristics of the Study Corridor, including the roadway features south of Stone Church Road East and north of Limeridge Road East, are outlined below for context.

- **Upper Wellington Street south of Stone Church Road East** has an urban cross-section with three lanes of traffic (one in each direction plus a centre turning lane), on-road bike lanes, and sidewalks on both sides. The northbound bike lane south of Stone Church Road lacks definition approaching the intersection. See Photo 1 on the next page.
- **Upper Wellington Street, between Stone Church Road East and Towercrest Drive / Sirente Drive** transitions to a rural cross-section with one lane in each direction. There is a concrete sidewalk on the east side that transitions to an asphalt path and subsequently turns to a gravel shoulder. There is a sidewalk on the west side, which transitions to an asphalt path north of Desoto Drive. There are no bike lanes in this section, and frequent driveways provide access to and from the Upper Wellington Street. The existing road right of way varies between approximately 20 m and 25 m. See Photo 2 on the next page.
- **Upper Wellington Street, between Towercrest Drive / Sirente Drive and Limeridge Road East** features an urban cross-section with two lanes in each direction and sidewalks on both sides. This segment includes an overpass bridge just south of Limeridge Road East providing an elevated right-of-way above the Lincoln M. Alexander Parkway. Currently, the bridge has a length of 15 meters (2x7.5m) between the expansion two joints, with two sidewalks each measuring 2.0m in width. There are no bike lanes in this segment. The existing road right of way varies between approximately 25 m and approximately 58 m. See Photo 3 on the next page.
- **Upper Wellington Street, north of Limeridge Road East** has urban cross-section with two lanes of traffic in each direction, and sidewalks on both sides of the road. There are no bike lanes in this area. See Photo 4 on the next page.

Figure 3-1: Existing Roadway Characteristics



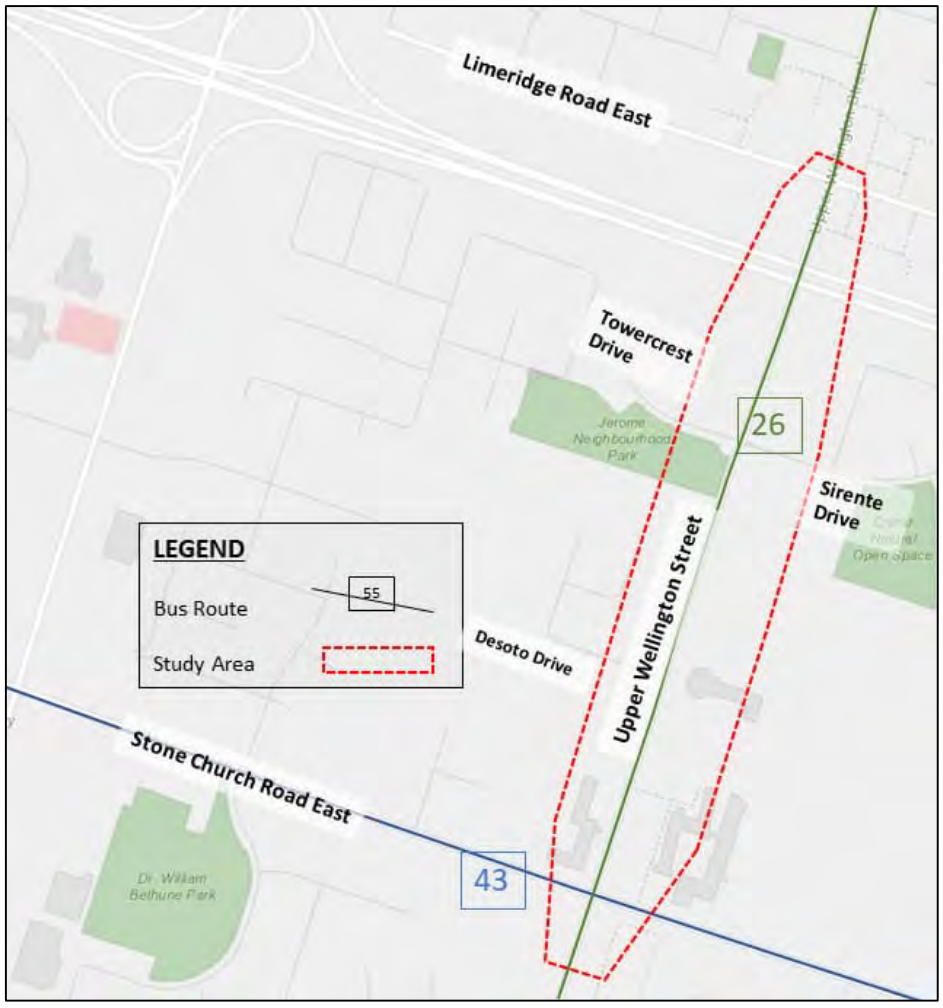
3.1.2 Transit Service

Transit Service to the Study Corridor consists of two bus routes operated by Hamilton Street Railway (HSR); Route 26 which travels along the Upper Wellington Street, and Route 43 which intersects the corridor at Stone Church Road East. Both transit routes travel through but do not have turn constraints within the study area.

Route 26 – Upper Wellington travels north-south from the McNab Terminal Platform #4 to Limeridge Mall Terminal Platform #4. The service runs seven days a week from the early morning until after midnight. The off-peak service runs every 20 minutes, evenings and weekends have 30 minutes to an hour-long headway, while there are 15-minute peak hour headways.

Route 43 – Stone Church travels east-west from Highland at Saltfleet School to the Meadowlands Terminal. The service runs seven days a week from the early morning until after midnight. There is 30 minutes peak hour headway, while the off-peak/weekend service has 30 minutes to an hour-long headway. Figure 3-2 shows the Study Corridor bus route access.

Figure 3-2: Study Corridor Bus Route Access



3.1.3 Traffic Conditions

A transportation assessment (dated March 5, 2025) was completed to assess existing traffic operations, road safety, and active transportation infrastructure along the Study Corridor to identify operational constraints and potential safety-related concerns based on the existing conditions (2020), and the forecasted future (2031) scenarios. The transportation assessment was completed in two phases:

- As part Class EA Phase 1, the transportation assessment was completed to assess traffic operations and safety along the Study Corridor in order to identify any operational constraints and potential safety related concerns. The analysis was completed to identify the traffic and capacity deficiencies for the existing conditions (2020) and future conditions (2031). The existing road network was used for the future year analysis along the Study Corridor in order to identify these deficiencies, otherwise referred to as the "Do Nothing" scenario in the Class EA process.
- As part Class EA Phase 2, future conditions (2031) were initially assessed with a four-lane cross-section along the Study Corridor (called the "Road Widening" scenario). This scenario was examined in order to understand traffic operations along the corridor with geometric improvements. The four-lane preliminary cross-section was presented at PIC #1. However, after presenting the four-lane cross-section, some members of the public questioned the need for a four-lane cross-section, noting that the section to the south has a three-lane cross-section only and asking if a three-lane cross-section would work in the subject section. There were concerns raised over property taking as a result of the widening, the removal of mature trees and a possibility of increased vehicle speeds along the Study Corridor as a result of a four-lane cross-section. As a result of public feedback, further analysis was suggested by the City staff to build a potential case for a three-lane cross-section, which was completed as part of subsequent iteration of the Transportation Assessment Report.

A summary of results of Transportation Assessment Report are provided below, and the complete report is provided in Appendix A.

3.1.3.1 Collision Analysis

A safety analysis was conducted, consisting of an in-office review of historical collision data. Collision data for the most recent regular five-year period (2015 to 2019 inclusively) was reviewed on a corridor level to identify any overall trends and patterns over the analysis period. Collisions reported with a classification of 'Non-reportable' are assumed to be 'Property Damage Only' (PDO).

This analysis demonstrated that overall, the Study Corridor operates at a satisfactory operational safety level based on historical collision records and site observations.

A total of 102 collisions were recorded during the five-year period along the Study Corridor. Of these, two (2) were pedestrian-auto collisions involving pedestrians crossing with the right-of-way. Two (2) collisions were cyclist-auto collisions, and the remainder of the reported collisions were auto-auto collisions, with two collisions involving municipal transit buses.

The collision data was analyzed by location and severity to determine any hot spots along the Study Corridor which would require further investigation. Collisions occurring at intersections and midblock segments were analyzed separately.

The majority of vehicular collisions occurred during the day between 9:00 AM and 5:00 PM when traffic is the heaviest. There were no collisions resulting in fatalities along the corridor during the five-year study period. Collisions resulted predominantly in property damage only (76%), while fewer (24%) resulted in non-fatal injuries.

A total of 88 (86%) of the 102 recorded collisions along the Study Corridor were intersection related. The intersection of Upper Wellington Street and Stone Church Road East experienced the highest number of collisions resulting in both non-fatal injuries and property damage, totaling 58 collisions (66% of total intersection collisions). In comparison, the intersections at Limeridge Road East and Towercrest Drive each experienced a relatively low number of collisions (15 or 17% of total intersection collisions).

In regard to midblock collisions, the segment of Upper Wellington Street just north of the intersection with Stone Church Road East was identified as a potential hotspot, totalling 6 collisions (43% of total midblock collisions).

3.1.3.2 Safety Field Review

A site visit was conducted on February 26, 2021, to assess the road safety and active transportation features of the Study Corridor. The following outlines the findings from that visit, focusing on sightlines and safety at key intersections along Upper Wellington Street.

- **Upper Wellington Street at Stone Church Road East:** This four-legged signalized intersection is aligned at right angles, with dedicated left-turn lanes on all approaches. Bicycle lanes are present on Stone Church Road East and the south leg of Upper Wellington Street. Pedestrian signal heads and crosswalks are provided. Sightlines were deemed adequate on all four approaches.
- **Upper Wellington Street between Stone Church Road East and Towercrest Drive / Sirente Drive:** This section has a rural cross-section with two lanes of traffic and a sidewalk on the west side, primarily consisting of an asphalt pathway separated from the roadway by a 2.0 metre gravel shoulder. One unsignalized intersection leads to Desoto Drive, which is Stop-controlled. Sightlines are adequate, and there is a set of utility poles on the west side of the road, offset by approximately 1.4 m from the travel lanes.
- **Upper Wellington Street at Towercrest Drive / Sirente Drive:** This four-legged signalized intersection is aligned at right angles, with dedicated left-turn lanes on all approaches. However, bicycle lanes are not provided along any of the approaches. Pedestrian signal heads and crosswalks are present. On the south leg (northbound approach), a temporary sightline issue occurs due to a sudden change in vertical grade, restricting visibility of vehicles queued at the intersection. Figure 3-3 and Figure 3-4 show the approach to the intersection, where the slope is experienced. As shown in Figure 3-3, in addition to the available sight distance, cautionary “PREPARE TO STOP WHEN FLASHING” road sign is positioned approximately 135 metres from the intersection to warn drivers. A sightline

analysis of this intersection was completed. Results of that analysis are provided in the following section.

- **Upper Wellington Street between Towercrest Drive / Sirente Drive and Limeridge Road East:** This section has a four-lane cross-section and provides no direct access to adjacent properties. As noted earlier, it includes a 70-metre bridge crossing just south of Limeridge Road East, with elevated right-of-way above the Lincoln M. Alexander Parkway. Both sides of the roadway feature a 2.5-metre-wide concrete sidewalk, and guard rails and concrete barriers are installed on the bridge.
- **Upper Wellington Street at Limeridge Road East:** This four-legged signalized intersection is aligned at right angles, with dedicated left-turn lanes on all approaches. Bicycle lanes are not provided on any of the approaches, but pedestrian signal heads and crosswalks are in place. Sightlines are adequate on all four approaches.

Figure 3-3: Northbound Approach at Upper Wellington St and Towercrest Dr. / Sirente Dr. (Dashcam Footage)

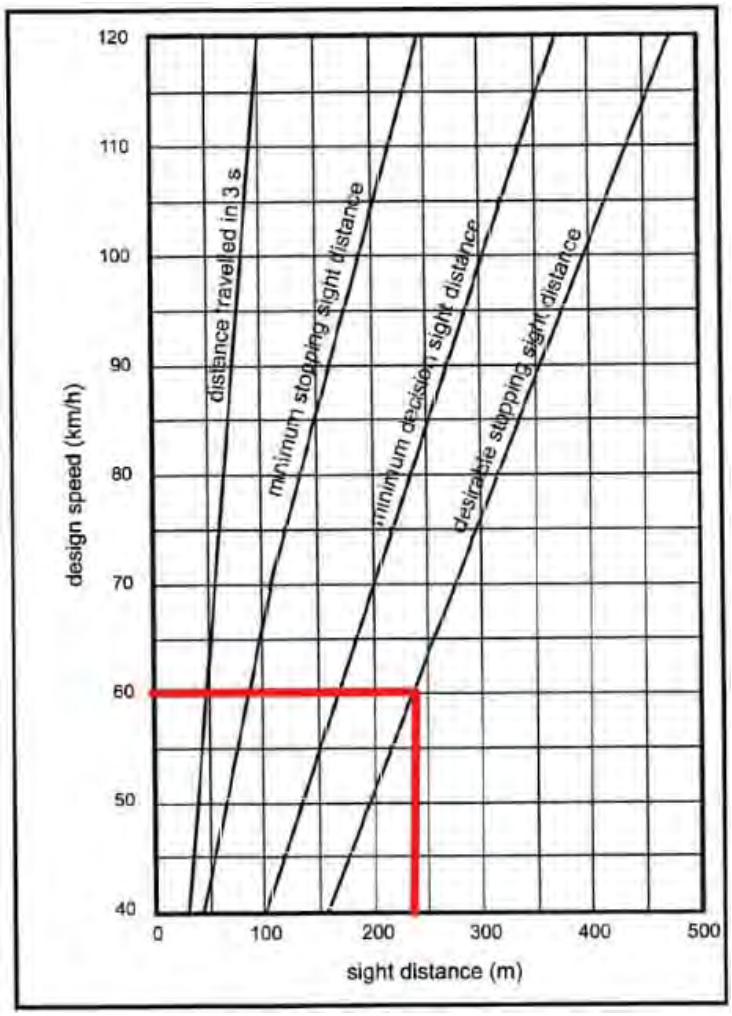
Figure 3-4: Northbound Approach Reverse Angle (Dashcam Footage)

3.1.3.3 Sightline Analysis

As noted in the preceding section, a sightline issue was identified on the south leg (northbound approach) of the Upper Wellington Street and Towercrest Drive / Sirente Drive intersection, caused by a sudden vertical grade change that restricts visibility of queued vehicles.

A sight distance analysis for this approach was conducted in order to ensure adequate stopping distance for vehicles approaching the intersection. The methodology for assessing the adequacy of sight distance was adopted from the Transportation Association of Canada (TAC) Geometric Design Guide for Canadian Roads (2017). In order to estimate the desirable stopping sight distance, a conservative design speed of 60 km/h was used to derive the stopping distance from the design guide's range of sight distance values shown in Figure 3-5, which recognizes the variation in complexity that exists at various sites. As shown in Figure 3-5, the desired stopping distance at the assumed design speed of 60 km/h is 240 metres. The stop bar intersection becomes visible from approximately 250 metres out, thus the available sight distance exceeds the desirable stopping distance at the 60 km/h design speed. The posted speed for the preferred design is proposed to be 50 km/h, with the desired stopping distance set at 105 metres out.

Figure 3-5: TAC Geometric Design Guide Excerpt – Decision Stopping Distance by Design Speed



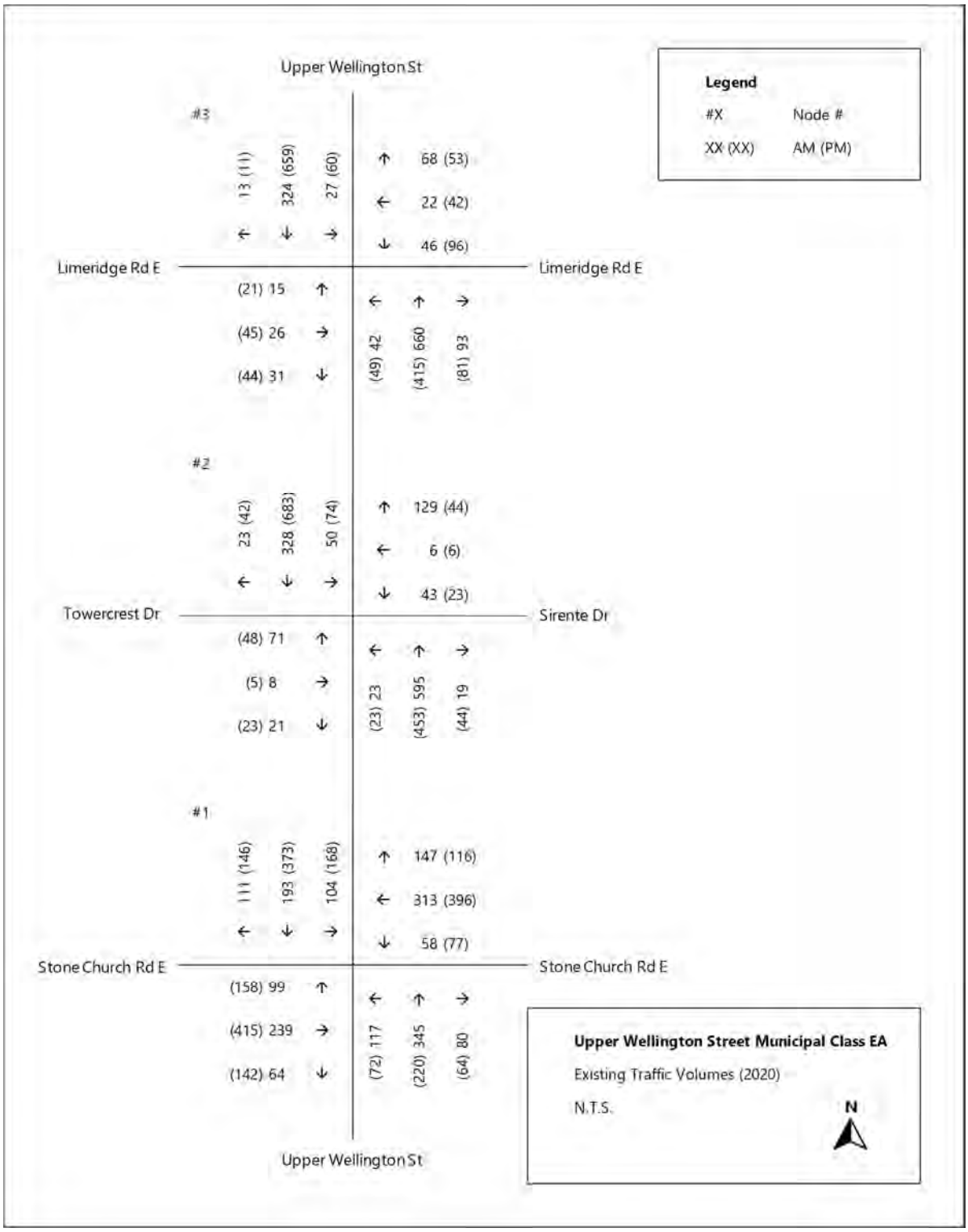
3.1.3.4 Existing Traffic Conditions (2020)

3.1.3.4.1 Existing Travel Demand

The existing baseline traffic volumes were established based on turning movement counts (TMCs). The resulting traffic volumes for the weekday morning (AM) and afternoon (PM) peak hours are summarized in Figure 3-6.

The established traffic volumes suggest that the dominant northbound movement was in the AM peak direction and the dominant southbound movement was in the PM peak direction. In addition to Upper Wellington Street, a high traffic demand was observed along Stone Church Road East. Since Limeridge Road East and Towercrest Drive – Sirente Drive mostly provide access to residential neighborhoods, traffic volumes on these roads are not as high as on Upper Wellington Street or Stone Church Road East.

Figure 3-6: Existing Traffic Volumes (2020)



3.1.3.4.2 Existing Conditions (2020) Link Capacity Analysis

The results of link capacity analysis summarized in Table 3-1 and Table 3-2 for the AM and PM peak hours, respectively. These results indicated the Upper Wellington Street corridor between Stone Church Road East and Limeridge Road East is currently operating with good LOS during peak hours. This section of the corridor has a number of driveways from/to residential areas and retail/community spaces with parking lots, which may be further impeding the traffic flow. The link capacity was assumed to be 850 vehicles/hours for a single lane.

Table 3-1: Existing Condition (2020) Link Capacity Analysis – AM Peak Hour

Segment	Northbound					Southbound				
	# of Lanes	Lane Cap. (v/h/l)	Total Cap. (v/h)	Vol. (v/h)	v/c	# of Lanes	Lane Cap. (v/h/l)	Total Cap. (v/h)	Vol. (v/h)	v/c
North of Stone Church Rd E	1	850	850	637	0.75	1	850	850	408	0.48
North of Towercrest Dr – Sirente Dr	2	850	1,700	795	0.47	2	850	1,700	401	0.24

Table 3-2: Existing Condition (2020) Link Capacity Analysis – PM Peak Hour

Segment	Northbound					Southbound				
	# of Lanes	Lane Cap. (v/h/l)	Total Cap. (v/h)	Vol. (v/h)	v/c	# of Lanes	Lane Cap. (v/h/l)	Total Cap. (v/h)	Vol. (v/h)	v/c
North of Stone Church Rd E	1	850	850	520	0.61	1	850	850	729	0.86
North of Towercrest Dr – Sirente Dr	2	850	1,700	545	0.32	2	850	1,700	799	0.47

Abbreviations: Cap: Capacity. Vol: Volume.

3.1.3.4.3 Existing Conditions (2020) Intersection Capacity Analysis

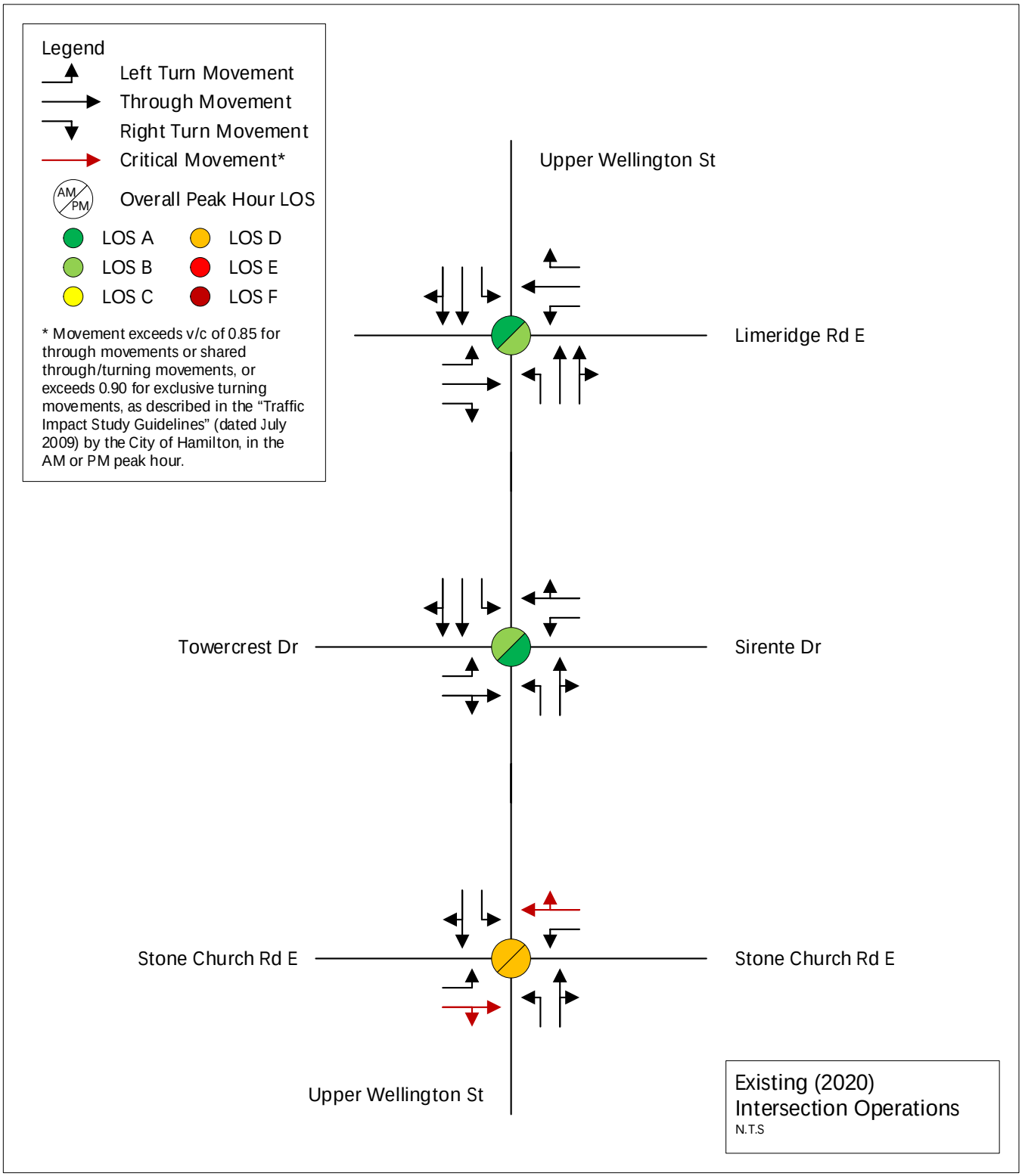
The results of intersection capacity analysis are provided in the table below. As summarized in this table, at Upper Wellington Street / Stone Church Road, the eastbound through-right movement operates at a v/c ratio of 0.98 with LOS E in the AM peak hour, and westbound through-right movement operates at a v/c ratio of 0.93 with LOS E in both AM and PM peak hours. This is likely caused by high through traffic volumes in the east-west direction combined with delay incurred by vehicles making right turns onto Upper Wellington Street. These critical movements are highlighted in the aforementioned table and illustrated in Figure 3-7. Other movements operate at an acceptable level of service.

Table 3-3: Existing (2020) Signalized Intersection Operations

Lane	Weekday AM Peak Hour			Weekday PM Peak Hour		
	v/c	Delay	LOS	v/c	Delay	LOS
1: Upper Wellington St & Stone Church Rd E						
EBL	0.52	25.8	C	0.86	53.1	D
EBTR	0.59	35.7	D	0.98[1]	67.2	E
WBL	0.19	23.8	C	0.52	27	C
WBTR	0.93[1]	62.3	E	0.93[1]	58.4	E
NBL	0.29	17.2	B	0.35	21.9	C
NBTR	0.71	34	C	0.47	28.5	C
SBL	0.32	18.2	B	0.42	19.1	B
SBTR	0.51	27.7	C	0.83	42	D
Overall	**0.75**	**-**	**D**	**0.89**	**-**	**D**
2: Upper Wellington St & Towercrest Dr/Sirente Dr						
EBL	0.67	47.2	D	0.52	40.5	D
EBTR	0.07	33.7	C	0.07	37.2	D
WBL	0.28	34.9	C	0.25	38.2	D
WBTR	0.58	38.6	D	0.1	37.3	D
NBL	0.06	3.7	A	0.06	2.7	A
NBTR	0.6	8	A	0.45	4.7	A
SBL	0.15	3.9	A	0.16	2.4	A
SBT-TR	0.19	3.4	A	0.33	2.4	A
Overall	**0.61**	**-**	**B**	**0.45**	**-**	**A**
3: Upper Wellington St & Limeridge Rd E						
EBL	0.13	37.7	D	0.14	35.9	D
EBT	0.16	37.8	D	0.23	36.3	D
EBR	0.02	37.2	D	0.03	35.3	D
WBL	0.39	39.2	D	0.66	45.5	D
WBT	0.14	37.7	D	0.21	36.1	D
WBR	0.05	37.3	D	0.04	35.3	D
NBL	0.06	3.1	A	0.1	3.7	A
NBT-TR	0.34	3.9	A	0.23	3.7	A
SBL	0.06	2.8	A	0.1	3.5	A
SBT-TR	0.15	2.9	A	0.3	4.1	A
Overall	**0.34**	**-**	**A**	**0.35**	**-**	**B**

Note: 1 - Movement exceeds v/c of 0.85 for through movements or shared through/turning movements, or exceeds 0.90 for exclusive turning movements, as described in the “Traffic Impact Study Guidelines” (dated July 2009) by the City of Hamilton, in the AM or PM peak hour.

Figure 3-7: Existing (2020) Intersection Operations



3.1.3.5 Assessment of Three-Lane Cross-Section

As noted previously, at PIC#1 some members of the public questioned the need for a four-lane cross-section, noting that the section to the south of Stone Church Road has a three-lane cross-section only and asking if a three-lane cross-section would work in the subject section. Related to this, there were concerns over property taking as a result of widening to four-lanes, along with the removal of mature trees and a possibility of increased vehicle speeds in the study area.

As a result of public feedback, further analysis was suggested by the City staff to build a potential case for a three-lane cross-section. A thorough review was conducted to assess the growth rate along Upper Wellington Street based on the available historical data along other parallel corridors. Based on this assessment and findings, Upper Wellington Street was identified as a good candidate for a three-lane cross-section. The following was noted:

- It is expected that a three-lane cross-section will have lower traffic volumes when compared to a four-lane cross-section. Some road diet before-after studies suggest a reduction in Average Daily Traffic (ADT) by 10% (four lanes to three lanes). This will alleviate any congestion along Upper Wellington Street for the foreseen future;
- A number of road authorities have implemented road diets (4 lanes to 3 lanes). These have also been shown to improve connectivity for bicyclists and will increase bicycle ridership compared to 4-lane cross-sections. They have been shown to reduce pedestrian and bicycle crashes when compared to a four-lane cross-section;
- Jobs and population growth data suggest a lower growth rate (0.40 - 0.74%). The growth in jobs and population between 2021 and 2031 is relatively small thus the growth should reflect that 2031 model volumes include the bypass trips that are not related to zones along Upper Wellington Street;
- The select link analysis shows that left turn lane will capture about ~8% of the total ADT traffic along Upper Wellington Street. This will allow for extra capacity for through traffic; and
- Growth of 1.0% per annum between 2021 and 2031 will be adopted for the future analysis.

Considering the above, the following cross-section configuration was assessed as part of Class EA Phase 3 (See Section 5 for Road Design Options):

- Upper Wellington Street between Stone Church Road and Towercrest Drive/Sirente Drive: Widening from a two-lane cross-section to a three-lane cross-section (one lane in each direction with a centre turn lane).
- Upper Wellington Street between Towercrest Drive/Sirente Drive and Limeridge Road: Road diet to reduce from a four-lane cross-section with a two-lane cross-section with a centre turn lane at the intersections.

3.1.3.6 Future Traffic Conditions (2031) – "Do Nothing" Scenario Assessment

The assessment of future conditions (2031) was undertaken on the existing road network assuming that no improvements were implemented, referred to hereafter as the "Do Nothing" scenario. This was done to determine whether these road improvements such as widening could be justified.

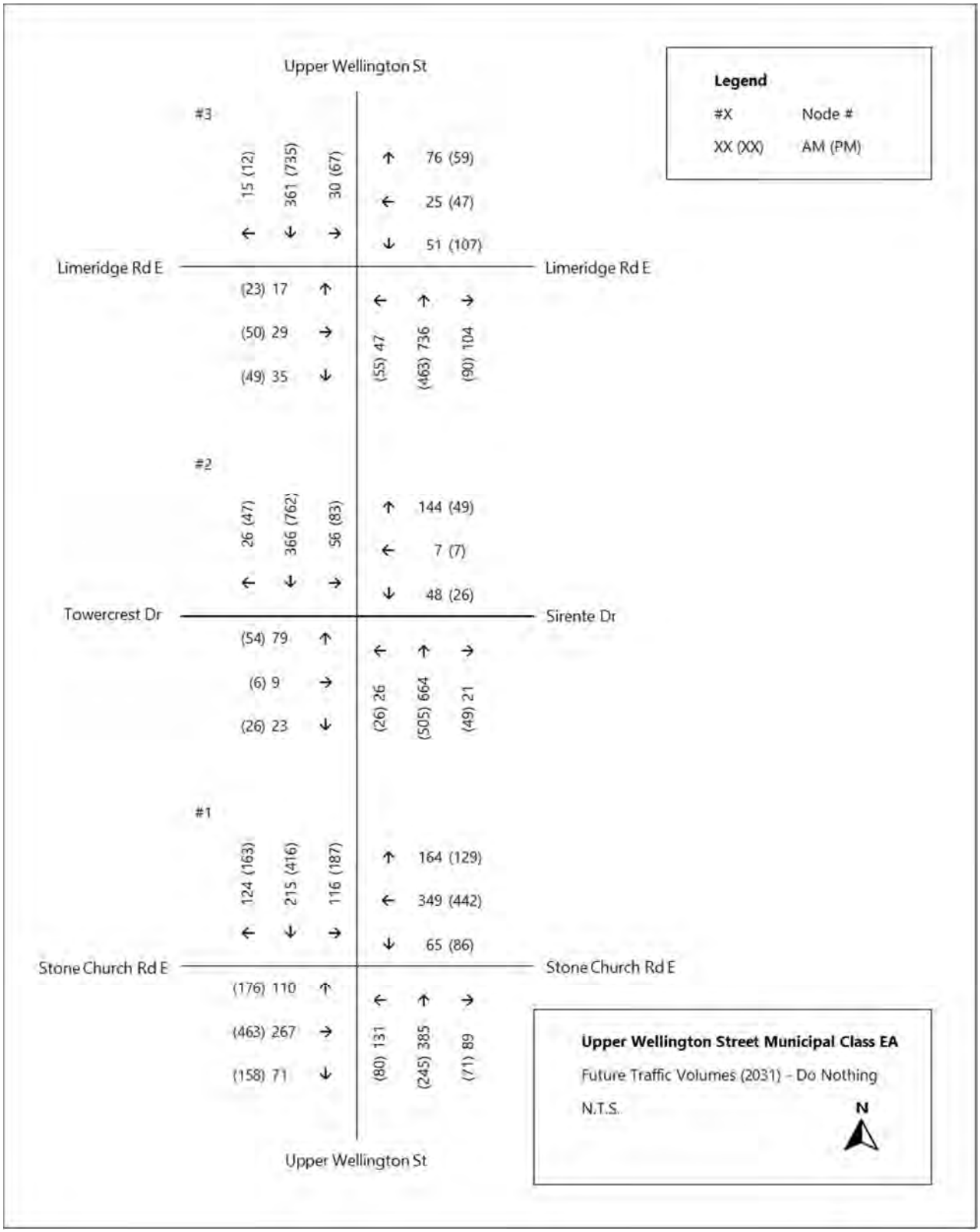
3.1.3.6.1 Future Travel Demand

The resulting traffic volumes for the weekday morning (AM) and afternoon (PM) peak hours are summarized in Figure 3-8. Since there are no drastic changes in the road network or in land use patterns(refer to Section 3.2.5), the travel pattern in the study area is similar to the existing conditions but with higher traffic volumes.

3.1.3.6.2 Corridor Growth

A compound annual growth rate (CAGR) of 1% was applied for future traffic volumes. Future cycling volumes are not projected as a numerical estimate. The current methodology of the City regarding cycling growth is to create a connected cycling network across the City to foster an increase in cycling ridership.

Figure 3-8: Future Traffic Volumes (2031) – Do Nothing



3.1.3.6.3 Future Conditions (2031) Link Capacity Analysis

The results of link capacity analysis are summarized in Table 3-4 and Table 3-5. These results demonstrate that the Study Corridor would be operating in an oversaturated condition for peak hour movements (AM northbound, PM southbound).

In the AM peak hour, the Study Corridor, north of Stone Church Road East would operate at a v/c ratio of 0.99 in the northbound direction. In the PM peak hour, it would operate at a v/c ratio of 1.13 in the southbound direction. However, an additional centre left turn lane will allow for more capacity for through lanes thus better LOS in general.

Table 3-4: Future Condition Do Nothing (2031) Link Capacity Analysis – AM Peak Hour

Segment	Northbound					Southbound				
	# of Lanes	Lane Cap. (v/h/l)	Total Cap. (v/h)	Vol. (v/h)	v/c	# of Lanes	Lane Cap. (v/h/l)	Total Cap. (v/h)	Vol. (v/h)	v/c
North of Stone Church Rd E	1	850	850	840	0.99	1	850	850	546	0.64
North of Towercrest Dr – Sirente Dr	2	850	1,700	1047	0.62	2	850	1,700	534	0.31

Table 3-5: Future Condition Do Nothing (2031) Link Capacity Analysis – PM Peak Hour

Segment	Northbound					Southbound				
	# of Lanes	Lane Cap. (v/h/l)	Total Cap. (v/h)	Vol. (v/h)	v/c	# of Lanes	Lane Cap. (v/h/l)	Total Cap. (v/h)	Vol. (v/h)	v/c
North of Stone Church Rd E	1	850	850	692	0.81	1	850	850	963	1.13
North of Towercrest Dr – Sirente Dr	2	850	1,700	725	0.43	2	850	1,700	1055	0.62

Abbreviations: Cap: Capacity. Vol: Volume.

3.1.3.6.4 Future Conditions (2031) Intersection Capacity Analysis

The results of intersection capacity analysis are summarized in Table 3-6 and illustrated in Figure 3-9. These results indicate that the westbound through-right movement and northbound through-right movement at Upper Wellington Street / Stone Church Road East are critical, with v/c ratios of 0.96 and 0.85, respectively, in the AM peak hour. In the PM peak hour, the eastbound left and eastbound through-right operate at a v/c larger of 1.06 with a LOS F. The westbound through-right and southbound through-right movements are also critical with v/c ratios of 1.00 and 0.96 respectively, and LOS 'E'. Geometric improvements are recommended to in order to alleviate the north-south delays. Furthermore, localized improvements with a signal optimization may provide more capacity to the east-west movements. The traffic operating conditions with improvements (three-lane cross-section) are further examined in the next section.

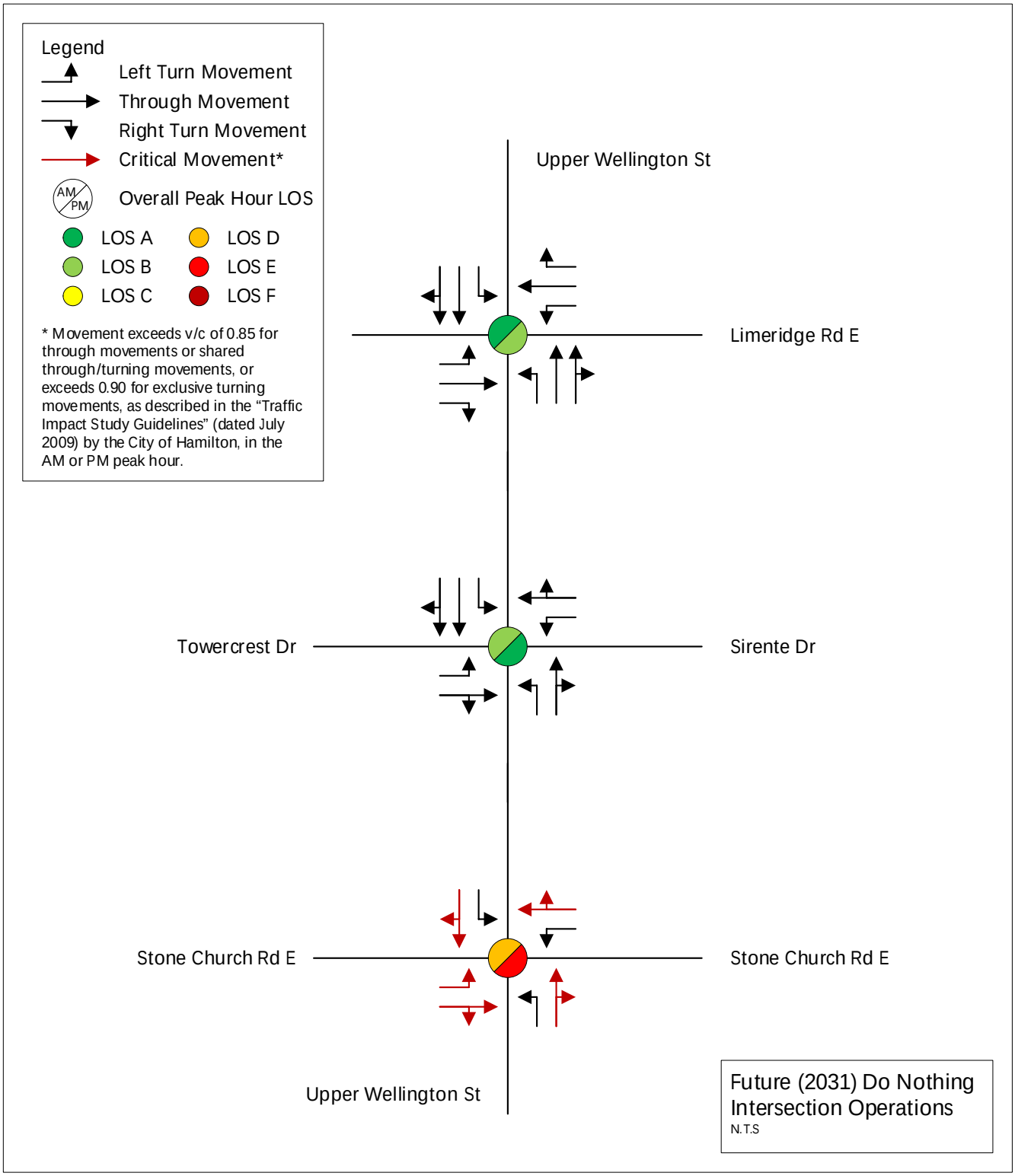
Table 3-6: Future (2031) Do Nothing Signalized Intersection Operations

Lane	Weekday AM Peak Hour			Weekday PM Peak Hour		
	v/c	Delay	LOS	v/c	Delay	LOS
1: Upper Wellington St & Stone Church Rd E						
EBL	0.6	27.4	C	1.06[1]	111.7	F
EBTR	0.61	34.3	C	1.06[1]	86.8	F
WBL	0.21	22.2	C	0.59	30.3	C
WBTR	0.96[1]	66.9	E	1.00[1]	72.7	E
NBL	0.37	19.5	B	0.53	25.8	C
NBTR	0.85[1]	45.4	D	0.54	31.3	C
SBL	0.45	21.1	C	0.52	22	C
SBTR	0.6	32.4	C	0.96[1]	61	E
Overall	**0.84**	**-**	**D**	**1.01**	**-**	**E**
2: Upper Wellington St & Towercrest Dr/Sirente Dr						
EBL	0.73	52.8	D	0.56	42.2	D
EBTR	0.07	32.5	C	0.08	36.9	D
WBL	0.28	33.8	C	0.28	38.1	D
WBTR	0.67	41.8	D	0.11	37.1	D
NBL	0.07	4.2	A	0.08	3	A
NBTR	0.68	10.3	B	0.5	5.3	A

Lane	Weekday AM Peak Hour			Weekday PM Peak Hour		
	v/c	Delay	LOS	v/c	Delay	LOS
SBL	0.21	5.3	A	0.19	2.7	A
SBT-TR	0.22	4	A	0.37	2.5	A
Overall	**0.69**	**-**	**B**	**0.51**	**-**	**A**
3: Upper Wellington St & Limeridge Rd E						
EBL	0.14	37.7	D	0.15	35.3	D
EBT	0.18	37.8	D	0.24	35.8	D
EBR	0.02	37.1	D	0.03	34.7	C
WBL	0.44	39.5	D	0.69	46.9	D
WBT	0.15	37.7	D	0.21	35.6	D
WBR	0.05	37.2	D	0.04	34.7	C
NBL	0.07	3.3	A	0.13	4.4	A
NBT-TR	0.38	4.4	A	0.26	4.4	A
SBL	0.07	2.9	A	0.12	3.9	A
SBT-TR	0.17	3	A	0.33	4.6	A
Overall	**0.38**	**-**	**A**	**0.39**	**-**	**B**

Note: 1 - Movement exceeds v/c of 0.85 for through movements or shared through/turning movements, or exceeds 0.90 for exclusive turning movements, as described in the “Traffic Impact Study Guidelines” (dated July 2009) by the City of Hamilton, in the AM or PM peak hour.

Figure 3-9: Future (2031) Do Nothing Intersection Operations

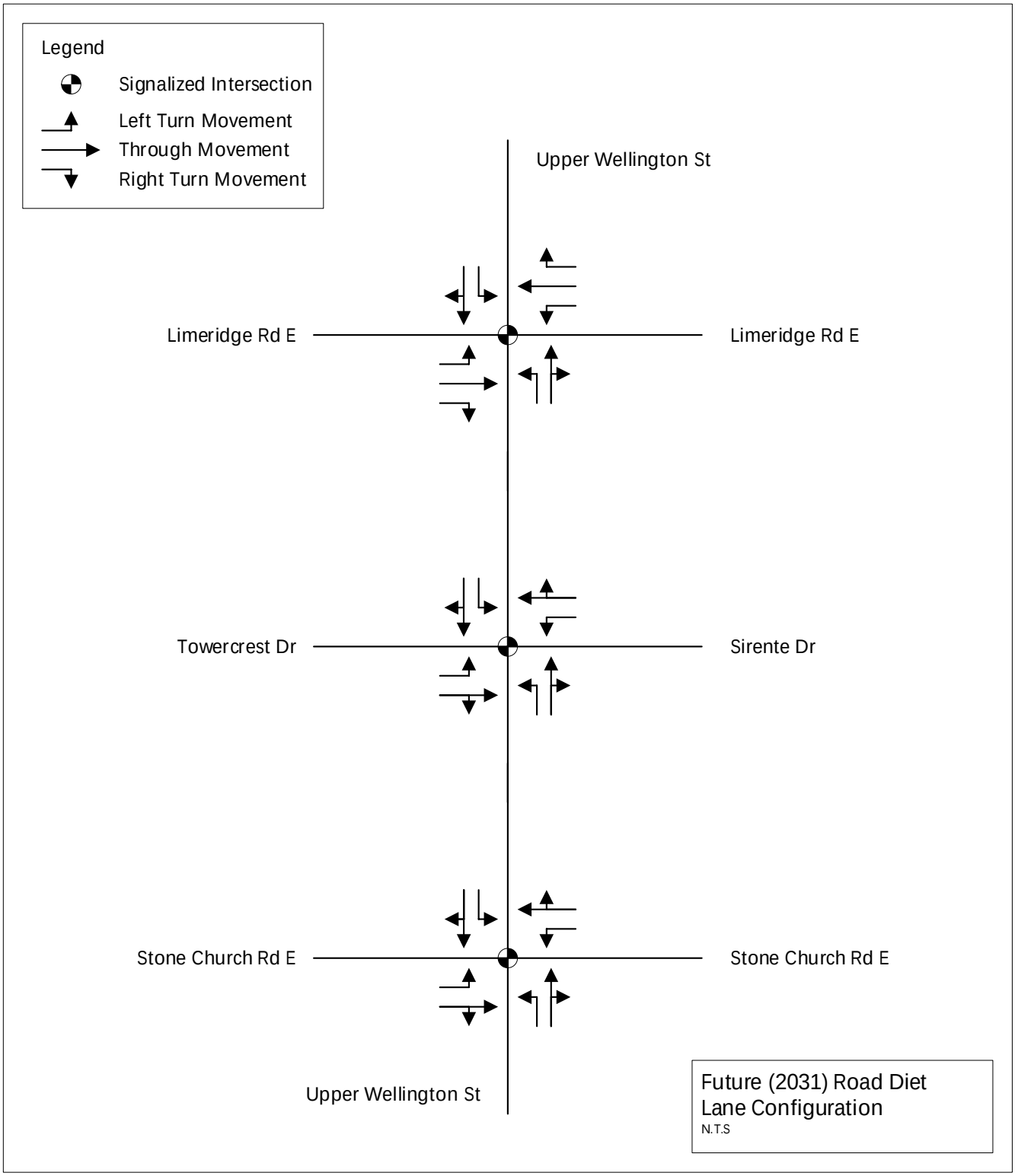


3.1.3.7 Future Traffic Conditions (2031) – "Three-Lanes Cross-Section" Scenario Assessment

The assessment of future conditions (2031) was undertaken for the 'Three-Lane Cross-Section' scenario. The Study Corridor segment between Stone Church Road East and Towercrest Drive – Sirente Drive was expanded from a two-lane cross-section in the "Do Nothing" scenario to a "three-lane cross-section" in this scenario. North of Towercrest Drive-Sirente Drive, the four-lane cross-section was reduced to three lanes to accommodate bike lanes. As a result of adopting a centre left turn lane along the studied corridor, the number of lanes at this section will be reduced to three-lane cross-section (two through lanes with centre median) to match the same configuration of Upper Wellington Street between Stone Church Road East and Towercrest Dr / Sirente Drive. This will allow an additional bike lane to be accommodated in both directions.

As illustrated in Figure 3-10, the intersection lane configurations at the Upper Wellington Street / Towercrest Drive – Sirente Drive and Upper Wellington Street / Stone Church Road East intersections were modified to maintain one through lane flow for both northbound and southbound directions with the additional left turn lane in the middle along the Study Corridor.

Figure 3-10: Future (2031) Lane Configurations – Three-Lane Cross-Section Scenario



3.1.3.7.1 Future (2031) Travel Demand

The travel pattern in the “Three Lane Cross-Section” scenario is expected to be comparable to the travel pattern in the “Do Nothing” scenario since there is no significant change in the road network which would introduce re-routings. Therefore, the same forecasted intersection volumes were used for the “Three Lane Cross-Section” scenario as the “Do Nothing” scenario. See Section 3.1.3.6.1 for the forecasted volumes. The lane reduction between Towercrest Dr / Sirente Dr and Limeridge Road East along with the adoption of the three-lane cross-section will divert some of the bypass traffic to parallel roads that have more lanes i.e., Upper James Street and Upper Wentworth Street. Thus, less traffic volumes than the ones considered for this analysis.

3.1.3.7.2 Future Conditions (2031) Link Capacity Analysis

The link capacity analysis was undertaken with the methodologies described in Section 4.3. The results summarized Table 3-7 and Table 3-8 demonstrate that the Study Corridor would be operating in an acceptable condition with the road widening. The highest v/c ratios in the peak directions were 0.95 for the northbound AM peak hour, and 0.96 for southbound PM peak hours. This is an improvement from the “Do Nothing” scenario in which the highest v/c ratios in the peak directions were 0.99 for the AM northbound and 1.13 for southbound PM peak hour.

Table 3-7: Future Condition (2031) Scenario Link Capacity Analysis – AM Peak Hour

Segment	Northbound					Southbound				
	# of Lanes	Lane Cap. (v/h/l)	Total Cap. (v/h)	Vol. (v/h)	v/c	# of Lanes	Lane Cap. (v/h/l)	Total Cap. (v/h)	Vol. (v/h)	v/c
Upper Wellington St										
North of Stone Church Rd E	1+1[1]	850+250[1]	1,100	840	0.76	1+1[1]	850+250[1]	1,100	546	0.50
North of Towercrest Dr – Sirente Dr	1+1[1]	850+250[1]	1,100	1,047	0.95	1+1[1]	850+250[1]	1,100	534	0.49

Abbreviation(s) 1 – Two way left turn Lanes have an assumed capacity of 250 v/l/h in addition to 850 v/l/h for conventional through lanes
Cap: Capacity
Vol: Volume

Table 3-8: Future Condition (2031) Scenario Link Capacity Analysis – PM Peak Hour

Segment	Northbound					Southbound				
	# of Lanes	Lane Cap. (v/h/l)	Total Cap. (v/h)	Vol. (v/h)	v/c	# of Lanes	Lane Cap. (v/h/l)	Total Cap. (v/h)	Vol. (v/h)	v/c
Upper Wellington St										
North of Stone Church Rd E	1+1[1]	850+250[1]	1,100	692	0.63	1+1[1]	850+250[1]	1,100	963	0.88
North of Towercrest Dr – Sirente Dr	1+1[1]	850+250[1]	1,100	725	0.66	1+1[1]	850+250[1]	1,100	1055	0.96

Abbreviation(s) 1 – Two way left turn Lanes have an assumed capacity of 250 v/l/h in addition to 850 v/l/h for conventional through lanes
Cap: Capacity
Vol: Volume

3.1.3.7.3 Future Conditions (2031) Intersection Capacity Analysis

The results of intersection capacity analysis are summarized in Table 3-9 and illustrated in Figure 3-10. The signal timing plans were reviewed and optimized in an effort to keep v/c ratios below 1.00 and LOS E or better. Upon the review, the signal timing plans at the Upper Wellington Street / Limeridge Road East and Upper Wellington Street / Towercrest Drive – Sirente Drive intersections were unchanged since all movements were far below the limits to be considered critical movements. The signal timing plans at the Upper Wellington Street / Stone Church Road East were optimized in the AM and PM peak hours. The signal timing optimization led to v/c ratios of 0.91 and LOS D or better in the AM peak hour and v/c ratios of 1.00 or better in the PM peak hour. The other two signalized intersections at Upper Wellington Street / Towercrest Drive – Sirente Drive and Upper Wellington Street / Limeridge Road East operate in acceptable conditions.

At Upper Wellington Street / Stone Church Road, the eastbound and westbound left turn movements, have 95th percentile queue lengths for the PM peak hour in Synchro exceeding available storage lengths by about 6 metres. At the Upper Wellington Street / Limeridge Road East intersection, the westbound left 95th percentile queue length for the PM peak hour was 33 metres, which was longer than the storage length of 30 metre. Storage should be increased for these lanes at these intersections.

Table 3-9: Future (2031) "Three-Lane" Scenario Signalized Intersection Operations

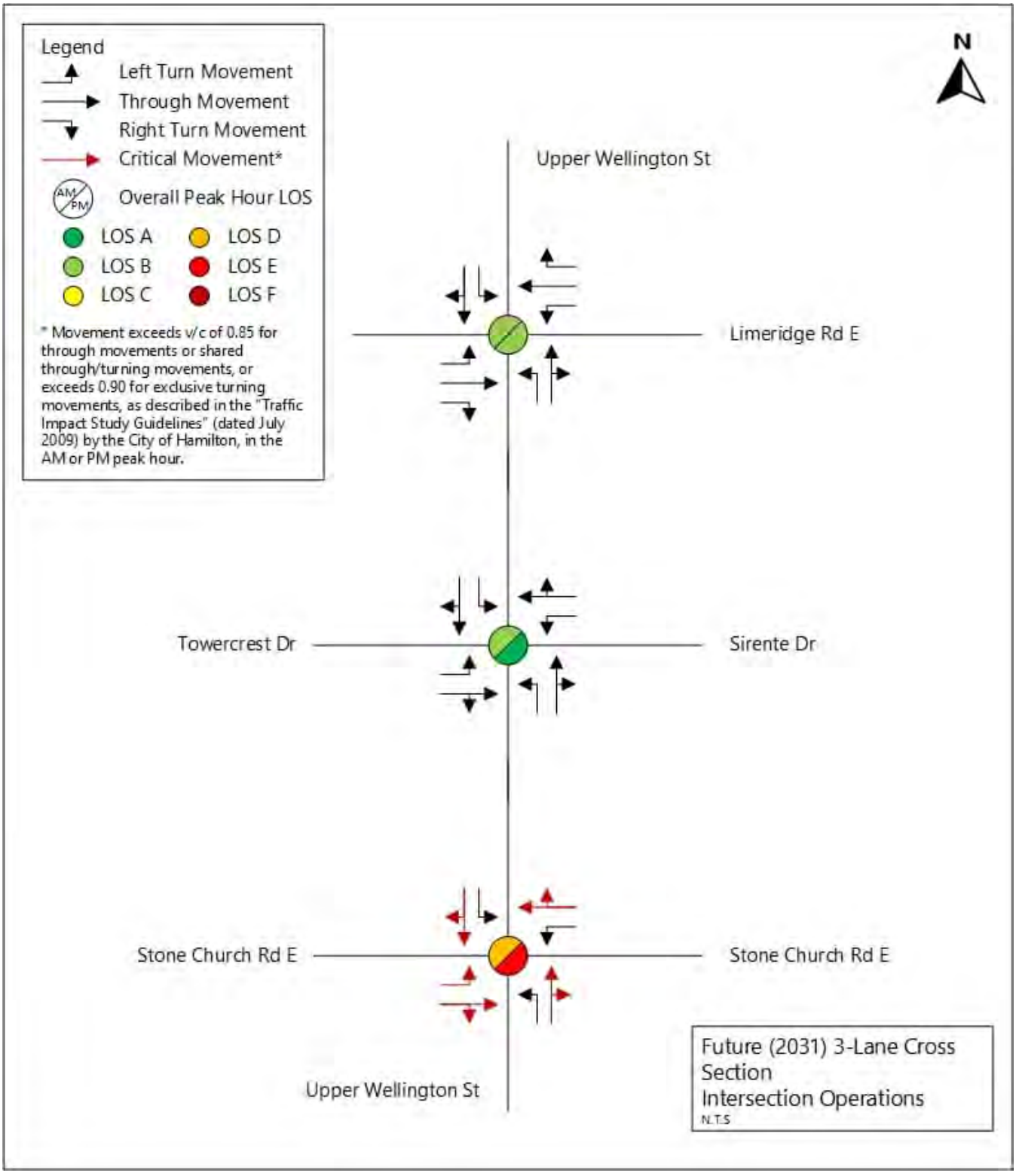
Lane	Weekday AM Peak Hour			Weekday PM Peak Hour		
	v/c	Delay	LOS	v/c	Delay	LOS
1: Upper Wellington St & Stone Church Rd E						
EBL	0.57	19.5	B	0.98	89.9	F
EBTR	0.6	22.3	C	1.00	76.6	E
WBL	0.2	15.4	B	0.65	38.8	D
WBTR	0.91	43.4	D	1.00	78.3	E
NBL	0.44	18.2	B	0.58	34.7	C
NBTR	0.96	57.3	E	0.64	43.2	D
SBL	0.58	20.8	C	0.54	25.4	C
SBTR	0.67	30.1	C	1.04	89.9	F
Overall	0.89	-	D	1.02	-	E
2: Upper Wellington St & Towercrest Dr/Sirente Dr						
EBL	0.87	89	F	0.55	42.2	D
EBTR	0.08	37.1	D	0.08	37.1	D
WBL	0.31	38.7	D	0.23	37.9	D
WBTR	0.16	37.7	D	0.09	37.2	D
NBL	0.07	3.9	A	0.11	3.5	A
NBTR	0.66	9.4	A	0.48	5	A
SBL	0.19	4.7	A	0.18	2.9	A
SBTR	0.42	5.3	A	0.77	7.5	A
OVERALL	0.69	-	B	0.75	-	A
3: Upper Wellington St & Limeridge Rd E						
EBL	0.16	42.6	D	0.14	35.2	D
EBT	0.2	42.7	D	0.23	35.6	D
EBR	0.03	41.9	D	0.04	34.6	C
WBL	0.48	44.7	D	0.7	47.8	D
WBT	0.17	42.6	D	0.21	35.5	D
WBR	0.05	42	D	0.04	34.6	C
NBL	0.07	1.9	A	0.15	4.2	A
NBTR	0.74	6.1	A	0.52	6.2	A
SBL	0.08	2.8	A	0.13	4	A
SBTR	0.32	3.7	A	0.7	10.1	B
OVERALL	0.71	-	B	0.7	-	B

Note(s)

Movement exceeds v/c of 0.85 for through movements or shared through/turning movements, or exceeds 0.90 for exclusive turning movements, as described in the "Traffic Impact Study Guidelines" (dated July 2009) by the City of Hamilton, in the AM or PM peak hour.

While the major traffic flow direction at the intersection of Upper Wellinton Street and Stone Church road is the east-west direction, the southbound through-right movement is also critical, performing at LOS ‘F’ with a v/c ratio of 1.04 in the PM Peak Hour. The northbound through right movement at this intersection is also critical (v/c ratio of 0.96).

Figure 3-11: Future (2031) "Three-Lane Cross-Section" Scenario Intersection Operations



Per the City's request, Synchro analysis was performed in order to assess potential for improvements at this intersection with the inclusion of a dedicated southbound right turn lane. Analysis shows improvements to LOS 'D' and LOS 'C' and v/c ratios of 0.73 and 0.16 for the improved southbound through and separate right turn movements respectively; with the inclusion of a 50-metre exclusive right turn storage lane. Given that the congestion is limited to the peak hour only and widening the interection of Upper Wellington Street and Stone Church Road will result in significant property impacts, and an increased crossing distance for pedestrians with a corresponding lengthening of pedestrian clearance, the southbound right turn lane is not recommended. The results of this analysis are provided in the following table.

Table 3-10: Future (2031) "Three-Lane Cross-Section" Scenario - Dedicated Right Turn Lane Analysis for Upper Wellington St & Stone Church Rd E Southbound Approach

Lane	Weekday AM Peak Hour			Weekday PM Peak Hour		
	v/c	Delay	LOS	v/c	Delay	LOS
1: Upper Wellington St & Stone Church Rd E						
EBL	0.57	19.5	B	0.98	89.9	F
EBTR	0.60	22.3	C	1.00	76.6	E
WBL	0.20	15.4	B	0.65	38.8	D
WBTR	0.91	43.4	D	1.00	78.3	E
NBL	0.33	17.1	B	0.32	28.5	C
NBTR	0.96	57.3	E	0.64	43.2	D
SBL	0.58	20.8	C	0.54	25.4	C
SBT	0.43	23.4	C	0.73	42.6	D
SBR	0.09	18.0	B	0.16	26.7	C
Overall	**0.89**	**34.5**	**C**	**0.89**	**59.0**	**E**

The intersection analysis for future scenario 'three-lane cross-section' shows that both Upper Wellington Street & Towercrest Drive/Sirente Drive and Upper Wellington Street & Limeridge Road East intersections will perform with an adequate level of service in the 2031 horizon year. This analysis is based on the lane configuration shown in Figure 3-11 in which only one lane for NB and SB through lanes were considered. The transition between the three-lanes and four-lanes cross-sections with the dedicated cycling lanes on both directions will need to be considered in the preliminary design for this road, keeping in mind the continuity of the cycling facilities is paramount to the City.

Upper Wellington Street and Stone Church Road East intersection experience some congestion during the AM and PM peak during the 2031 horizon year. In context of the impacts

of adding a second through lane with the associated property impacts and increased crossing distance for pedestrians, it is considered to be acceptable.

3.2 Social Environment

Existing land uses along the Study Corridor include commercial, residential, institutional / community facilities, and recreational uses. These lands uses are shown in Figure 3-12 and discussed below. The area surrounding the Study Corridor is predominantly residential, with some elementary schools, neighborhood parks, and a few commercial buildings.

3.2.1 Residential Land-use

Residential land uses along the Study Corridor include multiple dwellings/townhouses between Limeridge Road and Towercrest Drive. These residential areas have access from Upper Wellington Street and other roads (e.g., Limeridge Road and Towercrest Drive / Sirente Drive).

Residential uses between Stone Church Road and Towercrest Drive are primarily low density residential with driveways on to Upper Wellington Street. The residences south of Stone Church Road and north and south of Towercrest Drive have reverse frontages on Upper Wellington Street.

There are also future residential developments (both low-density and high-density) planned along the Study Corridor. Planned future developments along the Study Corridor are discussed under a separate section below.

3.2.2 Institutional Land-use

There are several institutions along the corridor that generate a large number of “peaked” trips throughout the week (e.g., Bethel Gospel Tabernacle, Kingdom Worship Centre) as well as a retirement/long-term care home for seniors (The Wellington Retirement and Long-Term Care Residence). A new retirement home along the Study Corridor (north of Stone Church Road) was under construction at the time of writing of this report.

In addition, there are elementary schools located within close proximity of the Study Corridor**.** These are: Helen Detwiler Elementary School (within approximately 250 metres to the east), Pauline Johnson Elementary School and St. Michael Catholic Elementary School (within approximately 500 m to the north). Based on input received from the City staff as part of evaluation of road design options, elementary students living in the neighbourhood to the east generally do not qualify for school bus transportation to Pauline Johnson Elementary School, who would be walking/riding along the road to get to the school.

3.2.3 Commercial Land-use

Commercial land uses along the Study Corridor include a gas station and a shopping plaza on the northwest corner of Upper Wellington Street and Limeridge Road. These businesses have access from both, Upper Wellington Street and Limeridge Road. In addition, Hamilton Builders' Supply (a landscaping supplies and building materials business) is located on the southwest corner of Upper Wellington Street and Limeridge Road. This business has access from Limeridge Road.

3.2.4 Recreational Facilities

The recreational uses along the Study Corridor include Jerome Neighbourhood Park and a Soccer Field associated with Bethel Gospel Tabernacle. The Jerome Neighbourhood Park has access via a sidewalk along Towercrest Drive, west of Upper Wellington Street. The Soccer Field has access from Upper Wellington Street.

Figure 3-12: Existing Land Uses along the Study Corridor

3.2.5 Future Development

City's Open Data for Development Applications was reviewed to identify future development along the Study Corridor. This review identified several proposals for developments along the Study Corridor, including high-density residential, long-term care facilities, religious/community space expansions, and townhouse developments (City of Hamilton, 2025). A summary of these proposals from the Open Data is provided in the table below. It lists development projects along the Study Corridor from its southern to northern limits.

Table 3-11: Future Development Proposals along the Study Corridor

Address	File Type	File Year	Description
1494 Upper Wellington Street	Zoning Amendment	2024	To change the zoning to allow two 20-storey residential towers atop a 4-storey podium, containing 682 rent apartment units. Includes 873 parking spaces within 1 level of underground parking and 4 levels of podium parking, with limited surface parking.
1430 Upper Wellington Street	Formal Consultation	2019	To demolish the existing retirement home, and replace with a new 128 bed long term care facility. Existing 102 bed long term care facility will be renovating to accommodate 49 long term care beds.
1355 Upper Wellington Street	Site Plan	2023	To construct several additions to the church, including a large Atrium-style Foyer, a café, a larger gathering space

Address	File Type	File Year	Description
			for youth, a children's nursery, relocation of offices, and additional parking.
1318 Upper Wellington Street	Formal Consultation	2022	To develop a 9-storey multiple dwelling containing 137 units in total, which includes 17 2-storey townhouse dwellings with access at grade and 236 underground parking spaces.
1318 - 1324 Upper Wellington Street	Formal Consultation	2020	To construct a 26 unit townhome development with access provided via a private road

3.2.6 Vulnerable Road Users

Considering that the primary existing and future land-use is residential with some community services, it is likely that many trips along the corridor will be short-distance and recreational in nature. This leads to a higher likelihood that active transportation is used or could be considered by road users. Understanding this land use context also helped identify potential vulnerable road users that would use the Study Corridor, including families with children, students walking or cycling to schools, seniors, and individuals with disabilities. This identification of potential vulnerable road users coupled with an understanding of types of trips, helped inform the road design process to incorporate separate facilities (vehicle lanes, bike lanes, sidewalks and transit stops), accommodating all road users (pedestrians, cyclists, transit riders and auto drivers).

3.3 Natural Environment

3.3.1 Natural Heritage

A Natural Environmental Assessment (dated March 7, 2025) was completed as part of this Class EA Study to inventory and describe existing natural heritage features (NHFs) and their ecological functions, assess potential impacts of the proposed Project on NHFs, and recommend mitigation measures and design strategies to preserve or enhance NHFs and their functions. A summary of existing conditions from the Natural Environment Assessment is provided below, and the complete report is provided in Appendix B.

The Natural Environment Assessment was completed following City’s Environmental Impact Statement Guidelines (City of Hamilton, 2010). For the purpose of this report, the Project Location was defined as approximately 50 m on either side of the Upper Wellington Street, between 50 m south of Stone Church Road East and 50 m north of Limeridge Road East. The Study Area for this report included 120 m buffer around the Project Location. The Project Location and Natural Environment Study Area are shown in Figure 3-13.

Secondary sources of information were gathered to contribute to the biological dataset for the Natural Environment Study Area and determine preliminary Natural Heritage Features (NHFs).

Potential occurrences of Species at Risk (SAR), provincially rare species, and whether any NHFs (e.g., Areas of Natural and Scientific Interest (ANSIs), Environmentally Sensitive Areas, Provincially Significant Wetlands, etc.) were documented.

Field investigations were completed to identify new and confirm existing NHFs from secondary data sources. The scope of field investigations was developed in consultation with City staff and in accordance with the City's Class EA Ecological Requirements. The scope of the field investigations included the following:

- **Ecological Land Classification (ELC):** 3-season vegetation inventory (spring survey in May to early June; summer survey in July to August; fall survey in September to October);
- **Breeding Bird Surveys:** 2 surveys (first survey between May 24 and June 15th and the second survey between June 15 and July 10);
- **Incidental Wildlife**: document all encountered;
- **Tree Inventory**: The City recommended inventory when the preliminary preferred alternative was identified so that impacts on trees are considered in the evaluation of alternatives. Trees with a diameter at breast height (DBH) of 10 cm or greater, located within approximately 2 meters of the road right-of-way, where PTE was provided, were inventoried. It was acknowledged that subsequent changes in the alignment may require redoing this survey. However, the preferred design did not result in changes in the road alignment as part of this study; as such, the need for additional tree inventory was not identified. The City recommended preparing a simple map of the tree locations on an aerial map to support a visual understanding of the proposed impacts.

The field investigations were carried out by qualified professionals specializing in terrestrial biology and a certified arborist by the International Society of Arboriculture. A summary of field investigations completed is provided in the following table.

Table 3-12: Summary of Field Investigations Completed

Field Investigation(s) completed	Date
Breeding Bird Survey Round 1, Tree Inventory, and Spring ELC	May 27, 2021
Breeding Bird Survey Round 2	July 2, 2021
Summer ELC	August 4, 2021
Fall ELC	September 15, 2021

Vegetation was surveyed to inform ELC delineation and document any SAR locations. Breeding bird surveys were also conducted, and survey locations are presented in Figure 3-13. In addition to targeted surveys, opportunistic/incidental wildlife observations were collected during all surveys to record presence and habitat use.

590600 590800 591000 591200 591400 591600 591800

4786000 4785800 4785600 4785400 4785200 4785000 4784800 4784600 4784400 4784200

RIDGE STREET
JUNE STREET
GOLDFINCH ROAD
LINCOLN M ALEXANDER PARKWAY
LIMERIDGE ROAD EAST
LORENZO DRIVE
JEREMY STREET
BENJAMIN DRIVE
MERRILEE CRESCENT
CYPRUS DRIVE
CRERAR DRIVE
STONE CHURCH ROAD EAST
FUSILIER DRIVE
TORINO DRIVE

1
2
3
4

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

S:\Clients\City_of_Hamilton\Upper Wellington Street\99_PROJ\CA-EI-IM20103037_ExistingConditionsReport\40_PROD\GIS\MXD\NH_Map_4.mxd

LEGEND

- Project Location
- Project Study Area (120m buffer)
- Core Areas Including Significant Woodland - City of Hamilton Official Plan
- Linkages - City of Hamilton Official Plan
- Parks & General Open Space
- Breeding Bird Station (labelled with Station Number)

NOTES:
- Aerial imagery extracted from ESRI Basemaps, 2019
- Location of features is approximate
- Key Natural Heritage Feature Significant Woodlands extracted from City of Hamilton Official Plan Schedule B-2
- Parks, General Open Space, Linkages, and Core Areas extracted from City of Hamilton Official Plan Schedule B

Datum: NAD83
Projection: UTM Zone 17N

0 100 200 400 Metres

N W E S

Hamilton

wsp

UPPER WELLINGTON STREET

Natural Heritage Features - City of Hamilton Official Plan

PROJECT N°: IM20103037 | **FIGURE: 3-13**

SCALE: 1:5,000 | DATE: August 2024

3.3.1.1 Vegetation Communities and Flora

The Natural Environment Study Area is comprised of manicured areas and a city park (Jerome Neighbourhood Park), a maintained road right-of-way, an inaccessible forest/wooded area (FOD), and a remnant woodlot. The ELC survey found five (5) vegetation communities in the Natural Environment Study Area (Figure 3-14):

- Deciduous Forest (FOD);
- Dry-fresh Oak-hickory Deciduous Forest (FOD2-2);
- Dry-fresh Forb Meadow Ecosite (MEFM1);
- Manicured; and
- Cultural Mineral Meadow (CUM).

During the plant inventory, 122 plants were identified to the species level, and six (6) species could only be identified to genus. The City's Natural Areas Inventory ranks 63 of the plants to be common and native, 51 to be introduced, and one (1) (Common Hackberry) to be uncommon (Shwertz & Martle, 2014). The Hamilton County Status from Oldham Carolinian List ranks the same species list to have 25 introduced and common, seven introduced and rare, 20 introduced and status unknown or not specified, 55 native and common, one (1) (Common Hackberry) native and uncommon, and one (Red Pine) native and rare (Oldman, 2017).

Red Pine is a common forest tree in central Ontario on dry rocky or sandy soils. Naturally occurring Red Pine is rare in the Carolinian Zone, and most populations are probably introduced (Natural Heritage Information Centre (NHIC) species list notes). Red Pine was found in a manicured yard during the Tree Inventory near the intersection of Limeridge Road East and Upper Wellington Street. As the Red Pine trees appear to be planted, they are not considered to be "native and rare" and should not be carried forward in the impact assessment (outside of tree removal concerns).

The conclusions from both the City of Hamilton Natural Areas Inventory ranks and the Oldham Carolinian list ranking is that there are slightly more native species than introduced species (Oldman, 2017; Shwertz & Martle, 2014). This ratio of roughly 50:50 indicates the Study Area to be largely influenced by human activities.

3.3.1.1.1 Dry-fresh Oak-hickory Deciduous Forest (FOD2-2)

The forest on the southwest corner of Upper Wellington and Towercrest Drive was classified as Dry-Fresh Oak-hickory Deciduous Forest (Figure 3-14). This forest covers 0.5 ha in the Project Location and 1.5 ha in the Study Area and extends outside of the Study Area and turns into a hedgerow community. In the First Approximation, this community's code is FOD2-2 and changed slightly in the Second approximation to FODM2-2 (Lee, et al., 1998; Lee H. , 2008). Dry-Fresh Oak-hickory Deciduous Forest is the best description of the community, but the First Approximation of ELC states that there is more Red Oak than White Oak, which was not the case for this forest (Lee, et al., 1998). Forested communities have greater than 60% tree cover. White Oak was found to be more abundant than Shagbark Hickory and Red Oak. The canopy of this forest was between 10 and 25 m tall. This forest was found to have an extensive

spread of alien species, many tracks or tails, and a light amount of dumping. This community was near two roads that produced a fair amount of noise. The sub-canopy was found to be 2 to 10 m tall and covered a small (between 0 to 10%) amount of the community. The species found in the subcanopy were more Shagbark Hickory and Black Walnut. The understory was 1 to 2 m tall and cover between 25 to 60% of the forest community. The most abundant plants were European Buckthorn, White Ash, and Black Walnut. The ground layer consisted of more European Buckthorn, Thicket Creeper, Spotted Geranium, and Upright Yellow Wood Sorrel. This community was below 1 m and covered between 25 to 60% of the community. This community is rare in Ontario (S-rank S3S4).

3.3.1.1.2 Dry-fresh Forb Meadow Ecosite (MEFM1)

A Dry-fresh Forb Meadow was found along the Lincoln Alexander Parkway and on the southwest corner of Towercrest Drive and Upper Wellington Street (Figure 3-14). The meadow on the corner of Towercrest Drive and Upper Wellington Street is 0.2 ha, and the meadow along the Lincoln Alexander Parkway is 1.2 ha. There is no ELC code for this community under the First Approximation of ELC (Lee, et al., 1998). The Second Approximation community code is MEFM1 (Lee H. , 2008). Meadow communities are open, with less than 25% of the community covered by trees and less than 25% of the community covered by shrubs. The limited trees found in this community were Black Walnut and Black Locust. These trees were found in a low abundance (covering 0 to 10%) of the canopy and subcanopy. The heights of the canopy and subcanopy were 2 to 10 m and 1 to 2 m respectively. In the understory, there was more Black Walnut at a height of 0.5 to 1 m. Most of the plants were found in the ground layer of this community. The ground layer covered more than 60% of the community. The most abundant species in this community were Tall Goldenrod, grass species, Bull Thistle, and Purple Crown-vetch. This community had extensive numbers of alien species, well-marked tracks, a light amount of dumping, and loud noise from the nearby roads.

3.3.1.1.3 Cultural Mineral Meadow (CUM)

The Cultural Mineral Meadow (CUM) was found near the southwest corner of Stone Church Road East and Upper Wellington Street (Figure 3-14). This community is about 1.4 ha large. CUM was used to describe this community from the First Approximation (Lee, et al., 1998). This community appeared to be a fallow field that had been left for a year or two, where weeds had started growing in low densities. This community had no canopy or subcanopy. The understory was found to be minimal (10 to 25% of the community). The few plants in the understory were dominated by Bitter Wintercress and Curled Dock. The ground layer was dense (covered greater than 60%). Plants at this level were dominated by Ground Ivy, Black Medick, and Lanced leaved Plantain. This community had been disturbed by noise, a light amount of dumping, well-marked trails, and many alien species.

3.3.1.1.4 Manicured

The Manicured area was found throughout the Study Area, mostly along the sides of the roads (Figure 3-14). The Manicured code is not within the First Approximation or the Second Approximation (Lee, et al., 1998; Lee H. , 2008). The canopy covered 0 to 10% of this community. The canopy was made of a variety of species. The groundcover was dominated by mowed grass, with assorted ‘weeds’.

590800 591000 591200 591400 591600

4785600 4785400 4785200 4785000 4784800 4784600 4784400

LIMERIDGE ROAD EAST
LINCOLN M ALEXANDER PARKWAY
FLAMINGO DRIVE
LORENZO DRIVE
CYPRUS DRIVE
CRERAR DRIVE
STONE CHURCH ROAD EAST

Manicured
Residential
Manicured
Residential
Manicured
Residential
MEFM1
Manicured
Residential
Manicured
MEFM1
Residential
Manicured
Manicured
MEFM1
Residential
Residential
Manicured
MEFM1
Residential
Manicured
Residential
MEFM1
FOD2-2
Residential
Manicured
Residential
Manicured
Residential
Commercial/Other
Manicured
FOD
Manicured
Manicured
Residential
Residential
Manicured
CUM
FOD
Manicured
Residential
Residential
Manicured

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

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LEGEND

- Project Location
- Project Study Area (120m buffer)

Ecological Land Classification

- FOD: Deciduous Forest
- FOD2-2: Dry-Fresh Oak-Hickory Deciduous Forest
- MEFM1: Dry-Fresh Forb Meadow Ecosite
- Commercial/Other
- Manicured
- CUM: Cultural Mineral Meadow
- Residential

Pleasant View Survey · Hamilton Harbour · Dundas · Hamilton · Ancaster · MAP AREA

NOTES:
- Aerial imagery extracted from ESRI Basemaps, 2019
- Location of features is approximate

Datum: NAD83
Projection: UTM Zone 17N

0 100 200 400 Metres

Hamilton

WSP

UPPER WELLINGTON STREET

Ecological Land Classification

PROJECT N°: IM20103037 | **FIGURE: 3-14**

SCALE: 1:3,800 | DATE: August 2024

3.3.1.2 Tree Inventory

The Tree Inventory documented a total of 147 trees (See Appendix C of the Natural Environment Assessment). Most (67) of these trees were in good health and structure. The other large group of trees (44) had fair structure and good health. Many of the fair structure trees had co-dominant stems or had been pruned for transmission lines. No memorial trees were found. Many of the tree species were non-native and invasive (City of Hamilton, 2010); such as Norway Maple, Norway Spruce, Manitoba Maple, Tree-of-Heaven, and Siberian Elm. These species are normal for urban streets in Hamilton. The following table shows the number of trees inventoried by species.

Table 3-13: Tree Inventory Summary by Species

Scientific Name	Common Name	Total Number Surveyed
Tilia americana	American Basswood	3
Ulmus americana	American Elm	3
Acer ginnala	Amur Maple	1
Malus species	Apple	1
Robinia pseudoacaciai	Black Locust	1
Pinus nigra	Black Pine	2
Juglans nigra	Black Walnut	14
*Picea pungens**	Blue Spruce	2
Quercus macrocarpa	Bur Oak	2
Catalpa speciosa	Catalpa Tree	1
*Acer platanoidesi** 'Crimson King'	Crimson King Norway Maple	7
*Pseudotsuga menziesii**	Douglas Fir	1
Thuja occidentalis	Eastern White Cedar	1
*Fagus sylvatica**	European Beech	1
Gleditsia triacanthos	Honey Locust	17
Gymnocladus dioicus	Kentucky Coffeetree	5
Populus grandidentata	Large-toothed Aspen	1
*Tilia cordata**	Little Leaf Linden	10
*Acer negundoi***	Manitoba Maple	2
*Acer platanoidesi**	Norway Maple	25

Scientific Name	Common Name	Total Number Surveyed
*Picea abiesi**	Norway Spruce	2
Malus species*	Ornamental Apple	7
Acer rubrum	Red Maple	1
Quercus rubra	Red Oak	3
Pinus resinosa	Red Pine	8
*Ulmus pumilai**	Siberian Elm	6
Acer saccharinum	Silver Maple	3
Acer saccharium	Sugar Maple	8
Prunus avium	Sweet Cherry	1
*Ailanthus altissimai**	Tree of Heaven	2
Picea glauca	White Spruce	6
Total		**147**

Notes:
i= Invasive species
*= Non-native species
**= Native to Canada but not the area

Ownership of most of the trees is public. The total number of public trees was 48 (Table 3-14). The other ownership categories all had lower numbers of trees, with 34 private trees, 29 neighbour (private and likely to be impacted by Project work) trees, and 36 shared trees (Table 3-14). Tree locations are shown in Figure 3-15 to Figure 3-17.

Table 3-14: Summary of Tree Ownership

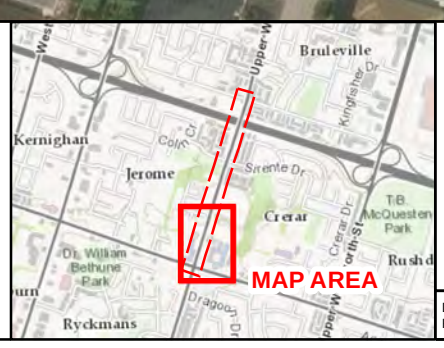
Ownership Category (Stem Location)	Total Number of Trees Surveyed
Neighbour (Private)	29
Private	34
Public	48
Shared	36
Total	**147**

During the tree inventory, three (3) Kentucky Coffeetrees were found along the east side of Upper Wellington Street north of Sirente Drive (Figure 3-16). Kentucky Coffeetree is a Threatened species under the *Endangered Species Act* in their native range. In Ontario, the native range of the Kentucky Coffeetree is restricted to extreme southwestern regions (counties of Essex, Lambton, Middlesex, and the Municipality of Chatham-Kent) (Ministry of the Environment, 2023). As such, their native range does not include Hamilton, and the *Endangered Species Act* does not apply to these trees in the Project Location. Based on trees Diameter at Breast Height (DBH) (in centimetres), location and tree guards these trees had been recently planted. These trees are discussed further in Section 3.3.1.4.

WSP Tree ID	Common Name	DBH (cm)	Tree Health
101	Red Maple	13	G
201	Silver Maple	95	G
202	Silver Maple	68	G
203	Siberian Elm	43	G
204	Siberian Elm	57	G
205	Siberian Elm	57	G
206	Norway Maple	28	G
207	Norway Maple	35	G
208	Norway Maple	25	F
209	Honey Locust	36	G
210	Honey Locust	34	G
211	Honey Locust	36	G
212	Honey Locust	45	G
213	Black Walnut	53, 58	G
214	Ornamental Apple	25	G
215	Ornamental Apple	25	G
216	Ornamental Apple	26	G
217	Ornamental Apple	24	G
218	Ornamental Apple	24	G
219	Ornamental Apple	25	G
220	Siberian Elm	21	G
221	Amur Maple	11	G
222	Siberian Elm	13	G
223	Sugar Maple	12	G
224	Ornamental Apple	20	G
225	Norway Maple	34	F
226	Norway Maple	34	F
227	Norway Maple	35	G
228	Norway Maple	26	F
229	Norway Maple	24	G
230	Norway Maple	38	G
231	White Spruce	17	G
232	Norway Maple	36	G
233	Norway Maple	48	G
234	Black Pine	35, 20	G
235	Black Pine	38	G
236	Norway Maple	26	G
237	Norway Maple	29	G
238	Norway Maple	25	G
239	Norway Maple	23	G
240	Norway Maple	24	G
241	Norway Maple	21	G
242	Little Leaf Linden	18	D
243	European Beech	18, 10, 12	G
244	Blue Spruce	25	F

LEGEND

- Project Location
- Tree Drip Line Area
- Hamilton Right-Of-Way
- Tree Location (labelled with Tree Tag Number)



NOTES:
- Aerial imagery extracted from ESRI Basemaps, 2019
- Location of features is approximate
- Tree locations and associated drip line areas identified during Wood 2021 tree inventory survey

Datum: NAD83
Projection: UTM Zone 17N

0 25 50 100 Metres

Hamilton

wsp

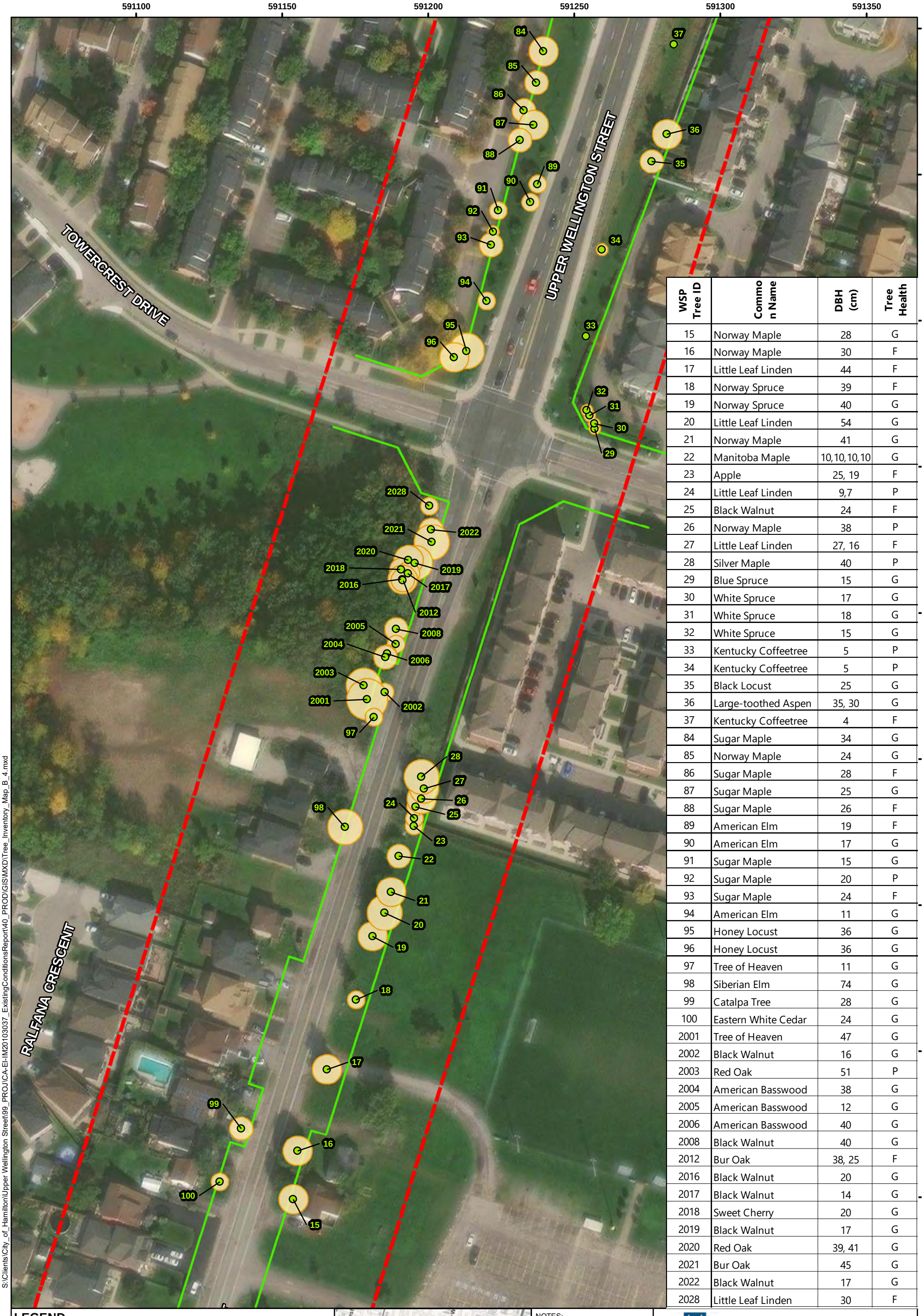
UPPER WELLINGTON STREET

Tree Inventory

PROJECT N°: IM20103037 | **FIGURE: 3-15**

SCALE: 1:1,200 | DATE: July 2024

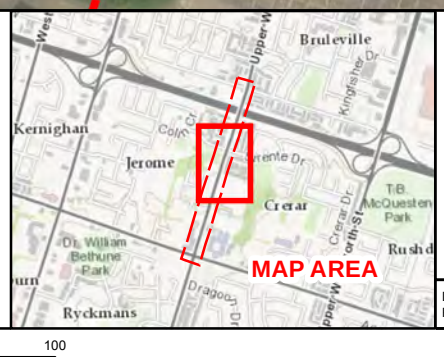
S:\Clients\City_of_Hamilton\Upper Wellington Street\99_PROJ\CA-EI-IM20103037_ExistingConditionsReport\40_PROD\GIS\MXD\Tree_Inventory_Map_A_4.mxd



WSP Tree ID	Common Name	DBH (cm)	Tree Health
15	Norway Maple	28	G
16	Norway Maple	30	F
17	Little Leaf Linden	44	F
18	Norway Spruce	39	F
19	Norway Spruce	40	G
20	Little Leaf Linden	54	G
21	Norway Maple	41	G
22	Manitoba Maple	10,10,10,10	G
23	Apple	25, 19	F
24	Little Leaf Linden	9,7	P
25	Black Walnut	24	F
26	Norway Maple	38	P
27	Little Leaf Linden	27, 16	F
28	Silver Maple	40	P
29	Blue Spruce	15	G
30	White Spruce	17	G
31	White Spruce	18	G
32	White Spruce	15	G
33	Kentucky Coffeetree	5	P
34	Kentucky Coffeetree	5	P
35	Black Locust	25	G
36	Large-toothed Aspen	35, 30	G
37	Kentucky Coffeetree	4	F
84	Sugar Maple	34	G
85	Norway Maple	24	G
86	Sugar Maple	28	F
87	Sugar Maple	25	G
88	Sugar Maple	26	F
89	American Elm	19	F
90	American Elm	17	G
91	Sugar Maple	15	G
92	Sugar Maple	20	P
93	Sugar Maple	24	F
94	American Elm	11	G
95	Honey Locust	36	G
96	Honey Locust	36	G
97	Tree of Heaven	11	G
98	Siberian Elm	74	G
99	Catalpa Tree	28	G
100	Eastern White Cedar	24	G
2001	Tree of Heaven	47	G
2002	Black Walnut	16	G
2003	Red Oak	51	P
2004	American Basswood	38	G
2005	American Basswood	12	G
2006	American Basswood	40	G
2008	Black Walnut	40	G
2012	Bur Oak	38, 25	F
2016	Black Walnut	20	G
2017	Black Walnut	14	G
2018	Sweet Cherry	20	G
2019	Black Walnut	17	G
2020	Red Oak	39, 41	G
2021	Bur Oak	45	G
2022	Black Walnut	17	G
2028	Little Leaf Linden	30	F

LEGEND

- Project Location
- Tree Drip Line Area
- Hamilton Right-Of-Way
- Tree Location (labelled with Tree Tag Number)



NOTES:
- Aerial imagery extracted from ESRI Basemaps, 2019
- Location of features is approximate
- Tree locations and associated drip line areas identified during Wood 2021 tree inventory survey

Datum: NAD83
Projection: UTM Zone 17N

0 25 50 100 Metres

Hamilton

wsp

UPPER WELLINGTON STREET

Tree Inventory

PROJECT N°: IM20103037 | **FIGURE: 3-16**

SCALE: 1:1,200 | DATE: July 2024

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591200 591250 591300 591350 591400 591450 591500

4785750 4785700 4785650 4785600 4785550 4785500 4785450 4785400 4785350

BRYNA AVENUE

UPPER WELLINGTON STREET

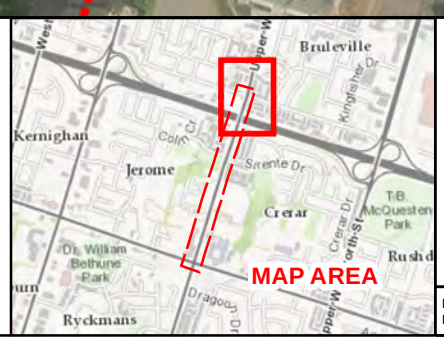
LIMERIDGE ROAD EAST

LINCOLN M AL

WSP Tree ID	Common Name	DBH (cm)	Tree Health
38	Little Leaf Linden	26	F
39	Norway Maple	36	G
40	Little Leaf Linden	25	G
41	Norway Maple	32	G
42	Red Pine	11	P
43	Red Pine	24	G
44	Black Walnut	55	G
45	Red Pine	23	F
46	Red Pine	16	P
47	Little Leaf Linden	30	G
48	Norway Maple	30	G
49	Little Leaf Linden	34	G
50	Norway Maple	38	G
51	Red Pine	29	G
52	Red Pine	32	G
53	White Spruce	20	G
54	Red Pine	34	G
55	Norway Maple	40	G
56	Norway Maple	35	G
57	Norway Maple	39	G
58	Honey Locust	42	G
59	Honey Locust	35	G
60	Honey Locust	30	G
61	Honey Locust	40	G
62	Norway Maple	35	G
63	Red Pine	43	G
64	Kentucky Coffeetree	3	G
65	Kentucky Coffeetree	4	G
66	Honey Locust	36	F
67	Honey Locust	38	G
68	Honey Locust	50	G
69	Honey Locust	36	G
70	Honey Locust	36	G
71	Honey Locust	37	G
72	Honey Locust	37	G
73	Norway Maple	31	G
74	White Spruce	16	P
75	Manitoba Maple	15	G
76	Black Walnut	13	G
77	Black Walnut	12, 10	G
78	Black Walnut	10	G
79	Black Walnut	27	G
80	Black Walnut	10, 7,8	G
81	Douglas Fir	25	G
82	Red Oak	32	G
83	Norway Maple	25	G

LEGEND

- Project Location
- Tree Drip Line Area
- Hamilton Right-Of-Way
- Tree Location (labelled with Tree Tag Number)



NOTES:
- Aerial imagery extracted from ESRI Basemaps, 2019
- Location of features is approximate
- Tree locations and associated drip line areas identified during Wood 2021 tree inventory survey

Datum: NAD83
Projection: UTM Zone 17N

0 25 50 100 Metres

Hamilton

wsp

UPPER WELLINGTON STREET

Tree Inventory

PROJECT N°: IM20103037 | **FIGURE: 3-17**

SCALE: 1:1,200 | DATE: July 2024

S:\Clients\City_of_Hamilton\Upper Wellington Street\99_PROJ\CA-EI-IM20103037_ExistingConditionsReport\40_PROD\GIS\MXD\Tree_Inventory_Map_C_4.mxd

3.3.1.3 Wildlife

Based on the review of available literature, resource atlases, and databases, 153 species of birds, 83 species of butterflies, 41 species of mammals, and 27 species of reptiles and amphibians are reported to have element occurrences that overlapped the Study Area. A tabulation of the compiled species list is provided in Appendix D of the Natural Environment Assessment, provided in Appendix B.

3.3.1.3.1 Birds

Combining the breeding bird surveys and secondary sources identified a list of 153 species of birds, including two (2) endangered, six (6) threatened, and seven (7) special concern SAR:

- Loggerhead Shrike – Endangered
- Northern Bobwhite – Endangered;
- Bobolink – Threatened;
- Chimney Swift – Threatened;
- Eastern Meadowlark – Threatened;
- Least Bittern – Threatened;
- Lesser Yellowlegs – Threatened;
- Short-eared Owl – Threatened;
- Barn Swallow – Special Concern;
- Common Nighthawk – Special Concern;
- Eastern Wood-pewee – Special Concern;
- Grasshopper Sparrow – Special Concern;
- Peregrine Falcon – Special Concern; and
- Rusty Blackbird– Special Concern;
- Wood Thrush – Special Concern.

Of these listed birds, only Barn Swallow (Special Concern) and Eastern Wood Pee Wee (Special Concern) were observed during the field surveys (refer to Section 3.3.1.4).

The breeding birding surveys found 26 species using the Study Area. Of the 26 species, two (2) species, European Starling and House Sparrow, were confirmed to be breeding in the Study Area. Eight (8) species were probably breeding in the Study Area. These are:

- American Goldfinch;
- American Robin;
- Blue Jay
- Chipping Sparrow;
- Mourning Dove;
- Northern Cardinal;
- Red-winged Blackbird; and
- Song Sparrow.

Possible breeding was noted by 12 species. These birds were:

- Barn Swallow;
- Black-billed Cuckoo;
- Black-capped Chickadee;
- Carolina Wren;
- Cedar Waxwing;
- Common Grackle;
- House Finch;
- House Wren;

- Red-eyed Vireo;
- Red-tailed Hawk;
- Rock Pigeon; and
- Tree Swallow.

Other birds were seen in the Study Area but were not observed to be breeding. Four (4) species of birds (American Crow, Blackpoll Warbler, Canada Goose, and Ring-billed Gull) were just observed (i.e., no breeding evidence) in the Study Area.

Of the 26 bird species encountered in the Study Area, one (1) (Carolina Wren) is classified as locally rare (Shwertz & Martle, 2014). Carolina Wren is a common breeding bird in urban and suburban areas of Hamilton (eBird, 2025). It is also an indicator of Carolinian forest (Ontario Ministry of Natural Resources, 2000). Most (16) of the species were abundant, and seven (7) were common. Only one (1) species was uncommon, the Black-Billed Cuckoo (Shwertz & Martle, 2014). None of the other birds observed are indicator species of Significant Wildlife Habitat (SWH).

The two (2) species of conservation concern encountered during the field investigations were Barn Swallow and Eastern Wood-pewee (both Special Concern). The Barn Swallows were seen feeding over the sports field of Bethel Gospel Tabernacle and foraging over the southeast corner of Upper Wellington Street and Limeridge Road East. It is speculated that there is possible Barn Swallow nesting habitat in the structures, which include a barn found on the property on the southwest corner of Upper Wellington Street and Limeridge Road East. The Eastern Wood-pewee was heard in the Dry-fresh Oak-hickory Deciduous Forest during the breeding bird season (on 4 August 2021); this habitat is suitable for nesting.

3.3.1.3.2 Mammals

Within the vicinity of the Study Area, 41 species of mammals have habitat ranges (Dobbyn, 1994). It is important to note that the exact locations of species occurrences are not available from the Atlas (Dobbyn, 1994). iNaturalist had records of ten (10) species (iNaturalist, 2025):

- Coyote;
- Deer Mouse;
- Eastern Cottontail;
- Eastern Gray Squirrel;
- Northern Raccoon;
- Norway Rat;
- Striped Skunk;
- Virginia Opossum;
- White-tailed Deer; and
- Woodchuck.

During field investigations, Eastern Cottontail and Eastern Gray Squirrel were observed incidentally in the Study Area. Both Eastern Cottontail and Eastern Gray Squirrel are common in Hamilton (Shwertz & Martle, 2014).

Given the vegetative characteristics and habitat suitability, SAR bats, as well as non-SAR bats, are likely to occur within the Study Area. Many large (>25 cm DBH) oak and maple trees suitable for roosting were found within the Dry-fresh Oak-hickory Deciduous Forest. Along the road, there are some large (>25 cm DBH) Norway Maples that could provide habitat in the leaf clusters for SAR bats.

3.3.1.3.3 Reptiles and Amphibians

No reptiles or amphibians were found incidentally during fieldwork. Twelve reptiles and amphibians have been reported within 2 km of the Project Location in iNaturalist (iNaturalist, 2025). These species were:

- American Toad
- Blanding's Turtle – Threatened;
- Eastern Red-backed Salamander
- Jefferson Salamander;
- Midland Painted Turtle;
- Northern Leopard Frog
- Northern Map Turtle;
- Pond Slider;
- Ring-necked Snake;
- Snapping Turtle;
- Spotted Salamander; and
- Unisexual Ambystoma

The Ontario Reptile and Amphibian Atlas found 24 species of reptiles and amphibians in the vicinity of the Study Area, with many of these observations being over ten years old. It is important to note that the exact locations of species occurrences are not available from the Atlas (Ontario Nature, 2021). SAR reptiles and amphibians found the secondary source are:

- Jefferson Salamander – Endangered;
- Northern Map Turtle- Special Concern; and
- Snapping Turtle – Special Concern.

Given the characteristics of the Study Area, there is a low probability for most of the species documented. There are no wetlands for Jefferson Salamander or Blanding's Turtle and no large watercourses for Northern Map Turtle. Snapping Turtle is known to be urban; however, given the lack of waterbodies in and adjacent to the Study Area, Snapping Turtle is not considered to be present.

3.3.1.3.4 Butterflies

Two (2) species of butterflies were encountered incidentally during field investigations (Cabbage White and Monarch). Monarchs are Special Concern in Ontario. Monarchs were observed flying through the Dry-fresh Forb Meadow along the south edge of Upper Wellington Street and within the meadow found on the southwest corner of Towercrest Drive and Upper Wellington Street (Figure 3-14). Monarchs are an indicator species of Migratory butterfly stopover areas, a SWH. Migratory butterfly stop would not occur in the Study Area because it is too far away from Lake Erie and Lake Ontario (Ontario Ministry of Natural Resources and Forestry, 2015). The other SWH that Monarch confirms is habitat for Special Concern and Rare Wildlife Species. The Ontario Butterfly Atlas identified 83 species in the vicinity (MacNaughton, 2021). Of the 89 that have been observed only 39 species have been observed within the last ten years. All other records are old (greater than 10 years old), or the year was not recorded (MacNaughton, 2021). Important but dated observations are of the West Virginia White (Special Concern) from 1881 and the Mottled Duskywing from 1979. These species are no longer thought to occur in the area, given the landscape changes that have occurred since their last observations (see Section 3.3.1.4). It is important to note that the

exact locations of species occurrences are not available from the Atlas (MacNaughton, 2021). Consequently, it is possible that some of these species reported in the Ontario Butterfly Atlas do not occur in the Study Area but have been reported in the much larger Atlas square.

3.3.1.4 Species at Risk

As per the MECP Client's Guide to Preliminary Screening for Species at Risk, WSP conducted a comprehensive assessment to compile information regarding SAR and their habitats that exist, or are likely to exist, within the Study Area (Ministry of the Environment, Conservation and Parks, 2019). This assessment involved both field investigations and the review of secondary source information, including data from the NHIC. The protocols used for assessing SAR are based on widely recognized industry standards, and include an assessment of each species' habitat preferences and needs in conjunction with background information. These assessments consider the availability and quality of habitat within the Study Area. The probabilities of occurrence are defined below:

- **High**: Those species recorded (typically within 10 km and recorded in the past 20 years) and whose preferred habitat is abundant within the Project Location/Study Area. Species with a high probability of occurrence would be expected to breed within or frequently use the habitats available and would be known to have a high relative abundance within the region (i.e., compared to other regions in Ontario);
- **Moderate**: Those species with limited suitable habitat within the Project Location/Study Area. Species with moderate probabilities of occurrence may not occur frequently but may intermittently use it for foraging, migration, or movement to other parts of their home range;
- **Low**: Those species whose preferred habitat does not occur or is extremely limited within the Project Location/Study Area. These species may intermittently move through the Project Location but are unlikely to become permanent residents; and
- **None**: Those species whose preferred habitat is completely absent from the Project Location/Study Area and may only migrate intermittently through the Project Location.

Thirty-three SAR were identified as having records or ranges that broadly overlap the Study Area. These species were evaluated for their potential presence and habitat suitability. A summary of SAR, as documented from field investigations or secondary source information, including those reported from the NHIC database, is provided in Table 3-15. It is important to note that SAR may enter the area, or species already present may be up-listed at any time.

Kentucky Coffeetree was found along Upper Wellington Street, north of Towercrest Drive / Sirente Drive (Figure 3-16). This tree is listed as Threatened under the ESA in its native range. It is frequently planted as an ornamental tree outside of its native range, and as a result, making it difficult to determine if the tree is native or cultivated. Hamilton is outside of the native range of this species, as such, the ESA does not apply to the Kentucky Coffeetree in this case.

Three (3) Special Concern species; Barn Swallow, Eastern Wood-pewee, and Monarch, have been confirmed in the Project Location. No Endangered or Threatened species have been confirmed.

Table 3-15: Species at Risk Potential Occurrence

Species Name, Status (SARA, ESA, S-Rank)[1,2,3]	Preferred Habitat	Potential for SAR Habitat / Occurrence within the Project Location
Birds		
Barn Swallow (*Hirundo rustica*) SARA: Threatened ESA: Special Concern S-Rank: S4B	Barn Swallows have shifted largely to nesting in and on artificial structures, including buildings, bridges, and road culverts, and prefer various open habitats for foraging including grassy fields, pastures, agricultural crops, and over open water (Heagy, et al., 2014).	**Confirmed Present** – Seen and heard foraging over the Study Area. Possible Barn Swallow nesting habitat was observed in the far edge of the Study Area on the southwest corner of the intersection of Upper Wellington Street and Limeridge Road East. The structure is an open-walled materials storage structure. Barn Swallows were seen foraging on the southeast corner of the intersection of the Upper Wellington Street and Limeridge Road East and the sports field near the Bethel Gospel Tabernacle.
Bobolink (*Dolichonyx oryzivorus*) SARA: Threatened ESA: Threatened S-Rank: S4B	Bobolink nest primarily in forage crops, hayfields, and associated pastures. Bobolink also occur in wet prairie, graminoid peatlands and abandoned fields dominated by tall grasses, no-till cropland, small-grain fields, reed beds and irrigated fields in arid regions. The species does not generally occupy fields of row crops such as corn, soybean and wheat, pastures in valleys with high shrub density or intensively grazed pastures (McCracken, et al., 2013).	**Low** - No suitable breeding habitat observed near the Project Location and immediate area. The CUM in the south end of the Study Area was not vegetative enough to support this species. Breeding bird surveys did not find this species to be in the Study Area.
Chimney Swift (*Chaetura pelagica*) SARA: Threatened ESA: Threatened S-Rank: S4B, S4N	Chimney swifts forage aerially over virtually any habitat. Nesting and roosting take place in a dark sheltered spot with vertical surfaces to cling to. This may include large hollow trees, chimneys, and other structures (COSEWIC, 2007).	**Low** - No suitable breeding habitat observed near the Project Location and immediate area. No suitable chimneys to support this species. Breeding bird surveys did not find this species to be in the Study Area.
Common Nighthawk (*Chordeiles minor*) SARA: Special Concern ESA: Special Concern S-Rank: S4B	Breeding habitat of Common Nighthawk includes a huge variety of open habitats such as clearings, grasslands, open forests, cropfields and urban areas. In urban areas, gravel rooftops are used. Foraging is aerial over virtually any habitat (COSEWIC, 2007)	**Low** - No suitable breeding habitat observed near the Project Location and immediate area.
Eastern Meadowlark (*Sturnella magna*) SARA: Threatened ESA: Threatened S-Rank: S4B	Eastern Meadowlarks nest in a variety of open grassy habitats, preferring native grasslands, pastures, and savannahs. Larger tracts of grassland are preferred (McCracken, et al., 2013).	**Low** - No suitable breeding habitat observed near the Project Location and immediate area. The CUM in the south end of the Study Area was not vegetative enough to support this species. Breeding bird surveys did not find this species to be in the Study Area.
Eastern Wood-pewee (*Contopus virens*) SARA: Special Concern ESA: Special Concern S-Rank: S4B	Eastern Wood-pewee breeding in mature to intermediate-aged forests with an open understory, often being associated with clearings and edges. Migrants may occur in a wide variety of habitats (COSEWIC, 2012).	**Confirmed Present** – Heard in the Dry-fresh Oak-hickory Deciduous Forest. This observation was made in suitable nesting habitats during the breeding bird season (Figure 3-13).
Grasshopper Sparrow (*Ammodramus savannarum*) SARA: Special Concern ESA: Special Concern S-Rank: S4B	In Ontario, grasshopper sparrow is found in medium to large grasslands with low herbaceous cover and few shrubs. It also uses a wide variety of agricultural fields, including cereal crops and pastures. Close-grazed pastures and limestone plains (e.g. Carden and Napanee Plains) support highest density of this bird in the province (COSEWIC, 2013)	**Low -** No suitable breeding habitat observed near the Project Location and immediate area. The CUM in the south end of the Study Area was not large enough to support this species. Breeding bird surveys did not find this species to be in the Study Area.
Least Bittern (*Ixobrychus exilis*) SARA: Threatened	In Ontario, least bittern breeds in marshes, usually greater than 5 ha, with emergent vegetation, relatively stable water levels and areas of open water. Preferred habitat has water less than 1 m deep (usually 10 – 50 cm). Nests are built in tall stands of dense emergent or woody vegetation (Woodliffe, 2007). Clarity of water is important as siltation, turbidity, or excessive eutrophication hinders foraging efficiency (COSEWIC , 2009)	**Low** – No suitable breeding habitat observed near the Project Location and immediate area. No wetlands or waterbodies within the Study Area. A single observation of the species from Spring 2007 in the Hamilton--Crerar Forest (0.55 km east of the Project location) indicates the species may migrate intermittently through

Species Name, Status (SARA, ESA, S-Rank)[1,2,3]	Preferred Habitat	Potential for SAR Habitat / Occurrence within the Project Location
ESA: Threatened S-Rank: S4B		the Project Location (eBird, 2025). Breeding bird surveys did not find this species to be in the Study Area.
Lesser Yellowlegs (*Tringa flavipes*) SARA: Not listed ESA: Threatened S-Rank: S3S4B,S5M	In Ontario, lesser yellowlegs breeds in northern Ontario. It typically nests on dry ground near wetland areas that are used for foraging (COSSARO, 2021)	**Low** – No suitable breeding habitat observed near the Project Location and immediate area. No wetlands or waterbodies within the Study Area. The nearest record of this species is from 4 May 2021 in Hamilton's William Connell Park (1.29 km west of the Project location), which houses a constructed wetland (large stormwater management facility) (eBird, 2025). This species may migrate intermittently through the Project Location. Breeding bird surveys did not find this species to be in the Study Area.
Loggerhead Shrike (*Lanius ludovicianus*) SARA: Endangered ESA: Endangered S-Rank: S1B	In Ontario, loggerhead shrike breeds in open country habitat characterized by short grasses with scattered shrubs or low trees. Unimproved pasture containing scattered hawthorns (Crataegus spp.) on shallow soils over limestone bedrock is the preferred habitat. Preferred nest sites include isolated hawthorns or red cedar. Males defend large territories of approximately 50 ha (Chabot, 2007)	**Low** - No suitable breeding habitat observed near the Project Location and immediate area. This species may migrate intermittently through the Project Location. The CUM in the south end of the Study Area was not large enough to support this species. The nearest observation of loggerhead shrike is from May 2017, approximately 1.5 km west of the Project Location (iNaturalist, 2025). Breeding bird surveys did not find this species to be in the Study Area.
Northern Bobwhite (*Colinus virginianus*) SARA: Endangered ESA: Endangered S-Rank: S1	The Northern Bobwhite requires an early successional habitat. Minimally it requires an interspersion of grassland, cropland, and brushy cover. The species is now extremely rare in Ontario (COSEWIC, 2003).	**None** – Species extirpated from the area.
Peregrine Falcon *(Falco peregrinus anatum / tundrius*) SARA: Not at risk. ESA: Special Concern S-Rank: S3B	Most Peregrine Falcons nest on cliff ledges or crevices, but some will also use tall buildings and bridges near good foraging areas (COSEWIC, 2007). Habitat for Peregrine Falcons has three scales: a nest site with associated perching sites, a nesting territory, and a home range (Ontario Peregrine Falcon Recovery Team, 2010). Characteristics of urban nests are often like those of natural cliff nests in that chosen nest sites are usually on one of the taller buildings in an area and within one block of other tall buildings and a reliable food source. They mostly feed on medium-sized birds such as Rock Pigeon and Ring-billed Gull. Other common prey are the European Starling, Blue Jay, Baltimore Oriole, House Sparrow and Kinglet species (Ontario Peregrine Falcon Recovery Team, 2010).	**Low** – The Study Area could be used for foraging or migration. Breeding bird surveys did not find this species to be in the Study Area.
Rusty Blackbird (*Euphagus carolinus*) SARA: Special Concern ESA: Special Concern S-Rank: S4B,S3N	In Ontario, rusty blackbird breeds in swamps, fens, bogs and beaver ponds of boreal or mixed forests. It may also breed in dense vegetation along creeks, and on the edges of riparian forests or pasture edges (COSEWIC, 2017). Edge habitat associated with disturbances such as clear cut or burn regeneration zones may be favoured. Rusty blackbirds nest in small trees or shrubs, close to, or over water. Nests may be in living or dead trees and stumps but have also been found on the ground (Avery, 2013)	**Low** – No suitable breeding habitat observed near the Project Location and immediate area. No wetlands or waterbodies within the Study Area. A single record of this species from 3 October 2022 in Hamilton's William Connell Park (1.29 km west of the Project Location), which houses a constructed wetland (large stormwater management facility) (eBird, 2025). This species may migrate intermittently through the Project Location. Breeding bird surveys did not find this species to be in the Study Area.
Short-eared Owl (*Asio flammeus*) SARA: Special Concern ESA: Threatened S-Rank: S4?B,S2S3N	In Ontario, short-eared owl breeds in a variety of open habitats including grasslands, tundra, bogs, marshes, clear-cuts, burns, pastures and occasionally agricultural fields (COSEWIC , 2008b). The primary factor in determining breeding habitat is proximity to small mammal prey resources Nests are built on the ground at a dry site and usually adjacent to a clump of tall vegetation used for cover and concealment (Gahbauer, 2007).	**Low** - No suitable breeding habitat observed near the Project Location and immediate area. This species may migrate intermittently through the Project Location. The CUM in the south end of the Study Area was not large enough to support this species. The nearest observation of the species was in Hamilton's Bruleville Nature Park (0.38 km northeast of the Project Location) approximately 20 years ago (December 2016) (eBird, 2025). This species was not observed during field investigations.
Wood Thrush (*Hylocichla mustelina*) SARA: Threatened ESA: Special Concern S-Rank: S4B	Wood Thrush breed in mature or second-growth deciduous and mixed forests. They prefer forests with dense understory and large areas of forest but are not reliant on this. Habitat fragmentation due to human development and over-grazing by White-tailed Deer are the main threats to this species (COSEWIC, 2012).	**Moderate** - No suitable habitat observed near the Project Location and immediate area. This species may migrate intermittently through the Project Location. Breeding bird surveys did not find this species to be in the Study Area.

Species Name, Status (SARA, ESA, S-Rank)[1,2,3]	Preferred Habitat	Potential for SAR Habitat / Occurrence within the Project Location
Reptiles and Amphibians		
Blanding's Turtle (*Emydoidea blandingii*) SARA: Endangered ESA: Threatened S-Rank: S3	In Ontario, Blanding's turtle will use a range of aquatic habitats, but favor those with shallow, standing or slow-moving water, rich nutrient levels, organic substrates and abundant aquatic vegetation. They will use rivers but prefer slow-moving currents and are likely only transients in this type of habitat. This species is known to travel great distances over land in the spring to reach nesting sites, which can include dry conifer or mixed forests, partially vegetated fields, and roadsides. Suitable nesting substrates include organic soils, sands, gravel and cobble. They hibernate underwater and infrequently under debris close to water bodies (COSEWIC, 2016b)	**None** – No waterbodies within the Study Area.
Jefferson Salamander (*Ambystoma jeffersonianum*) SARA: Endangered ESA: Endangered S-Rank: S2	Habitat is defined under the ESA. O. Reg. 832/21: HABITAT #21 Adult Jefferson Salamanders, throughout their range, are found within deciduous or mixed upland forests containing, or adjacent to, suitable breeding ponds. Breeding ponds are normally ephemeral, or vernal, woodland pools that dry in late summer. Terrestrial habitat is in mature woodlands that have small mammal burrows or rock fissures that enable adults to over-winter underground below the frost line (COSEWIC, 2010). Jefferson Salamanders spend most of their time underground in mixed or deciduous upland forests. In spring, breeding ponds are required for reproduction, which are typically vernal woodland pools that dry by late summer (COSEWIC, 2010).	**Low** – Woodlands in the area are likely not large enough and do not contain vernal pools.
Northern Map Turtle (*Graptemys geographica*) SARA: Special Concern ESA: Special Concern S-Rank: S3	Inhabits both lakes and rivers, showing a preference for slow moving currents, muddy bottoms, and abundant aquatic vegetation. These turtles need suitable basking sites (such as emergent rocks and logs) and exposure to the sun for at least part of the day (COSEWIC, 2012). Shallow, soft-bottomed habitats are preferred, with wintering occurring in deeper sections (COSEWIC, 2012).	**None** – No large waterbodies within the Study Area.
Snapping Turtle (*Chelydra serpentina*) SARA: Special Concern ESA: Special Concern S-Rank: S4	Snapping Turtles prefer slow-moving waters with a soft mud bottom and dense aquatic vegetation. Established populations are most often located in ponds, sloughs, shallow bays or river edges and slow streams and wetlands. Individuals can also exist in developed areas (e.g., golf course ponds, irrigation canals); however, it is unlikely that populations persist in such habitats. Snapping Turtles can occur in highly polluted waterways, but environmental contamination is known to limit reproductive success (COSEWIC, 2008).	**None** – No waterbodies within the Study Area.
Timber Rattlesnake (*Crotalus horridus*) SARA: Extirpated ESA: Extirpated S-Rank: SX	Forested areas with rocky outcrops, dry ridges and second growth coniferous or deciduous forest (COSEWIC, 2001).	**None** – Species extirpated from the area.
Mammals		
Eastern Red Bat (*Lasiurus borealis*) SARA: Not on Schedule 1 ESA: Endangered S-Rank: S4	The Eastern Red Bat is typically found in coniferous and mixed forests, preferring to roost at the tops of trees, suspended from branches. They forage in both forested and non-forested habitats, including open and semi-cluttered areas, both above and below forest canopies (COSEWIC. , 2023); (Ontario Ministry of Natural Resources, 2024)	**High** – Deciduous forest communities occur along Upper Wellington Street within the Study Area and beyond and would likely provide suitable habitat. Possible bat habitat trees are thought to require removal for Project works.
Eastern Small-footed Myotis (*Myotis leibii*) SARA: No status ESA: Endangered S-Rank: S2S3	The Eastern Small-footed Bat is one of the less common species found to hibernate in Ontario. Caves and mines serve as significant hibernacula while streams and ponds serve as foraging areas (Ontario Ministry of Natural Resources, 2011).	**Moderate** – Deciduous forest communities occur along the Upper Wellington Street within the Study Area and beyond and would likely provide suitable habitat. Possible bat habitat trees are thought to require removal for Project works.
Hoary Bat (*Lasiurus cinereus*)	Hoary Bats are found in coniferous or deciduous forests, often along edge habitats. They roost near the tops of trees and forage in clearings near sources of water (COSEWIC, 2023).	**High** – Deciduous forest communities occur along the Upper Wellington Street within the Study Area and beyond and would likely provide suitable habitat. Possible bat habitat trees are thought to require removal for Project works.

Species Name, Status (SARA, ESA, S-Rank)[1,2,3]	Preferred Habitat	Potential for SAR Habitat / Occurrence within the Project Location
SARA: Not on Schedule 1 ESA: Endangered S-Rank: S4		
Little Brown Myotis (*Myotis lucifugus)* SARA: Endangered ESA: Endangered S-Rank: S3	The Little Brown Myotis is widespread throughout the southern half of Canada and is especially associated with humans, often forming nursery colonies in buildings, attics, and other man-made structures. Little Brown Myotis forage over water where their diet consists of aquatic insects, mainly midges, mosquitoes, mayflies, and caddisflies. They also feed over forest trails, cliff faces, meadows, and farmland where they consume a wide variety of insects, from moths and beetles to crane flies (Ontario Ministry of Natural Resources, 2011).	**High** – Deciduous forest communities occur along Upper Wellington Street within the Study Area and beyond and would likely provide suitable habitat. Possible bat habitat trees are thought to require removal for Project works.
Northern Myotis (*Myotis septentrionalis*) SARA: Endangered ESA: Endangered S-Rank: S3	The Northern Myotis is one of the less common species found to hibernate in Ontario. This species is closely associated with woodlands and uses trees as maternity sites (Ontario Ministry of Natural Resources, 2011).	**Moderate** – Deciduous forest communities occur along Upper Wellington Street within the Study Area and beyond and would likely provide suitable habitat. Possible bat habitat trees are thought to require removal for Project works.
Silver-haired Bat (*Lasionycteris noctivagans)* SARA: Not on Schedule 1 ESA: Endangered S-Rank: S4	Silver-haired Bats primarily roost under bark and in the cavities of trees, making them reliant on habitats with large, decaying trees. They are found in a variety of large diameter coniferous and deciduous trees (COSSARO, 2023)	**High** – Deciduous forest communities occur along the Upper Wellington Street within the Study Area and beyond and would likely provide suitable habitat. Possible bat habitat trees are thought to require removal for Project works.
Tri-colored Bat (*Perimyotis subflavus*) SARA: Endangered ESA: Endangered S-Rank: S3	Within treed habitats, Tri-colored Bat primarily roosts in tree foliage (mainly within oak leaves). Leaf roosts are shaped like umbrellas with a "roof" and a hollow core where bats rest. Studies have shown that oak leaves are a preferred roost site. Maple leaves are also selected, although less commonly. It is thought that Tri-colored Bat may prefer roost trees in more open woodlands, as opposed to deep woods. Roosts in tree cavities are used less frequently than Myotis species (Ontario Ministry of Natural Resources, 2011).	**Moderate** – Deciduous forest communities occur along Upper Wellington Street within the Study Area and beyond and would likely provide suitable habitat. Possible bat habitat trees are thought to require removal for Project works.
Invertebrates		
Mottled Duskywing (*Erynnis martialis*) SARA: No Status COSEWIC: Endangered ESA: Endangered S-Rank: S2	The Mottled Duskywing requires its host plants, New Jersey Tea and Prairie Redroot, during its life cycle. In Canada, these plants grow in dry, well-drained soils or alvar habitat within oak woodland, pine woodland, roadsides, riverbanks, shady hillsides, and tall grass prairies. The butterfly is frequently absent from apparently suitable host plant patches, suggesting additional limiting factors play a role in the species' site occupancy. The host plants also appear to be declining throughout most of the butterfly's range and the habitats may also be imperiled (COSEWIC, 2012).	**Low** – No New Jersey Tea or Prairie Redroot in the Study Area. Little suitable habitat in the area.
Monarch (*Danaus plexippus*) SARA: Endangered ESA: Special Concern S-Rank: S2N, S4B	Monarch is very widely distributed across North America and found in a wide variety of habitats. Populations fluctuate dramatically but have been generally declining likely due to habitat destruction on the hibernation grounds in Mexico, as well as pesticide use and other factors on the vast breeding grounds. Monarchs require Milkweeds (Asclepias) to lay their eggs and will use a variety of other flowers for adult food (COSEWIC, 2016).	**Confirmed Present** – Monarchs were found in the Dry-fresh Forb Meadow ecosite on the southwest side of the Towercrest Drive and Upper Wellington Street and the CUM near the southwest corner of the intersection of Stone Church Road East and Upper Wellington Street.
West Virginia White (*Pieris virginiensis*) SARA: No Status COSEWIC: No Status ESA: Special Concern	The West Virginia White lives in moist, deciduous woodlots. This butterfly requires a supply of toothwort, a small, spring-blooming plant that is a member of the mustard family, since it is the only food source for larvae (Burke, 2013).Generally, prefer moist, deciduous woodlands. The larvae feed only on the leaves of the two-leaved toothwort, which is a small, spring-blooming plant of the forest floor (Burke, 2013).	**Low** – Little suitable habitat in the area.

Species Name, Status (SARA, ESA, S-Rank)[1,2,3]	Preferred Habitat	Potential for SAR Habitat / Occurrence within the Project Location
S-Rank: S3		
Plants		
Butternut (*Juglans cinerea*) SARA: Endangered ESA: Endangered S-Rank: S3?	Generally, grows in rich, moist, and well-drained soils often found along streams. It may also be found on well-drained gravel sites, especially those made up of limestone. It is also found, though seldomly, on dry, rocky, and sterile soils. In Ontario, the Butternut generally grows alone or in small groups in deciduous forests as well as in hedgerows (Ontario Ministry of Natural Resources and Forestry, 2014).	**Low** – The Study Area was searched for SAR plants, none were found. Butternuts could be in the Study Area.
Kentucky Coffeetree (*Gymnocladus dioicus*) SARA: Threatened ESA: Threatened S-Rank: S2	Rich Floodplain woodlands and woodland edges of marshes where open canopy conditions exist (COSEWIC, 2000).	**Confirmed (planted)** – These trees were found along the side of Upper Wellington Street (Figure 3-14). Based on trees DBH, location, and tree guards (Appendix C), these trees were recently planted. These trees are listed as Threatened under the ESA in their native range. Hamilton is outside of the native range of this species. The ESA does not apply to the Kentucky Coffeetree.
Spotted Wintergreen (*Chimaphila maculata*) SARA: Threatened ESA: Threatened S-Rank: S2	Woodland understory species typically associated with dry-fresh oak and oak-pine forests and woodlands (COSEWIC, 2017).	**Low** – The Study Area was searched for SAR plants, none were found. Historic records of the species from NHIC 1 km squares (17NH9184, 17NH9185). Spotted Wintergreen could be in the Study Area.

3.3.1.5 Significant Wetlands

Wetlands are defined as areas that are seasonally or permanently covered by shallow water, as well as lands where the water table is close to or at the surface (Lee, et al., 1998). A significant wetland is an area identified as a Provincially Significant Wetland by the MNR using evaluation procedures established by the Province, as amended from time to time (Lee, et al., 1998). Wetlands regardless of significance are considered Core Areas within the City's Natural Heritage System (See Section 3.3.1.16).

Based on a review of secondary source material, available online databases, and ELC surveys, no Provincially Significant Wetlands are located within the Project Location and Study Area (Ontario Ministry of Northern Development, Mines, Natural Resources and Foresty, 2025).

3.3.1.6 Significant Valleylands

The Planning Policy Statement (Ministry of Municipal Affairs and Housing, 2024) identifies Significant Valleylands as a "natural area that occurs in a valley or landform depression that has "water" for some period of the year. Based on the field investigations and the criteria of Significant Valleylands of the City (City of Hamilton, 2013), Significant Valleylands are not located within the Project Location and Study Area.

3.3.1.7 Fish Habitat

Fish habitats are identified as spawning grounds and nurseries, rearing, food supply, and migration areas on which fish depend directly and or indirectly to carry out their life processes (Lee, et al., 1998). Fish habitats commonly occur in many natural heritage areas such as wetlands, valleylands, woodlands and ANSIs. Fish habitat is considered Core Areas within the City's Natural Heritage System (See Section 3.3.1.16).

The review of background information and incidental observations during field investigations (City of Hamilton, 2013; Hamilton Conservation Authority, 2021) did not find fish habitat in the Study Area.

3.3.1.8 Significant Woodlands

Woodlands are treed areas that provide environmental or economic benefits such as erosion prevention, water retention, recreation, and the sustainable harvest of woodland products. Woodlands include treed areas, woodlots, or forested areas, and vary in their level of significance (Ministry of Municipal Affairs and Housing, 2024). Woodland significance is typically determined by evaluating key criteria related to woodland size, ecological function, uncommon woodland species, and economic and social value.

Based on the field investigations and review of secondary source material, the Dry-fresh Oak-hickory Deciduous Forest near the southwest corner of the intersection of Towercrest Drive and Upper Wellington (Figure 3-14) is a Significant Woodland. The City defines Significant Woodland in the Official Plan (City of Hamilton, 2013). The criteria of the Dry-fresh Oak-hickory Deciduous Forest that meets the City definition of Significant Wood are size, and rare species. The woodland needs to meet two of the six criteria laid out by the UHOP (City of Hamilton, 2013). The criterion for size is determined by the forest cover of the planning unit.

The minimum patch size for significance in the planning unit is assumed to be 2 ha. The size of the woodland, including the forest that extends east outside of the Study Area, is 2.4 ha. The woodland meets the criterion for size for significance. Rare species are defined as Endangered, Threatened, or Special Concern provincially or locally rare species. Eastern Wood-pewee is ranked as Special Concern provincially and was found within the Dry-fresh Oak-hickory Deciduous Forest during the breeding bird season. The Dry-fresh Oak-hickory Deciduous Forest occurs within the Project Location and the Study Area. Crerar Forest is adjacent to the Study Area on the east side, labelled as Significant Woodland (City of Hamilton, 2013) (Figure 3-13).

3.3.1.9 Areas of Natural and Scientific Interest

The Planning Policy Statement (Ministry of Municipal Affairs and Housing, 2024) defines ANSIs as areas of land and water containing natural landscapes or features that have been identified as having life science or earth science values related to protection, scientific study, or education. Those listed as provincially significant life science ANSIs are the best examples of that NHF in the Province (Ontario Ministry of Natural Resources, 2010). In contrast, earth science ANSIs are representative examples of geological processes in Ontario (i.e., exposed bedrock on road cuts, fossils, and landforms) (Ontario Ministry of Natural Resources, 2010).

Based on a review of secondary source material and available online databases, no ANSIs are within the Project Location or Study Area (City of Hamilton, 2013; Ontario Ministry of Northern Development, Mines, Natural Resources and Foresty, 2025).

3.3.1.10 Adjacent Lands

Adjacent lands are the lands relevant to which impacts must be considered, and the compatibility of a development proposal must be addressed. The extent of adjacent lands may vary, depending on such factors as hydrology, topography, soil conditions, potential disruption of wildlife movement patterns, land use and other features (Ontario Ministry of Natural Resources, 2010). Planning authorities may also define adjacent lands. The UHOP (City of Hamilton, 2013) states adjacent lands are “lands contiguous to hazard lands, a specific NHF, or area where it is likely that development or site alteration would have a negative impact on the hazard, feature, or area. The extent of the adjacent lands may be recommended by the Province or based on municipal approaches which achieve the same objectives.”

Two significant woodlands occur, and therefore, development or site alteration on adjacent lands has the potential to impact them. An industry standard for adjacent lands is 120 m from a feature or area. Within this 120 m between Crerar Forest and the Dry-fresh Oak-hickory Deciduous Forest is Upper Wellington Street, residential buildings, manicured lawns, and places of worship.

3.3.1.11 Significant Wildlife Habitat

Wildlife habitat is defined as areas where plants, animals and other organisms live and can find adequate amounts of food, water, shelter, and space needed to sustain their populations. Specific wildlife habitat of concern may include areas where species concentrate at a point in their annual life cycle, and those areas which are important to migratory and non-migratory species. A wildlife habitat is considered “significant” if it is deemed ecologically important in

terms of feature, function, representation, or amount, and contributes to the quality and diversity of an identifiable geographic area or NHS (Ministry of Municipal Affairs and Housing, 2024). According to the Significant Wildlife Habitat Criteria Schedule (SWHCS) for Ecoregion 7E (Ontario Ministry of Natural Resources and Forestry, 2015) SWH may consist of:

- Seasonal Concentration Area for Animals;
- Rare Vegetation Communities;
- Specialized Habitat for Wildlife;
- Habitat for Species of Conservation Concern; and
- Animal Movement Corridors.

SWH has been evaluated for the Study Area, and one (bat maternity colonies) has been evaluated as a candidate, and two (other rare vegetation communities and habitat for species of conservation concern) as confirmed.

3.3.1.11.1 Seasonal Concentration Areas

Seasonal concentration areas are those habitats where large numbers of a single species or many species congregate at one (or several) times a year. The SWHCS for Ecoregion 7E outlines a series of seasonal concentration areas. Based on the vegetation community presence and indicator species found during field investigations and secondary sources. There is one candidate and no confirmed seasonal concentration areas.

Bat Maternity Colonies

The ranges of Big Brown Bat and Silver-haired Bat overlap the Study Area. Other SAR Bat species also overlap the Study Area but are not indicator species for this SWH. The Dry-fresh Oak-hickory Deciduous Forest (FOD2-2) within the Study Area is considered candidate bat maternity roost habitat. Maternity colonies can be found in tree cavities and vegetation, typically in mature deciduous or mixed forest stands with more than 10 large diameter (>25 cm dbh) wildlife trees per hectare. Targeted bat and snag surveys were not completed as per the evaluation methods for maternity colonies outlined in the “Bats and Bat Habitats: Guidelines for Wind Power Projects”, as such the habitat remains candidate (Ministry of Natural Resources, 2011).

3.3.1.12 Rare Vegetation Communities

Rare vegetation communities are those that contain provincially rare vegetation communities, or those which are rare to the area. One of the most important criteria for determining a rare vegetation community is the current representation of the community within a planning area based on its area relative to the total landscape, or the number of examples within the planning area. NHIC uses a system that considers the provincial rank of a species or community type as a tool to prioritize protection efforts (the sub-national or S-rank) (Ontario Ministry of Natural Resources and Forestry, 2015). The below information is based on the vegetation communities identified during the ELC field investigations and information from secondary sources.

Other Rare Vegetation Communities – Confirmed

This SWH includes plant communities that often contain rare species which depend on the habitat for survival. Only one rare vegetation community was found. It was the Dry-fresh Oak-hickory Deciduous Forest found near the southwest corner of Towercrest Drive and Upper Wellington Street (ranked S3S4 by NHIC, Figure 3-14). Dry-fresh Oak-hickory Deciduous Forest is not within the Significant Wildlife Habitat Technical Guide (Ontario Ministry of Natural Resources, 2000) but Dry Oak-hickory Deciduous Forest is. WSP assumes that Dry Oak-hickory Deciduous Forest is the closest ELC code listed in the Significant Wildlife Habitat Technical Guide (Ontario Ministry of Natural Resources, 2000) and they are substantially equivalent.

3.3.1.13 Specialized Habitats for Wildlife

Specialized habitats for wildlife consist of that which support wildlife that has highly specific habitat requirements (e.g., nesting habitat – vernal pools), those areas that contain high species and community diversity and those which provide habitat that can greatly enhance species survival (Ontario Ministry of Natural Resources, 2000). Like seasonal concentration areas, the assumptions and presence of specialized habitats for wildlife is based on vegetation community presence and indicator species found during field investigations and secondary sources. No specialized habitat for wildlife was found in the Study Area.

3.3.1.14 Habitat for Species of Conservation Concern

Habitats for species of conservation concern are those that contain species that are rare or substantially declining and are rare or uncommon in the planning area. These habitats are associated with provincially rare wildlife species (i.e., species with S-Ranks S1, S2 or S3) and/or wildlife species listed under the ESA as Special Concern. Five species were found to have S-Ranks of S3 or less; these were: Honey Locust (S2?), Fish Crow (S1S2), Purple Martin (S3S4B), Southern Cloudywing (S3), and Purplish Copper (S3).

Species of Special Concern that are known to occur within areas that overlap the Project Location and Study Area with a moderate or high likelihood of occurring or confirmed are (Table 3-15) Barn Swallow, Eastern Wood-pewee, and Wood Thrush.

An evaluation of the potential occurrence of these species within the Project Location and Study Area was completed in Table 3-15. Barn Swallow and Eastern Wood-pewee were found in the Study Area. Barn Swallows were seen foraging on the southeast corner of the intersection of the Upper Wellington Street and Limeridge Road East and the sports field near the Bethel Gospel Tabernacle. Possible Barn Swallow nesting habitat was observed in the far edge of the Study Area on the southwest corner of the intersection of Upper Wellington Street and Limeridge Road East. The structure is an open-walled materials storage structure. The Eastern Wood-pewee was heard in the Dry-fresh Oak-hickory Deciduous Forest (Figure 3-13). Habitat for species of conservation concern is confirmed to occur in the Project Location.

3.3.1.15 Animal Movement Corridors and Linkages

Animal movement corridors are habitats that link two or more wildlife habitats that are critical to the maintenance of a population of a particular species or group of species. The key ecological function of wildlife movement corridors is to enable wildlife to move between areas of significant habitat or core natural areas with minimum mortality. Animal movement corridors can provide critical links between shelter, feeding, watering, growing and nesting locations (Lee, et al., 1998). Animal movement corridors are only delineated when significant breeding habitat is confirmed. As no significant breeding habitat was identified, it is inferred that there are no animal movement corridors (SWHs) associated with the Study Area or the Project Location.

The City does identify the Dry-fresh Oak- hickory Deciduous Forest and the area south of Jerome neighbourhood Park (1306 Upper Wellington Street) as being a linkage area (Figure 3-13). Linkages are natural areas that connect Core Areas. This linkage area connects the Dry-fresh Oak-hickory Deciduous Forest with natural vegetation communities south of the Study Area.

3.3.1.16 City of Hamilton Natural Heritage System

There is a minimal amount of significant NHS within the Study Area. The Dry-fresh Oak-hickory Deciduous Forest near the southwest corner of the intersection of Towercrest Drive and Upper Wellington Street (Figure 3-14) is Significant Woodland. The next nearest Significant Woodland is at 313 Stone Church Road East, outside of the Study Area, east of Upper Wellington Street. Significant Woodland is a Core Area. No other Core Area exists in the Study Area. Another linkage area can be found in Crerar neighbourhood Park (260 Sirente Drive), 200 m west of the Study Area.

3.3.2 Contamination

A Phase I Environmental Site Assessment (ESA) (dated March 14, 2025) was completed as part of this Class EA Study to provide an evaluation of known and possible environmental issues at the Site in anticipation of proposed road improvements. This Phase I ESA was conducted in conformance with the scope and limitations defined by the Canadian Standards Association (CSA) Phase I Environmental Site Assessment Z768-01 Standard (November 2001, reaffirmed 2016). It was WSP's understanding that the Phase I ESA was not required for the purposes of filing a Record of Site Condition (RSC) under Ontario Regulation 153/04 (O. Reg. 153/04) (as amended by Ontario Regulation 511/09). A summary of existing conditions from the Phase I ESA is provided below, and the complete report is provided in Appendix C.

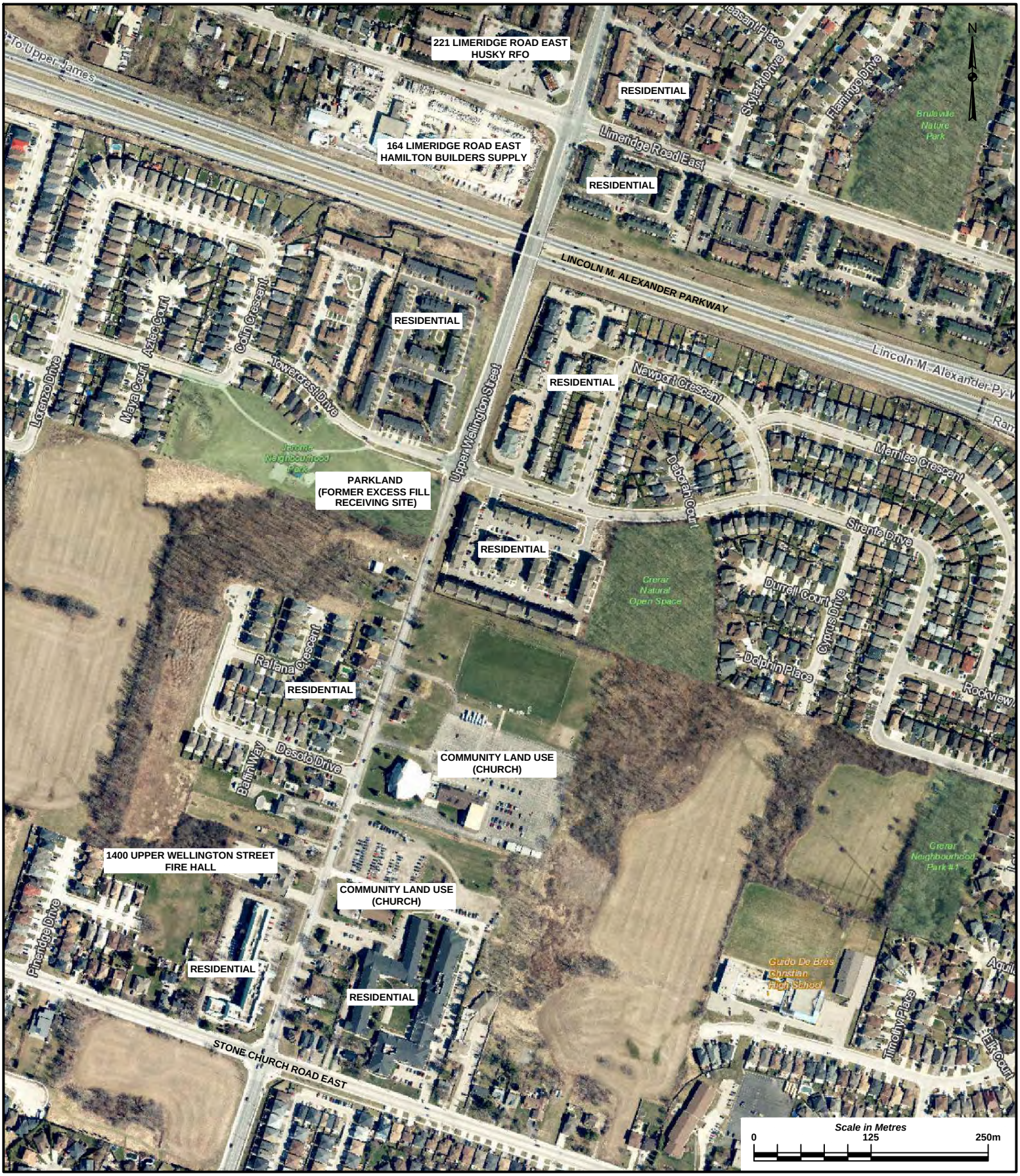
Based on a review of the available information sources and observations of current and historical surrounding properties (from publicly accessible locations) as part of the completion of Phase I ESA, the following represents potentially contaminating activities which results in areas of potential environmental concern along the Study Corridor:

- Hamilton Builder's Supply located at 164 Limeridge Road East;
- Husky RFO located at 221 Limeridge Road East;
- The Fire Hall located at 1400 Upper Wellington Street;

- The former excess fill receiving site (currently Jerome Park), located adjacent west to the central portion of the Site; and
- Potential salt-impacted soils beneath the roadway due to winter salting activities.

The location of above noted areas of potential environmental concern (potentially contaminating activities) is shown on Figure 3-18.

Based on the Phase I ESA, there is evidence of actual and potential contamination.



REFERENCE: Base plan provided by CITY OF HAMILTON, HAMILTON MAPS, https://spatialsolutions.hamilton.ca/hamiltonmap/index.html

FOR ILLUSTRATION PURPOSES ONLY, ALL LOCATIONS APPROXIMATE.

CLIENT: City of Hamilton	LEGEND:	DWN BY: DN CHK'D BY: PS DATUM: NAD83 PROJECTION: UTM Zone 17 SCALE: As Shown	PROJECT: PHASE I ENVIRONMENTAL SITE ASSESSMENT UPPER WELLINGTON STREET, HAMILTON, ONTARIO (BETWEEN STONE CHURCH ROAD EAST & LIMERIDGE ROAD EAST) TITLE: SITE LAYOUT PLAN	REV. NO.: A DATE: FEBRUARY 2021 PROJECT NO.: IM20103037 NO.: FIGURE 3-18

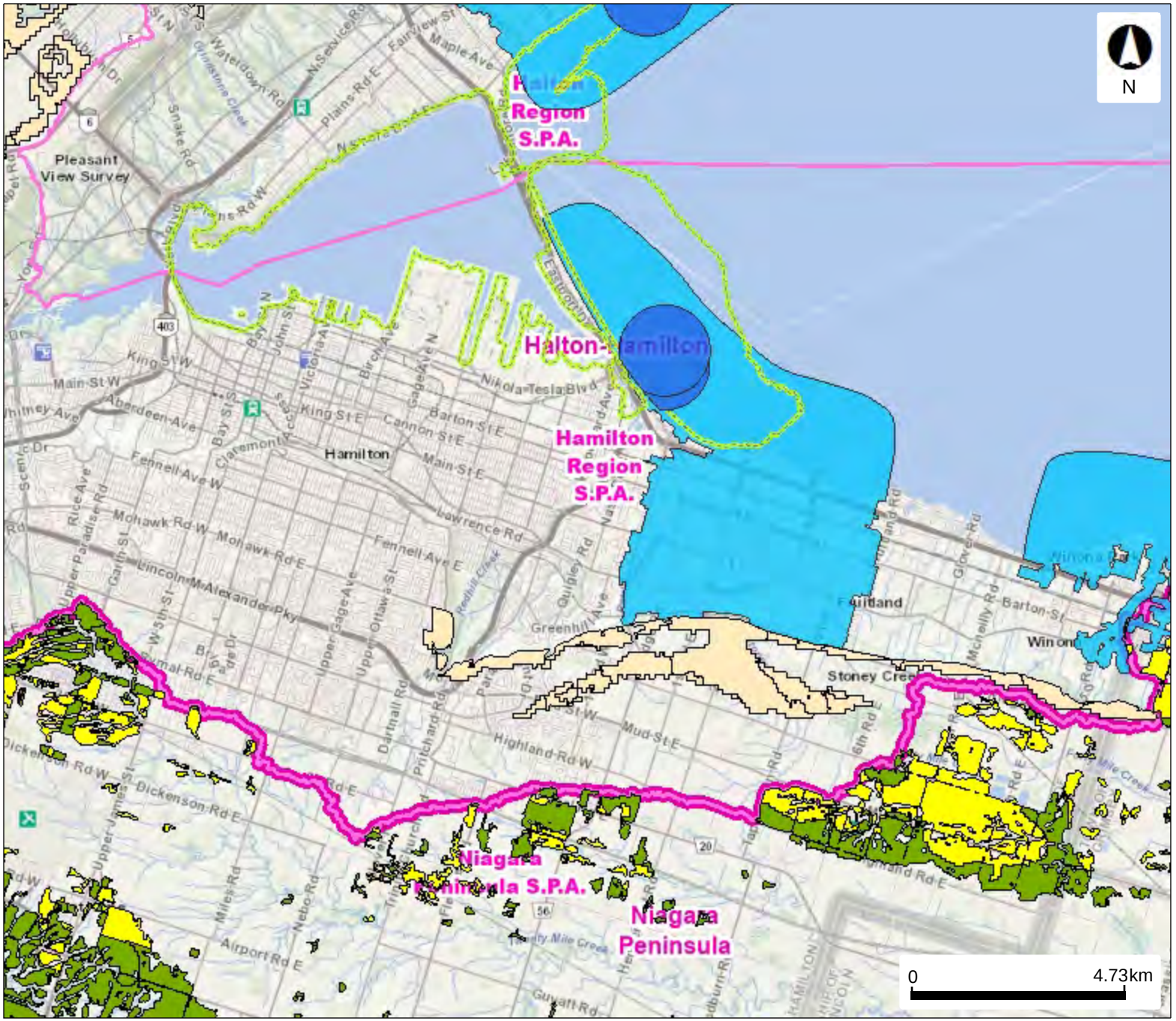
3.3.3 Source Water

The *Clean Water Act* was developed to provide protection for existing and future sources of drinking water. Under this legislation, various vulnerable areas have been delineated around surface water intakes and wellheads for every municipal residential drinking water system that is located within a Source Protection Area. Vulnerable Areas are locations in which pollutants can pose a threat to the quality of Municipal drinking water or where peoples activities can impact the quantity of water available for use (Halton-Hamilton Source Protection Committee, 2017). These vulnerable areas can include Lake Ontario drinking water sources such as surface water Intake Protection Zones, and Groundwater drinking water sources such as Highly Vulnerable Aquifers, Significant Groundwater Recharge Areas, and Wellhead Protection Areas.

Source Protection Areas throughout southern Ontario develop Source Protection Plans that include policies to address existing and future risks to sources of municipal drinking water within these vulnerable areas. The Study Corridor is located in the Hamilton Region Source Protection Area and is subject to the policies of the Source Protection Plan for the Halton Region and the Hamilton Region Source Protection Areas. The policies defined in this plan focus on the protection sources of municipal drinking water and to ensure actives that pose a significant risk to drinking water sources cease to be significant, or never become significant. The municipal water supply comes from two sources: nearly 97% is sourced from Lake Ontario, while less than 1% percent comes from groundwater aquifers. Private systems, such as wells and cisterns, supply water to the remaining of the population (Halton-Hamilton Source Protection Committee, 2022). Vulnerable areas in Hamilton where policies of the Hamilton Region Source Protection Plan apply are Wellhead Protection Areas and Intake Protection Zones.

A review of Ministry of the Environment, Conservation and Parks' (MECP) Source Protection Information Atlas indicated the Study Corridor is not situated in any Wellhead Protection Areas or Intake Protection Zones (Ministry of the Environment, Conservation and Parks, 2025). An overview of Wellhead Protection Areas and Intake Protection Zones in the Hamilton Region Source Protection Area are shown in Figure 3-19.

Figure 3-19: Upper Wellington Street Class Environmental Assessment



Legend

- Significant Groundwater Recharge Area
  - N/A
  - 0
  - 2
  - 4
  - 6
- Issue Contributing Areas
- WHPA-E
- Wellhead Protection Area
  - A
  - B
  - C
  - C1
  - D
  - F
- Intake Protection Zone 1
- Event Based Areas
- Intake Protection Zone 2
- Source Protection Areas
- Source Protection Regions

This map should not be relied on as a precise indicator of routes or locations, nor as a guide to navigation. The Ontario Ministry of Environment, Conservation and Parks (MECP) shall not be liable in any way for the use or any information on this map. of, or reliance upon, this map.

Map Created: 2/20/2025
Map Center: 43.23256 N, -79.77876 W

3.4 Cultural Heritage Environment

Cultural heritage resources include built heritage resources, cultural heritage landscapes, and archaeological resources. A description of these resources within the Study Area is provided below.

3.4.1 Built Heritage Resources and Cultural Heritage Landscapes

The following documents were prepared as part of this Class EA Study to identify built heritage resources (BHRs) and cultural heritage landscapes (CHLs) along the Study Corridor:

- Cultural Heritage Memo (dated September 14, 2021)
- Cultural Heritage Report: Existing Conditions and Preliminary Impact Assessment (Cultural Heritage Report) (dated April 4, 2025)

A summary of the findings of the above assessments is provided and complete documents are provided in Appendix D. It is important to note that the results of 2021 Cultural Heritage Memo were superseded by the 2025 Cultural Heritage Report. Results of the 2021 Cultural Heritage Memo are provided herein for information purposes.

For the purposes of above assessments, the Study Area was delineated as encompassing properties with frontage along Upper Wellington Street, between Bryna Avenue (located north of Limeridge Road) and Dragoon Drive (located south of Stone Church Road).

The 2021 Cultural Heritage Memo evaluated cultural heritage potential using the Ministry of Citizenship and Multiculturalism's (MCM) [1] Checklist, '*Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscapes: A Checklist for the Non-Specialist*.' It identified two (2) inventoried properties and nine (9) properties with structures aged 40 years or older within or adjacent to the Study Area.

Inventoried properties:

- 1411 Upper Wellington Street (Mount Hamilton Christian Reformed Church) (BHR1)
- 204 Limeridge Road East (CHL1)

Potential heritage properties with structures aged 40 or more years old:

- 1318 Upper Wellington Street (BHR2)
- 1322 Upper Wellington Street (BHR3)
- 1332 Upper Wellington Street (BHR4)
- 1347 Upper Wellington Street (BHR5)
- 1349 Upper Wellington Street (BHR6)
- 1355 Upper Wellington Street (Bethel Gospel Tabernacle) (BHR7)

[1] Formerly known as Ministry of Heritage, Sport, Tourism and Culture Industries (MHSTCI) / Ministry of Tourism, Culture and Sport (MTCS)

- 1356 Upper Wellington Street (BHR8)
- 1382 Upper Wellington Street (BHR9)
- 1392 Upper Wellington Street (BHR10)

The location of above noted properties is shown on Figure 3-20. As noted above, the results of 2021 Cultural Heritage Memo were superseded by the 2025 Cultural Heritage Report. Results of the 2021 Cultural Heritage Memo are provided herein for information purposes. The 2021 Cultural Heritage Memo recommended completing a Cultural Heritage Assessment Report: Existing Conditions and Impact Assessment if project impacts on the above noted properties were anticipated.

Accordingly, the 2025 Cultural Heritage Report was completed to establish the historical context of the Study Area, identify known and potential heritage properties through information gathering and field assessment, develop an inventory of BHRs and CHLs, and identify project impacts on cultural heritage resources and propose mitigation measures. The 2025 Cultural Heritage Report updated the findings of the 2021 Cultural Heritage Memo following the field assessment.

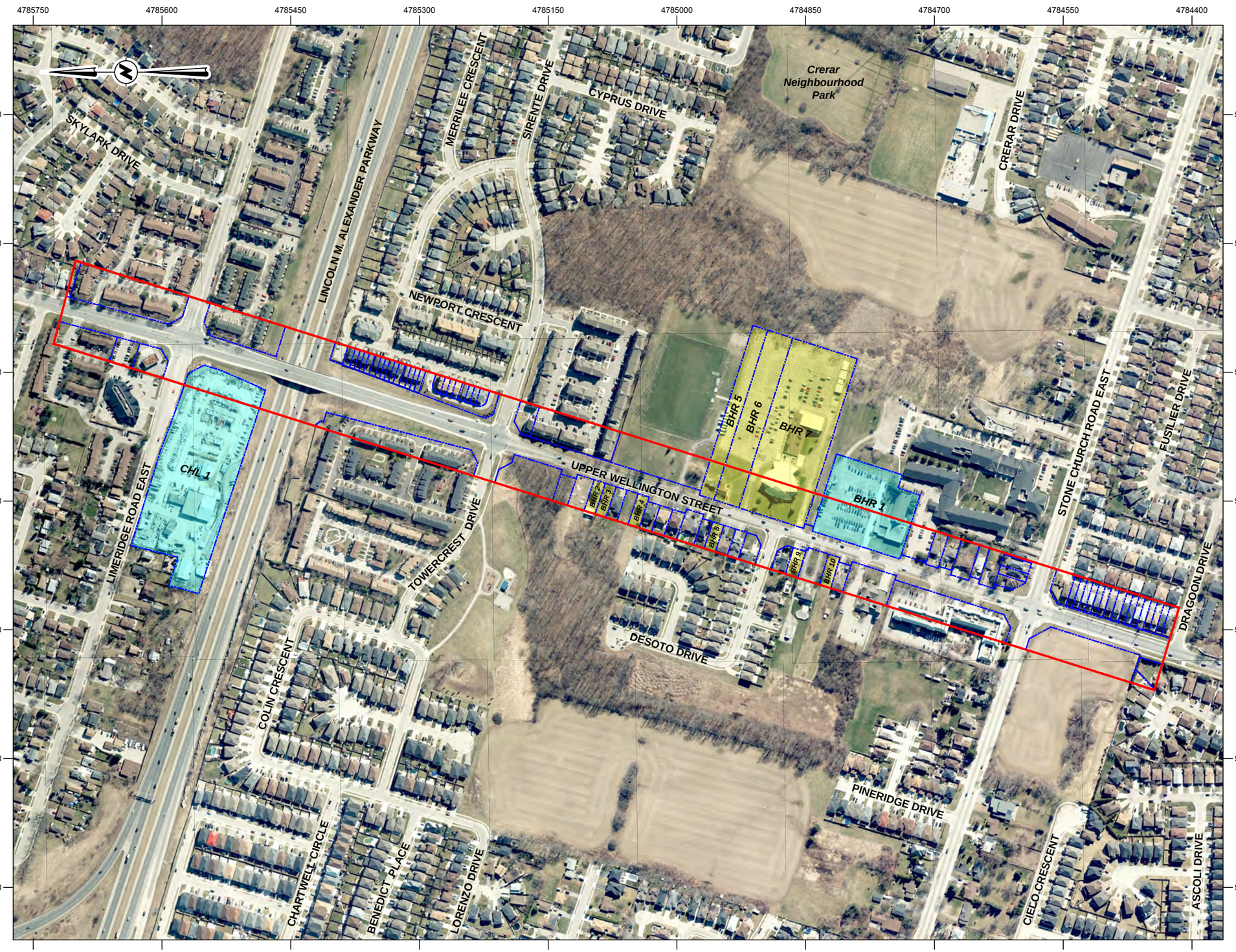
Following background research, field assessment, and information gathering, the 2025 Cultural Heritage Report identified three (3) properties within the Study Area as inventoried on the City's Heritage Inventory. Of these, one property had been demolished:

- 1411 Upper Wellington Street

The two (2) existing inventoried properties along the Study Corridor are:

- 1355 Upper Wellington Street (CHR 1)
- 164 Limeridge Road (CHR 2)

The location of above noted properties is shown on Figure 3-21.



PROJECT:
CULTURAL HERITAGE ASSESSMENT
UPPER WELLINGTON STREET (LIMERIDGE ROAD TO STONE CHURCH ROAD) MUNICIPAL CLASS EA
PART OF LOTS 12 AND 13, CONCESSION 6, 7 AND 8
BARTON TOWNSHIP, WENTWORTH COUNTY
NOW THE CITY OF HAMILTON, ONTARIO

TITLE:
IDENTIFIED CULTURAL HERITAGE RESOURCES

LEGEND:
- STUDY AREA
- PROPERTY LINE
- PROPERTY OVER 40 YEARS OLD
- INVENTORIED PROPERTY

NOTES:
THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH THE WOOD ENVIRONMENT & INFRASTRUCTURE SOLUTIONS REPORT No. IM20103037.TASK1.7.
ALL LOCATIONS ARE APPROXIMATE.
ORIGINAL PAPER SIZE: 11 x 17.
REFERENCES:
2019 AERIAL PHOTOGRAPHS BY THE CITY OF HAMILTON; CANMAP STREETFILES V2008.4.

0 45 135 225m
SCALE 1:4500

City of Hamilton
71 MAIN STREET WEST
HAMILTON, ONTARIO, L8P 4Y5

Wood
Environment & Infrastructure Solutions
3450 HARVESTER ROAD, SUITE 100
BURLINGTON, ONTARIO, L7N 3W5
905-335-2353

DWN BY:	CHK'D BY:	DATE:
SJL	CD	JAN. 19, 2021
DATUM:	PROJECTION:	PROJECT No:
NAD83	UTM Zone 17	IM20103037.TASK1.7
REV No:		FIGURE No:
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FILE LOCATION: P:\2020\Workgroup\Projects\Other Offices\IM20103037 – City of Hamilton – Upper Wellington St, Hamilton\Drafting\AutoCAD files\IM20103037.TASK1.7–R01003.dwg

KEY MAP

SCALE: 1:1,200,000

LEGEND

STUDY AREA

EXISTING AND POTENTIAL BUILT HERITAGE RESOURCES AND CULTURAL HERITAGE

INVENTORIED

0 62.5 125 250

1:6,000 METRES

NOTE(S)
1. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)
1. CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENCE - ONTARIO
2. BASE MAP: ESRI, © OPENSTREETMAP CONTRIBUTORS, HERE, GARMIN, FAO, USGS, NGA, EPA, NPS, AAFC, NRCAN, MAXAR
3. COORDINATE SYSTEM: NAD 1983 CSRS UTM ZONE 17N

CLIENT
CITY OF HAMILTON

PROJECT
UPPER WELLINGTON STREET MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT CULTURAL HERITAGE REPORT

TITLE
INVENTORY OF EXISTING AND POTENTIAL BUILT HERITAGE RESOURCES AND CULTURAL HERITAGE LANDSCAPES

CONSULTANT

YYYY-MM-DD	2025-04-03
DESIGNED	MS
PREPARED	MS
REVIEWED	HS
APPROVED	MT

PROJECT NO.	CONTROL	REV.	FIGURE
CA-EI-IM20103037	0002	0	3-21

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3.4.2 Archaeological Resources

A Stage 1 Archaeological Assessment (dated September 16, 2021) was completed as part of this Class EA Study to identify areas of archaeological potential and the need for further archaeological assessment(s) (e.g., Stage 2-4) as necessary. This report is provided in Appendix E.

The Stage 1 archaeological assessment was carried out in accordance with the *2011 Standards and Guidelines for Consultant Archaeologists* (Ministry of Citizenship and Multiculturalism, 2011). It was submitted to the MCM on April 4, 2024 under PIF number P362-0376-2025 (Stage 1).

The Study Area for Stage 1 Archaeological Assessment extended approximately 130 m north of Limeridge Road East, approximately 160 m south of Stone Church Road East and approximately 50 m on either side of Upper Wellington Street.

The Stage 1 Archaeological Assessment Report noted that there is archaeological evidence that this general area has been intensively utilized by Indigenous people. Although no Indigenous sites have been registered within the Study Area, 36 Indigenous sites have been registered within a 1 km radius of the study area, five of which are located within 250 m of the Study Area.

The outcomes and recommendations of the Stage 1 Archaeological Assessment Report are provided below:

- Approximately 10 ha (75%) of the study area has low to no archaeological potential due to previous disturbance and requires no further archaeological assessment.
- Approximately 0.6 ha (4%) of the study area has been previously assessed prior to the introduction of the 2011 MHSTCI Standards and Guidelines for Consultant Archaeologists. These areas were identified as having low to no archaeological potential due to previous disturbance and require no further archaeological assessment.
- Approximately 1.0 ha (7%) of the study area has been previously assessed and requires no further archaeological assessment.
- Approximately 0.3 ha (2%) of the Study Area was formerly a cultivated agricultural field that has archaeological potential.
- Approximately 1.6 ha (12 %) of the Study Area is located within a mature woodlot and manicured lawns that have archaeological potential potentially requiring a Stage 2 Archaeological Assessment.

Results of Stage 1 Archaeological Assessment are shown in Figure 3-22.

The archaeological potential of the lands potentially impacted by the preferred design will be assessed at the detailed design stage to determine the need for Stage 2 Archaeological Assessment.

PROJECT: STAGE 1 ARCHAEOLOGICAL ASSESSMENT
UPPER WELLINGTON STREET (LIMERIDGE ROAD TO STONE CHURCH ROAD) MUNICIPAL CLASS EA
PART OF LOTS 12 AND 13, CONCESSION 6, 7 AND 8
BARTON TOWNSHIP, WENTWORTH COUNTY
NOW THE CITY OF HAMILTON, ONTARIO

TITLE:
STAGE 1 RESULTS WITH PHOTOGRAPH LOCATIONS AND DIRECTIONS

LEGEND:

- STUDY AREA
- PHOTOGRAPH LOCATION, VIEWING DIRECTION, AND IDENTIFICATION
- UTILITIES AND STORM/SEWAGE DRAINS
- PREVIOUSLY ASSESSED: NO FURTHER ASSESSMENT REQUIRED
- PREVIOUSLY ASSESSED PRIOR TO IMPLEMENTATION OF MHSTCI 2011 STANDARDS AND GUIDELINES FOR CONSULTANT ARCHAEOLOGISTS

AREA OF ARCHAEOLOGICAL POTENTIAL

- UNPLOUGHABLE LAND - TO BE SHOVEL TESTED AT 5m INTERVALS
- PLOUGHABLE LAND - TO BE PEDESTRIAN SURVEYED AT 5m INTERVALS

AREA OF NO/LOW ARCHAEOLOGICAL POTENTIAL

- DISTURBED - GRAVEL ROAD, BUILDING FOOTPRINT, ROADWAY, UNDERGROUND UTILITIES, STORM/SEWAGE DRAIN: NO FURTHER ASSESSMENT REQUIRED
- DISTURBED - DITCH/DISTURBANCE, MAN-MADE SLOPE, GRAVEL FOOTPRINT, BERM: NO FURTHER ASSESSMENT REQUIRED

NOTES:

THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH THE WOOD ENVIRONMENT & INFRASTRUCTURE SOLUTIONS REPORT No. IM20103037.TASK1.6.

ALL LOCATIONS ARE APPROXIMATE.

ORIGINAL PAPER SIZE: 11 x 17.

REFERENCES:
2019 AERIAL PHOTOGRAPHS BY THE CITY OF HAMILTON; CANMAP STREETFILES V2008.4.

0 45 135 225m
SCALE 1:4500

City of Hamilton
71 MAIN STREET WEST
HAMILTON, ONTARIO, L8P 4Y5

Hamilton

Wood
Environment & Infrastructure Solutions
3450 HARVESTER ROAD, SUITE 100
BURLINGTON, ONTARIO, L7N 3W5
905-335-2353

wood.

DWN BY:	CHK'D BY:	DATE:
SJL	CD	SEP. 16, 2021
DATUM:	PROJECTION:	PROJECT No:
NAD83	UTM Zone 17	IM20103037.TASK1.6
REV No:		FIGURE No:
3		3-22

DATE PLOTTED: 9/16/2021 12:54:01 PM
FILE LOCATION: P:\2020\Wet\ecology\Projects\Other Offices\IM20103037 – City of Hamilton – Upper Wellington St, Hamilton\Drafting\AutoCAD files\IM20103037.TASK1.6–R01097.dwg

3.5 Technical Environment

3.5.1 Drainage / Stormwater Management

A Stormwater Management Assessment Report (dated May 2025) was completed to evaluate the capacity of existing drainage systems along the Study Corridor, identify opportunities and constraints, assess the impact of proposed roadway improvements, and recommend a stormwater management strategy.

The existing roadway has a rural cross-section (shallow, poorly defined ditches) from Stone Church Road East to Towercrest Drive/Sirente Drive, and an urban cross-section (curb and gutter) from Towercrest Drive/Sirente Drive to Limeridge Road East. The primary existing storm sewer system along Upper Wellington Street conveys runoff from 130 m (+/-) north of Desoto Drive southerly to Dragoon Drive, 160 m (+/-) south of Stone Church Road East. A separate existing storm sewer system conveys runoff easterly on Sirente Drive, which crosses Upper Wellington Street.

An updated hydrologic/hydraulic model was developed in PCSWMM for Upper Wellington Street Study Area between 50 m south Stone Church Road East and Limeridge Road East. Both hydrologic and hydraulic modelling elements were refined to assess drainage capacity within the Study Area. The updated hydrologic/hydraulic model was simulated for the 5-year and 100-year return periods, using a 24-hour SCS Type II design storm, which was determined to be the most conservative distribution.

Overall, the updated modelling generated minor system peak flow rates that indicated differences from previous versions of the model. These differences are attributed to the refinements to the subcatchment boundaries, addition of recent development areas, and additions/revisions to hydraulic modelling elements (storm sewers and overland flow routes/roadways). Overall, the current updated model was considered appropriate to use for this assessment.

The performance results for the minor drainage systems (storm sewers) and major drainage systems (overland flow/roadway) were reviewed for the Study Area. A summary of these results is provided below, and Subcatchment Boundary Plans are provided as Figure 3-23, Figure 3-24, and Figure 3-25. The complete Stormwater Management Assessment Report is provided in Appendix F.

3.5.1.1 Minor System Performance Results

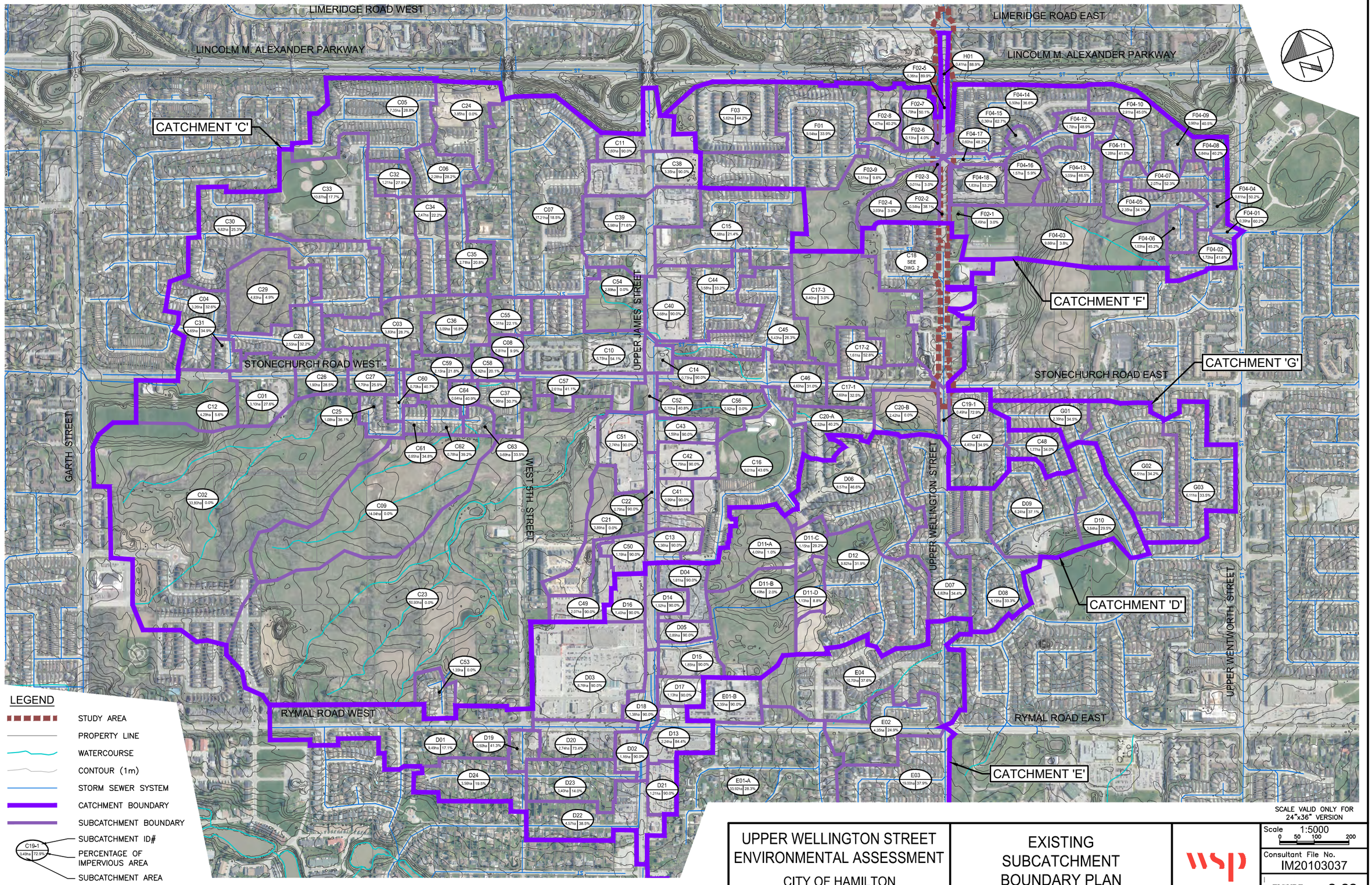
The performance of the existing Towercrest Drive/Sirente Drive storm sewer system, simulated for the 5-year design storm event (consistent with City of Hamilton standards), indicates available capacity in the vicinity of the Study Area, however, the storm sewer is surcharged approximately 300 m (+/-) downstream of the Study Area. Similarly, available capacity was identified in the Upper Wellington Street storm sewer system south of Study Area, however, the storm sewer was identified to surcharge on Dragoon Drive, 80 m (+/-) east of Upper Wellington Street. Within the limits of the Study Area however, no storm sewer surcharging was indicated for the City’s design standard event.

3.5.1.2 Major System Performance Results

The performance of the major system was identified to be generally acceptable for the Study Area, with the exception of the sag at the intersection with Towercrest Drive/Sirente Drive. The simulated major system flow depth at this location during the 100-year design storm event is 0.41 m (+/-), which clearly exceeds the City's standard of 0 mm at the crown for arterial roadways. A minor exceedance of this criteria is indicated at the southern limits of the Study Area (at Stone Church Road), however the majority of the southern portion of Upper Wellington Street does not indicate a significant depth accumulation and remains below the City's standards when considering typical roadway cross-falls.

3.5.1.3 Stormwater Quality Control

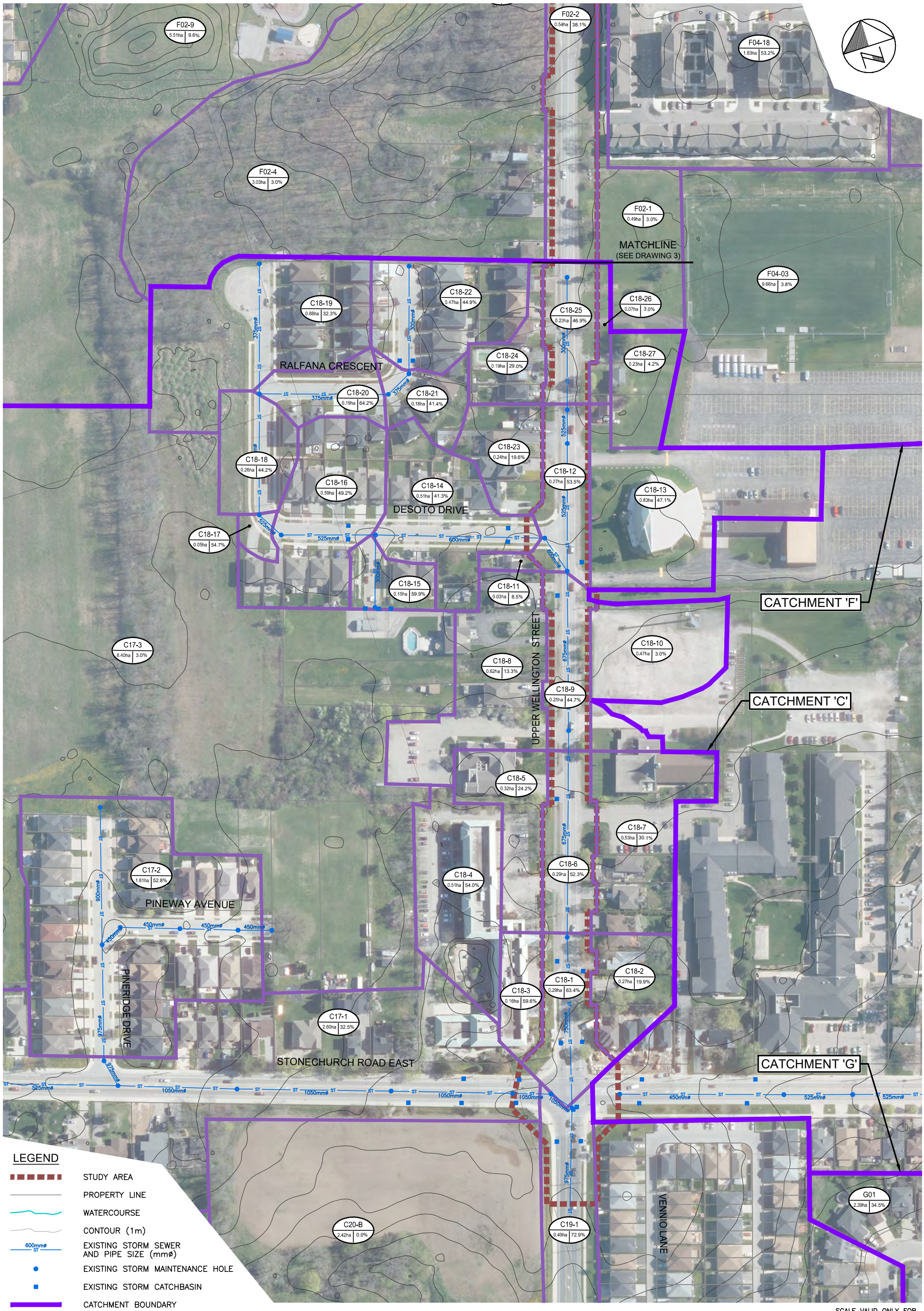
Under existing conditions, there are no stormwater management facilities evident within the limits of the Study Area. Similarly, a review of the available drawings and GIS storm sewer manhole data has indicated that there are no oil-grit-separators shown within the Study Area. The storm sewers are conveyed to the existing Mountain Brow SWM facility that was intended to provide Level 2 (70% treatment of total suspended solids) for the contributing drainage area.



Plotted: 2025-06-27
Last Saved: 2025-06-26
Plotted By: wds_richard.bartolo
Last Saved By: wds_richard.bartolo
Path: C:\PROJECT\2020\IM20103037- Upper Wellington EA\14 CAD\CIV\WR\PROJ\2025-06\Dwg1 ExSubcatch(Overall).dwg

SCALE VALID ONLY FOR 24"x36" VERSION

UPPER WELLINGTON STREET ENVIRONMENTAL ASSESSMENT CITY OF HAMILTON	EXISTING SUBCATCHMENT BOUNDARY PLAN	wsp	Scale 1:5000 (0 50 100 200) Consultant File No. IM20103037 FIGURE 3-23



LEGEND

- STUDY AREA
- PROPERTY LINE
- WATERCOURSE
- CONTOUR (1m)
- 600mmø ST — EXISTING STORM SEWER AND PIPE SIZE (mmø)
- EXISTING STORM MAINTENANCE HOLE
- EXISTING STORM CATCHBASIN
- CATCHMENT BOUNDARY
- SUBCATCHMENT BOUNDARY
- C19-1 / 0.49ha | 72.9% — SUBCATCHMENT ID# / PERCENTAGE OF IMPERVIOUS AREA / SUBCATCHMENT AREA

SCALE VALID ONLY FOR 24"x36" VERSION

UPPER WELLINGTON STREET ENVIRONMENTAL ASSESSMENT

CITY OF HAMILTON

EXISTING SUBCATCHMENT BOUNDARY PLAN

(NORTH OF STONECHURCH ROAD E)

wsp

Scale 1:1000 (0 10 20 40)

Consultant File No. IM20103037

Drawing No. 3-24

Last Saved: 2025-06-27 Last Saved By: wds_richard.bartolo Plotted: 2025-06-27 Plotted By: wds_richard.bartolo Path: C:\PROJECT\2020\IM20103037- Upper Wellington EA\14 CAD\CIV\WR\PROJ\2025-06\Dwg\ ExSubcatch(BU).dwg

LIMERIDGE ROAD EAST

LINCOLM M. ALEXANDER PARKWAY

CATCHMENT 'F'

H01 | 0.41ha | 88.9%

F01 | 9.54ha | 33.9%

F02-1 | 0.49ha | 3.0%

F02-2 | 0.54ha | 38.1%

F02-3 | 0.01ha | 3.0%

F02-4 | 3.03ha | 3.0%

F02-5 | 0.36ha | 89.9%

F02-6 | 0.13ha | 4.0%

F02-7 | 1.79ha | 50.1%

F02-8 | 1.47ha | 40.2%

F02-9 | 5.51ha | 9.6%

F04-03 | 9.66ha | 3.8%

F04-14 | 5.50ha | 36.6%

F04-17 | 0.60ha | 48.2%

F04-18 | 1.83ha | 53.2%

C18-19 | 0.88ha | 32.3%

C18-22 | 0.47ha | 44.9%

C18-24 | 0.19ha | 29.0%

C18-25 | 0.23ha | 46.9%

C18-26 | 0.07ha | 3.0%

C18-27 | 0.23ha | 4.2%

COLIN CRESCENT

TOWERCREST DRIVE

SIRENTE DRIVE

NEWPORT CRESCENT

UPPER WELLINGTON STREET

RALEANA CRESCENT

MATCHLINE
(SEE DRAWING 2)

CATCHMENT 'C'

LEGEND

- STUDY AREA
- PROPERTY LINE
- WATERCOURSE
- CONTOUR (1m)
- EXISTING STORM SEWER AND PIPE SIZE (mmø)
- EXISTING STORM MAINTENANCE HOLE
- EXISTING STORM CATCHBASIN
- CATCHMENT BOUNDARY
- SUBCATCHMENT BOUNDARY
- C19-1 | 0.49ha | 72.9% — SUBCATCHMENT ID#, PERCENTAGE OF IMPERVIOUS AREA, SUBCATCHMENT AREA

SCALE VALID ONLY FOR 24"x36" VERSION

UPPER WELLINGTON STREET ENVIRONMENTAL ASSESSMENT

CITY OF HAMILTON

EXISTING SUBCATCHMENT BOUNDARY PLAN

(SOUTH OF LIMERIDGE ROAD E)

wsp

Scale 1:1000 (0 10 20 40)

Consultant File No. IM20103037

Drawing No. 3-25

Last Saved: 2025-06-27 Last Saved By: wds_richard.bartolo Plotted: 2025-06-27 Plotted By: wds_richard.bartolo Path: C:\PROJECT\2020\IM20103037- Upper Wellington EA\14 CAD\CIV\WR\PROJ\2025-06\Dwg2 ExSubcatch(BU).dwg

3.5.2 Utilities

The following public and private utilities were identified along the Study Corridor through a review of the City's Interactive Mapping and a locate request to Ontario One Call:

- Hydro Poles and Distribution Lines – Alectra Utilities
- Bell Canada
- Rogers
- Gas – Enbridge Gas
- Watermain – City
- Storm and Sanitary Sewers – City
- Streetlights – City

4 ALTERNATIVE SOLUTIONS

4.1 Identification of Preliminary Alternative Solutions

Phase 2 of the Class EA process requires that various reasonable solutions shall be identified to address the problem and opportunity. The potential solutions are then evaluated against criteria related to transportation, natural, social, economic, and cultural environments and technical considerations. For this project, the following four (4) alternative solutions were initially identified and evaluated to identify a preliminary preferred solution.

- **Alternative Solution 1 - Do Nothing:** No improvements to the Upper Wellington Street.
- **Alternative Solution 2 - Manage Transportation Demand:** Using policies, programs, and services to influence travel behavior.
- **Alternative Solution 3 - Improve Other North-South Roads:** Improvements to the other north-south roads: Upper Wentworth Street to the east, or Upper James Street to the west.
- **Alternative Solution 4 - Improve Upper Wellington Street (Four-lane Cross-section):** Widening of Upper Wellington Street between Stone Church Road East and Towercrest Drive / Sirente Drive from two traffic lanes to four traffic lanes, providing/extending dedicated turn lanes, providing active transportation facilities and/or improving transit system efficiency between Stone Church Road East and Towercrest Drive / Sirente Drive.

4.2 Preliminary Preferred Solution (Four-lane Cross-section with Active Transportation Facilities)

To identify the impacts and advantages of each alternative solution, evaluation criteria were developed within each of the categories related to transportation, social, natural, and cultural environments and technical and cost considerations. These criteria were chosen based on their ability to identify potential positive and negative effects of each alternative and distinguish the advantages and disadvantages between them.

The **Alternative Solution 4 – Improve Upper Wellington Street (Four-lane Cross-section)** was initially identified as the preliminary preferred solution.

4.3 Revision to Alternative Solution 4 following PIC #1

As required by the Municipal Class EA process, PIC #1 was held in June 2021 to share the preliminary preferred solution for review and input by the Indigenous Nations, the public, impacted property owners, government agencies, utilities owners, and interested stakeholder groups. At PIC#1, some members of the public questioned the need for a four-lane cross-section, noting that the section of Upper Wellington Street, to the south of Stone Church Road, has a three-lane cross-section and inquired if a three-lane cross-section would work in the subject section. The members of public also shared additional concerns related to the proposed widening, including impacts on private property, loss of trees, and a possibility of increased vehicle speeds along the Study Corridor. Section 9 provides a description of the consultation program, including feedback from PIC #1.

As a result of feedback from the public at PIC #1, further analysis was suggested by the City staff to build a potential case for a three-lane cross-section. A thorough review was conducted to assess the growth rate along Upper Wellington Street based on the available historical data along other parallel corridors. Based on the updated traffic assessment, it was determined that Upper Wellington Street is a good candidate for a three-lane cross-section. Benefits of a three-lane cross-section compared to a four-lane include:

- Consistency with the existing cross-section south of Stone Church Road
- Overall less property impacts, less likelihood of impacts to utilities and mature trees
- Lower operating speeds and safer conditions for all road users
- More attractive to cyclists
- Lower overall construction costs

Due to the above reasons, Alternative Solution 4 was revised to include the following improvements for the Study Corridor:

- **Stone Church Road East to Towercrest Drive / Sirente Drive:** Widening from two to three traffic lanes, including a dedicated centre turn lane and active transportation facilities.
- **Towercrest Drive / Sirente Drive to Limeridge Road East:** Road diet to reduce from a four-lane cross-section with a two-lane cross-section with a centre turn lane at the intersections, and active transportation facilities.

A description of the evaluation of revised alternative solutions is provided in the following sub-sections, and a description of consultation program is provided in Section 9.

4.4 Evaluation of Revised Alternative Solutions

This section provides an evaluation of the alternative solutions. The alternatives were assigned a score based on the scoring system presented below:

○	◔	◑	◕	●
Highest negative impacts or lowest benefits	Higher negative impacts or lower benefits	Moderate negative impacts and benefits	Lower negative impacts or greater benefits	Lowest negative impacts or greatest benefits

Alternatives with the lowest anticipated impacts or highest benefits were assigned the highest score, represented by a full dark circle. Alternatives with the highest anticipated impacts or lowest benefits received the lowest score, represented by a white circle with a black outline. Alternatives with moderate impacts and benefits were given a moderate score, shown as a half dark circle. The evaluation results of the alternative solutions are presented in the table on the following pages.

Table 4-1: Evaluation of Revised Alternative Solutions

Evaluation Criterion	Alternative Solution 1 – Do Nothing	Alternative Solution 2 - Manage Transportation Demand	Alternative Solution 3 - Improve Other North-South Roads	Alternative Solution 4 – Improve Upper Wellington Street
Transportation				
Addresses recommendations of the Transportation Master Plan Review and Update (2018)	Does not address the recommendations of the City of Hamilton Transportation Master Plan Review and Update (2018) for improvements to Study Corridor ○	This alternative is being implemented through Transportation Demand Management Land Development Guidelines (2015) ◑	Does not address the recommendations of the City of Hamilton Transportation Master Plan Review and Update (2018) for improvements to Study Corridor ○	Addresses the recommendations of the City of Hamilton Transportation Master Plan Review and Update (2018) for improvements to Study Corridor ●
Potential to improve existing and future traffic congestion and level of service along Study Corridor	Does not provide opportunities to address existing and future traffic congestion and improve level of service along Study Corridor, resulting in undesirable traffic congestion ○	May reduce traffic demand to some degree, however, this solution alone will not accommodate future traffic capacity and improve level of service associated with traffic growth along Study Corridor ◑	Does not provide opportunities to address existing and future traffic congestion and improve level of service along Study Corridor, resulting in undesirable traffic congestion ○	Provides opportunities to improve existing and future traffic congestion and level of service along Study Corridor ●
Potential to improve road safety for all users along Study Corridor	Does not improve road safety along Study Corridor ○	Does not improve road safety along Study Corridor ○	Does not improve road safety along Study Corridor ○	Provides opportunities to improve road safety along Study Corridor ●
Potential to incorporate active transportation facilities along Study Corridor	Does not provide opportunities to incorporate active transportation facilities along Study Corridor ○	Does not provide opportunities to incorporate active transportation facilities along Study Corridor ◑	Does not provide opportunities to incorporate active transportation facilities along Study Corridor ○	Provides opportunities to incorporate active transportation (dedicated pedestrian and cycling facilities) along Study Corridor ●
Potential to improve transit service and experience along Study Corridor	Does not provide opportunities to improve transit service and experience along Study Corridor ○	Reduces transit delays as a result of shift to travel modes, reducing number of trips, and travelling efficiently ◑	Improvements on other north-south roadways will not improve transit on service and experience along Study Corridor ○	Provides opportunities to improve transit service and experience along Study Corridor due to reduced traffic congestion ●
Social Environment				
Potential for property requirements	No property required ●	No property required ●	Private property may be required to incorporate improvements on other roads ◑	Private property will likely be required to accommodate improvements ○
Supports future growth and economic sustainability along Study Corridor	Do nothing scenario will not provide a good level of service for all modes of transportation (vehicular and pedestrian traffic, cycling, and transit), which collectively support economic development ○	City's Transportation Demand Management initiatives will support future economic growth by providing a good level of service for all modes of transportation (vehicular and pedestrian traffic, cycling, and transit), which collectively support economic development ●	Improvements to the other north-south roads will not support growth and economic sustainability along Study Corridor ◑	Supports future growth and economic sustainability along Study Corridor by providing a good level of service for all modes of transportation (vehicular and pedestrian traffic, cycling, and transit), which collectively support economic development ●
Ability to provide opportunities to enhance streetscaping, landscaping, and public realm along Study Corridor	Does not provide opportunities to enhance streetscaping, landscaping and the public realm along Study Corridor ○	Does not provide opportunities to enhance streetscaping, landscaping and the public realm along Study Corridor ○	Does not provide opportunities to enhance streetscaping, landscaping and the public realm along Study Corridor ○	Provides opportunities to enhance streetscaping, landscaping and the public realm along Study Corridor ●
Provides opportunities to improve accessibility and reduce barriers along Study Corridor	Does not provide opportunities to improve accessibility and reduce barriers along Study Corridor ○	Does not provide opportunities to improve accessibility and reduce barriers along Study Corridor ○	Does not provide opportunities to improve accessibility and reduce barriers along Study Corridor ◑	Provides opportunities to improve accessibility/reduce barriers by providing dedicated active transportation facilities ●
Potential to improve emergency response time along Study Corridor	Does not provide opportunities to improve emergency response times along Study Corridor ○	May improve emergency response times due to shift to travel modes, reducing number of trips, and travelling efficiently ◑	Potential for minor improvements in emergency response times due to traffic diversion to other roads ◑	Potential for improvements to emergency response times due to decreased traffic congestion along Study Corridor ●
Impacts to residents, businesses and institutions along Study Corridor	No construction related impacts to residents, businesses and institutions along Study Corridor ●	No construction related impacts to residents, businesses and institutions ●	Potential short-term construction related impacts along other roads. Construction impacts can be mitigated through noise, dust and odour mitigation and traffic staging and planning ◑	Potential short-term construction related impacts along Study Corridor. Construction impacts can be mitigated through noise, dust and odour mitigation and traffic staging and planning ◑
Natural Environment				
Impacts to terrestrial resources and wildlife	No impacts on terrestrial resources and wildlife are anticipated ●	No impacts on terrestrial resources and wildlife are anticipated ●	Potential impacts associated with vegetation removal elsewhere ◑	A woodlot (Linkage feature) located on the southwest corner of Upper Wellington Street and Towercrest Drive intersection. Minor vegetation/tree removal along the edges of the woodlot are anticipated road widening. Effects on terrestrial resources and wildlife could be avoided and minimized by adhering to

Evaluation Criterion	Alternative Solution 1 – Do Nothing	Alternative Solution 2 - Manage Transportation Demand	Alternative Solution 3 - Improve Other North-South Roads	Alternative Solution 4 – Improve Upper Wellington Street
				sensitive ecological timing windows (for example, completing vegetation and tree removals outside of the sensitive bird and bat windows) and implementation of appropriate mitigation measures.
Impacts to trees	No impacts to trees are anticipated ●	No impacts to trees are anticipated ●	Potential for tree removal elsewhere ◑	Trees along Study Corridor will require removal to incorporate improvements. A Tree Protection Plan will be required in accordance with Hamilton's Tree Protection Guidelines to provide compensation for tree loss. ◑
Effects on fish and fish habitat	There are no watercourses along the Study Corridor. Effects are not anticipated on fish and fish habitat. ●	There are no watercourses along the Study Corridor. Effects are not anticipated on fish and fish habitat. ●	There are no watercourses along the Study Corridor. Effects are not anticipated on fish and fish habitat. ●	There are no watercourses along the Study Corridor. Effects are not anticipated on fish and fish habitat. ●
Cultural Environment				
Potential impacts to lands identified to retain potential archaeological resources	No impacts to areas of archaeological potential. ●	No impacts to lands identified to retain potential archaeological resources. ●	Potential impacts to lands identified elsewhere to retain potential archaeological resources. ◑	The Stage 1 Archaeological Assessment determined that majority of the Study Area has been previously disturbed. This option would result in minor encroachment into areas of archaeological potential. A Stage 2 Archaeological Assessment and any further recommended assessment (e.g., Stage 3 and 4) caried out by a licensed archaeologist would be required as early as possible during detailed design and prior to any ground disturbing activities to determine impacts and potential mitigation measures. ◕
Potential impacts on built heritage and cultural heritage landscapes	No impacts to built heritage and cultural heritage landscapes ●	No impacts to built heritage and cultural heritage landscapes ●	Potential impacts to built heritage and cultural heritage landscapes elsewhere ◑	The Cultural Heritage Report identified three (3) known inventoried heritage properties along Study Corridor, of which two (2) are extant, and one (1) has been demolished. Indirect impacts associated with land disturbance and property acquisitions are anticipated on the two (2) inventoried heritage properties. ◕
Technical Environment				
Provides opportunities to reduce stormwater quantity and improve stormwater quality	Does not provide opportunities to reduce stormwater quantity/ improve quality ○	Does not provide opportunities to reduce stormwater quantity/ improve quality ○	May provide opportunities to reduce stormwater quantity and/or improve stormwater quality elsewhere. ◑	The impervious surface area associated with the roadway will slightly increase. The Stormwater Management Assessment Report proposed stormwater management measures to provide stormwater quality and quantity controls. ◕
Climate change considerations (climate change mitigation and climate change adaptation)	Does not provide opportunities to reduce production of greenhouse gas emissions. Does not provide opportunities to incorporate improvements to increase resilience to climate change ○	Provides opportunities to reduce greenhouse gas emissions through promotion of active transportation and anticipated reduction in reliance on auto travel. Does not provide opportunities to incorporate improvements to increase resilience to climate change ◕	Provides opportunities to reduce greenhouse gas emissions through provision of active transportation facilities, and improved transit infrastructure and anticipated reduction in reliance on auto travel. Opportunities to increase resilience to climate change through provision of appropriate stormwater management measures elsewhere. ◕	Provides opportunities to reduce greenhouse gas emissions through provision of active transportation facilities, and improved transit infrastructure and anticipated reduction in reliance on auto travel. Opportunities to increase resilience to climate change through provision of appropriate stormwater management features. ◕
Economic Environment				
Cost to construct	No construction costs ●	Low potential implementation costs ●	Anticipated high capital costs ○	Anticipated high capital costs ○
Cost to operate and maintain	No operation and maintenance costs ●	Low potential maintenance costs ●	Anticipated low potential operation and maintenance costs ●	Anticipated low potential operation and maintenance costs ●
Recommendation	**Not Recommended**	**Not Recommended**	**Not Recommended**	**Recommended**

4.5 Preferred Solution (Three-lane Cross-section with Active Transportation Facilities)

Based on the evaluation provided in the preceding table, **Alternative Solution 4 – Improve Upper Wellington Street** was identified as the preferred solution. This solution includes the following improvements for the Study Corridor:

- **Stone Church Road East to Towercrest Drive / Sirente Drive:** Widening from two to three traffic lanes, including a dedicated centre turn lane and active transportation facilities.
- **Towercrest Drive / Sirente Drive to Limeridge Road East:** Road diet to reduce from a four-lane cross-section with a two-lane cross-section with a centre turn lane at the intersections, and active transportation facilities.

The key benefits of **Alternative Solution 4 – Improve Upper Wellington Street** are:

- Alignment with the recommendations of the City's transportation plans, including Pedestrian Mobility Plan (2012), TMP Review and Update (2018), Cycling Master Plan Review and Update (2018), Cycling Committee's Motion (2022), Complete Streets Design Guidelines (2022), and the Accelerated Active Transportation Implementation Plan (2024–2028) (2023).Reduced traffic congestion, leading to improved level of service, potentially faster emergency response, and enhanced transit.
- Enhanced road safety and accessibility through dedicated pedestrian and cycling facilities.
- Support for economic growth via efficient transportation for all modes, alongside opportunities for streetscape and public realm enhancements.

The updated preferred solution was shared at PIC #2, held in December 2024.

5 ROAD DESIGN OPTIONS

Phase 3 of the Municipal Class EA process involves developing and evaluating the alternative design options for the Preferred Solution to identify the recommended design. As noted in the preceding section, the following was identified as the Preferred Solution for the Study Corridor:

- **Stone Church Road East to Towercrest Drive / Sirente Drive:** Widening from two to three traffic lanes, including a dedicated centre turn lane and active transportation facilities.
- **Towercrest Drive / Sirente Drive to Limeridge Road East:** Road diet to reduce from a four-lane cross-section with a two-lane cross-section with a turn lanes at the intersections, and active transportation facilities.

For this project, Phase 3 of the Class EA process involved the following activities:

- Dividing the Study Area corridor into two segments based on constraints and opportunities
- Identifying guidelines for designing the Upper Wellington Street within the Study Area as a safe street for all road users (i.e., complete streets approach)
- Developing road design options and evaluating them to identify the preferred design for all road users (motorists, transit users, pedestrians, and cyclists).

The preceding actions are discussed in the sections below.

5.1 Dividing Study Corridor into Segments

The characteristics along the Study Corridor vary, as there are different constraints and opportunities. For example, between Stone Church Road and Towercrest Drive / Sirente Drive, the existing road right of way varies between approximately 20 m and 25 m. This segment is constrained by street trees, hydro poles, and private properties.

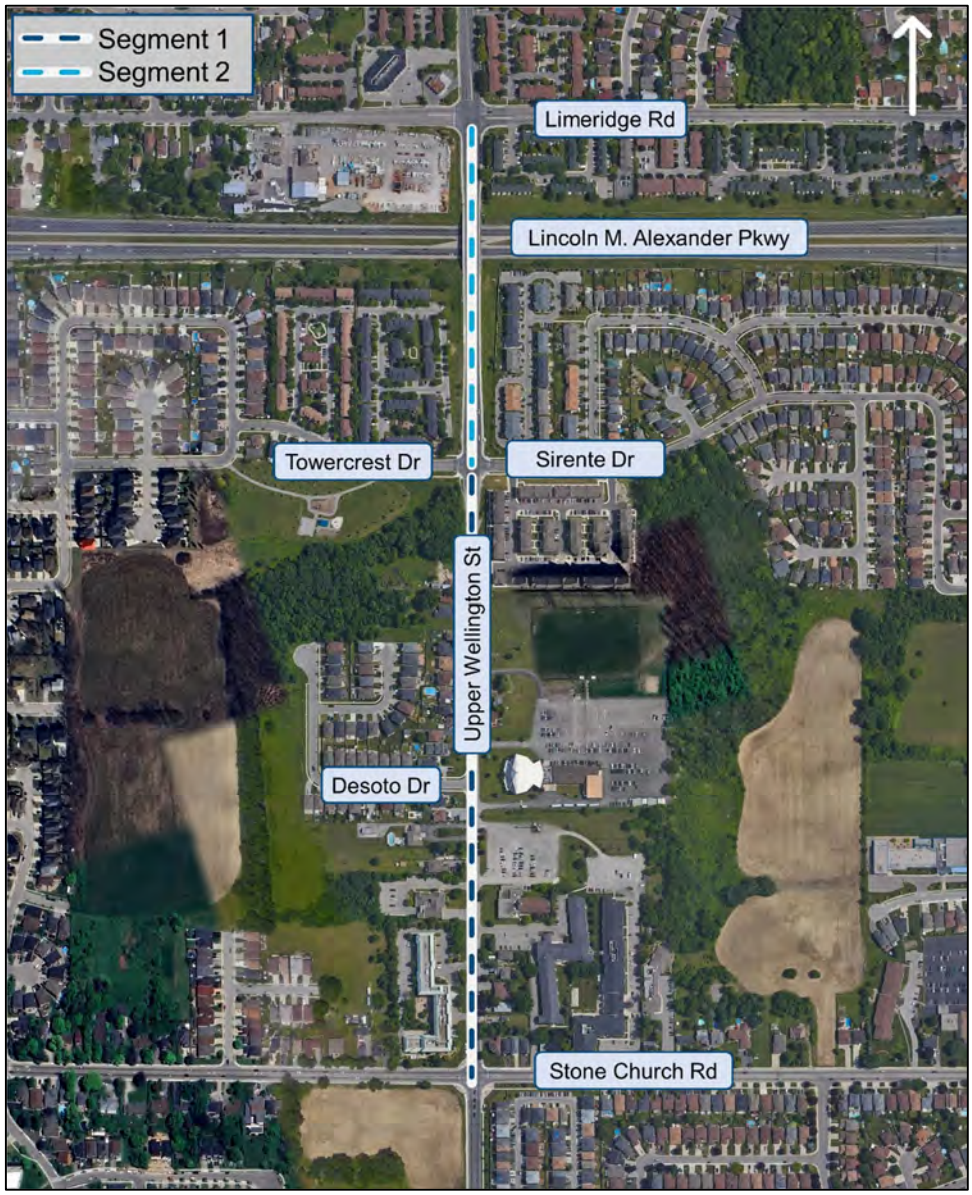
Between Towercrest Drive / Sirente Drive and Limeridge Road, the existing road right of way varies between approximately 25 m and approximately 58 m. This segment of the roadway crosses the Lincoln Alexander Parkway via an overpass bridge.

Considering these characteristics, the Study Corridor was split into the following two segments:

- **Segment 1:** Upper Wellington Street between Stone Church Road and Towercrest Drive / Sirente Drive
- **Segment 2:** Upper Wellington Street between Towercrest Drive / Sirente Drive and Limeridge Road

Study Corridor segments are shown in the following figure.

Figure 5-1: Study Corridor Segments



5.2 Identifying Design Guidelines for Complete Streets Approach

As discussed in Section 2.1.8, the Study Corridor was identified to have “Connectors” typology under City’s Complete Streets Design Guidelines (2022). Characteristics of Connectors corridors were considered in the development of road design options (see Figure 2-3 and Figure 2-4).

5.3 Development of Road Design Options

As discussed in Section 5.1, the characteristics of the north and south segments of the Study Corridor vary significantly. The following information related to existing and future context of the Study Corridor was considered in identifying road design options:

South of the Study Corridor:

- Upper Wellington Street, south of Stone Church Road, has urban cross-section with three lanes of traffic (one in each direction plus a centre turning lane), on-road bike lanes, and sidewalks on both sides of the road.

Along the Study Corridor (Segment 1 and Segment 2):

- Segment 1 of the Study Corridor transitions to a rural cross-section with one lane in each direction. There is a concrete sidewalk on the east side that transitions to an asphalt path and subsequently turns to a gravel shoulder. There is a sidewalk on the west side, which transitions to an asphalt path north of Desoto Drive. There are no bike lanes in this section, and frequent driveways provide access to and from the Upper Wellington Street. The existing road right of way varies between approximately 20 m and 25 m. This segment is also characterized by many mature street trees and private properties adjacent to the road right of way.
- Segment 2 features an urban cross-section with two lanes in each direction and sidewalks on both sides. This segment includes an overpass bridge just south of Limeridge Road East providing an elevated right-of-way above the Lincoln M. Alexander Parkway. Currently, the bridge has a length of 15 meters (2x7.5m) between the expansion two joints, with two sidewalks each measuring 2.0m in width. There are no bike lanes in this segment. The existing road right of way varies between approximately 25 m and approximately 58 m.
- Land use along the Study Corridor is primarily residential, with some institutional land-use (e.g., retirement home, places of worship) and commercial land use.
- City's Transportation Master Plan Review and Update (2018) recommended road widening for this corridor (City of Hamilton, 2018a).
- The City's Cycling Master Plan Review and Update (2018) recommended installing bike lanes along the Study Corridor during road reconstruction (City of Hamilton, 2018b). Hamilton Pedestrian Mobility Plan (2012) identifies Study Corridor as a "Suburban Context Area", with recommended sidewalk clear-zone widths of at least 1.5 metres (City of Hamilton, 2012).
- The Accelerated Active Transportation Implementation Plan (2024–2028) (November 2023) recommended separated cycle facilities for this corridor (City of Hamilton, 2023).

North of the Study Corridor:

- Upper Wellington Street, north of the Study Corridor, has urban cross-section with two lanes of traffic in each direction, and sidewalks on both sides of the road. There are no bike lanes in this area.

- The Cycling Master Plan Review and Update (2018) recommended installing bike lanes on Upper Wellington Street north of the Study Corridor (City of Hamilton, 2018b).

Based on the current and future context of the Study Corridor, the road design options included on-street and off-street bike lanes and sidewalks on both sides. Multi-use paths were considered but not carried forward for evaluation due to the following reasons:

- Providing multi-use path(s) along the Study Corridor would make the active transportation facilities in this segment inconsistent with the existing bike lanes along Upper Wellington Street on the south side of Stone Church Road, and future bike lanes on the north side of Limeridge Road.
- Connecting multi-use path(s) to the existing bike lanes to the south of Stone Church Road and future bike lanes to the north of Limeridge Road will create challenges and will require the two respective intersections to be extensively rebuilt to accommodate cyclists transferring from one side of the road to the other. This will create a design that will be confusing to use if a full intersection rebuilt cannot occur.
- Multi-use path(s) would not provide separate space for pedestrians and cyclists, which may create safety concerns (both real and perceived).
- Considering the retirement/long-term care home for seniors along the corridor (The Wellington) and Pauline Johnson Elementary School to the north of the Limeridge Road, separate pedestrian and cycling infrastructure may be considered a more equitable transportation investment from an equity planning perspective. Providing separate pedestrian and cycling infrastructure will help avoid pedestrian-cyclist conflicts along the corridor and will encourage use of facilities by the vulnerable road users.
- Multi-use path(s) would be inconsistent with the recommendation of City's Cycling Master Plan Review and Update (2018), which recommended installing bike lanes within the Study Corridor.

The following sections discuss the road design options that were identified and evaluated for the Study Corridor. The design options with bike lanes and sidewalks presented below conform with City's Complete Streets Design Guidelines (2022).

5.3.1 Road Design Option 1 – Three-lane Cross-section with Sidewalks and On-Street Bike Lanes

Design features of this road design option for both segments are discussed below and illustrated in Figure 5-2 and Figure 5-3

Figure 5-3:

Segment 1: Upper Wellington Street between Stone Church Road and Towercrest Drive / Sirente Drive

- Widening from two traffic lanes to three traffic lanes (3.3 m wide through lanes, and 3.0 m wide centre-turn lane)

- 1.5 m wide on-street bike lanes on both sides with 0.5 m buffers
- 3 m wide boulevards on both sides
- 1.8 m wide sidewalks with 0.5 m wide curbs on both sides

Segment 2: Upper Wellington Street between Towercrest Drive / Sirente Drive and Limeridge Road

- Reducing from four through lanes to two 3.3 m wide through lanes
- Turn lanes at the intersections
- 1.5 m wide on-street bike lanes on both sides with 0.7 m buffers
- 1.8 m wide sidewalks on both sides

Figure 5-2: Segment 1 - Road Design Option 1 – Sidewalks and On-Street Bike Lanes

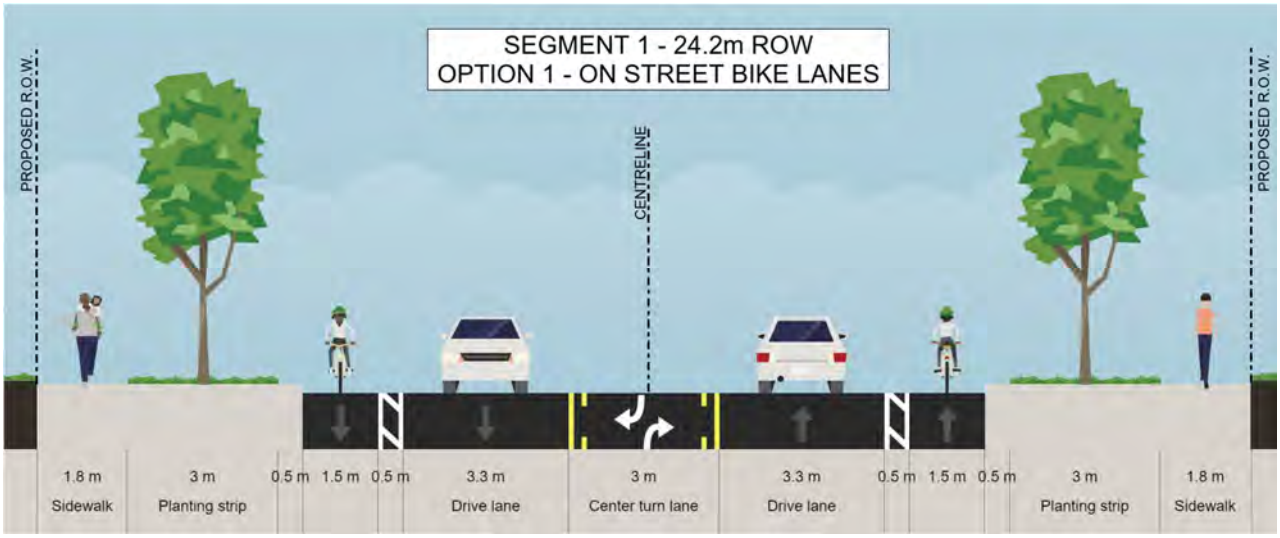
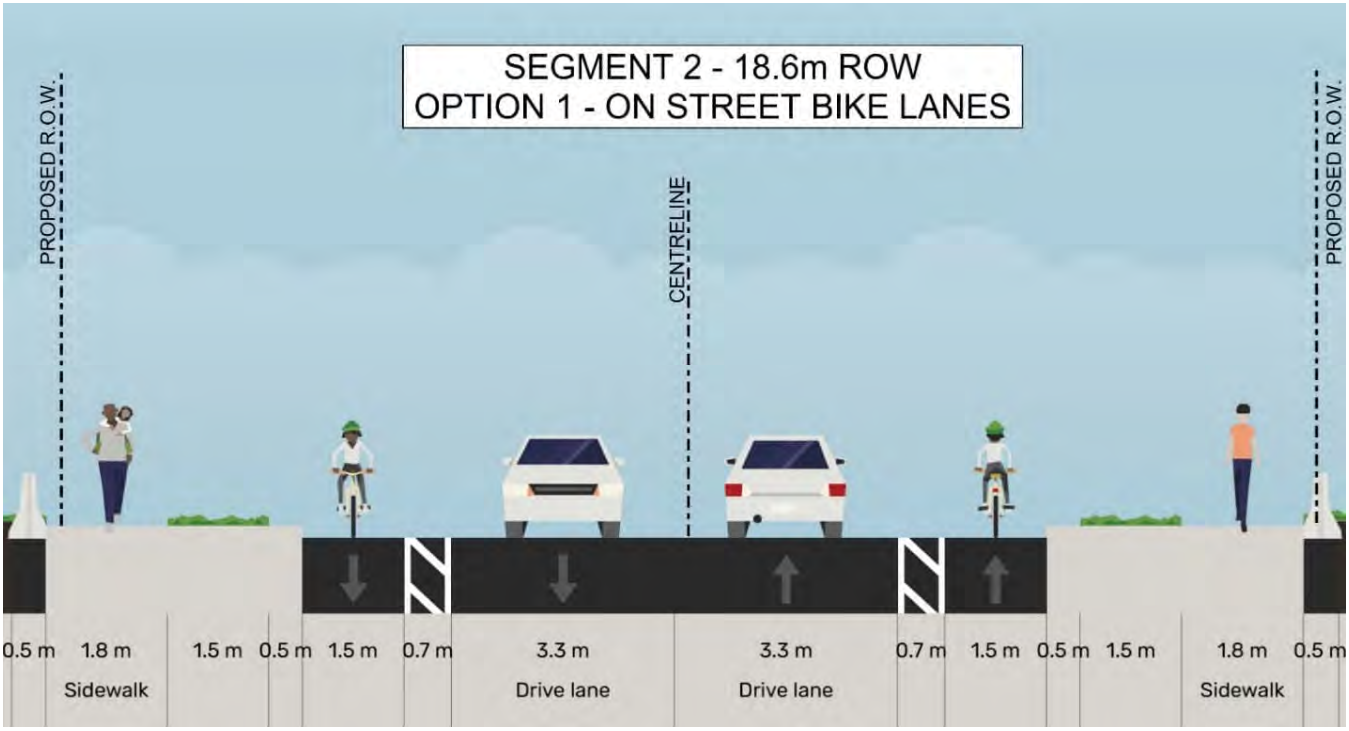


Figure 5-3: Segment 2 - Road Design Option 1 – Sidewalks and On-Street Bike Lanes



5.3.2 Road Design Option 2 – Three-lane Cross-section with Sidewalks and Off-Street Bike Lanes

Design features of this road design option for both segments are discussed below and illustrated in Figure 5-4 and Figure 5-5:

Segment 1: Upper Wellington Street between Stone Church Road and Towercrest Drive / Sirente Drive

- Widening from two traffic lanes to three traffic lanes (3.3 m wide through lanes, and 3.0 m wide centre-turn lane)
- 3 m wide boulevards with 0.5 m wide curbs on both sides
- 1.5 m wide off-street bike lanes on both sides with 0.6 m buffer strips
- 1.8 m wide sidewalks on both sides

Segment 2: Upper Wellington Street between Towercrest Drive / Sirente Drive and Limeridge Road

- Reducing from four through lanes to two 3.3 m wide through lanes, separated by a 3.0 m wide median
- Turn lanes at the intersections

- 1.8 m wide off-street bike lanes on both sides
- 1.8 m wide sidewalks with 0.6 m buffers on both sides

Figure 5-4: Segment 1 - Road Design Option 2 – Sidewalks and Off-Street Bike Lanes

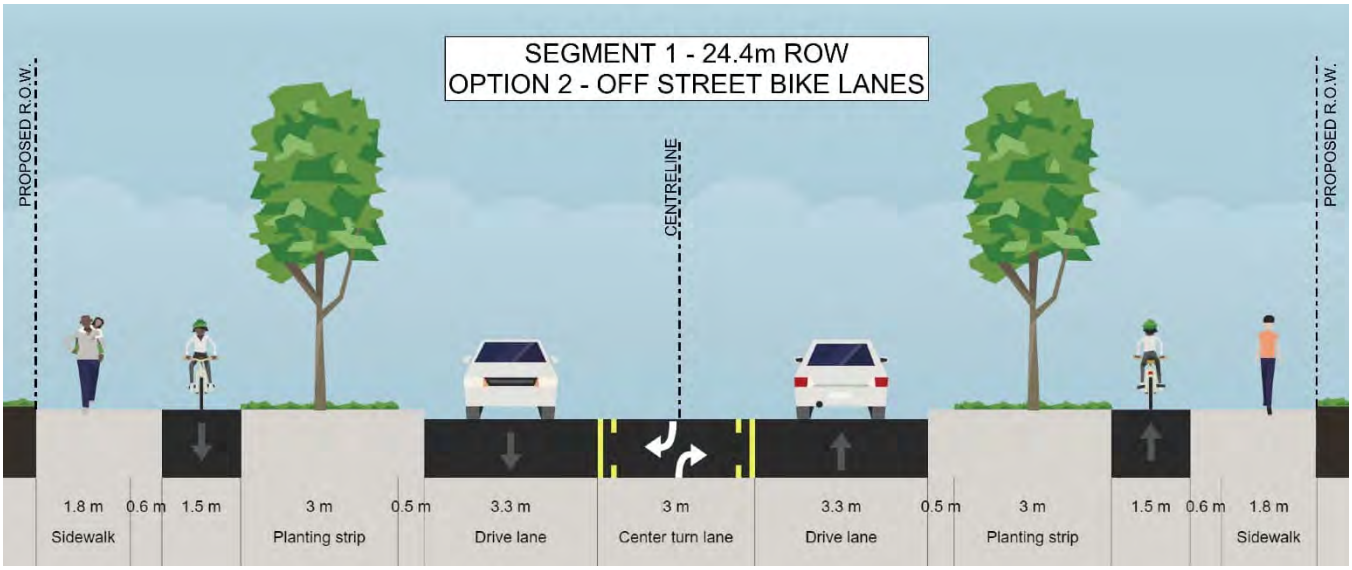
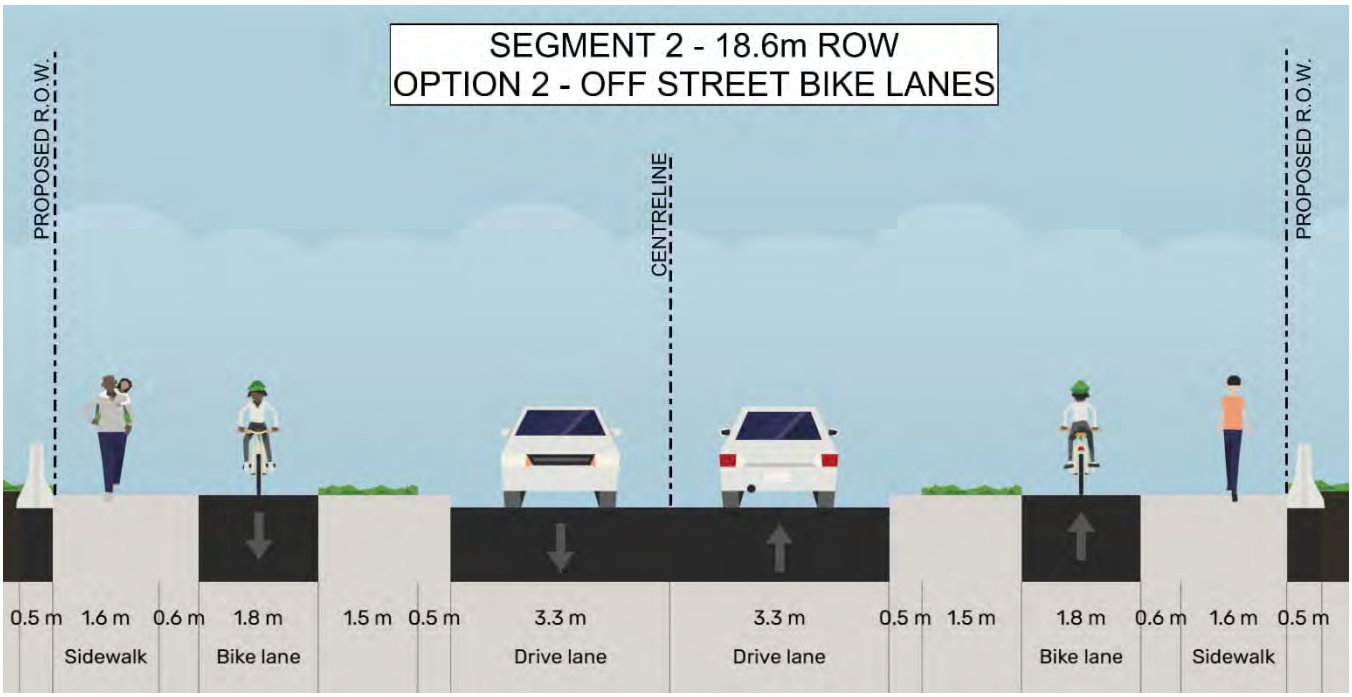


Figure 5-5: Segment 2 - Road Design Option 2 – Sidewalks and Off-Street Bike Lanes



5.4 Evaluation of Road Design Options

To identify the impacts and benefits of both road design options, evaluation criteria were developed within each of the categories related to transportation, social and economic, natural, and cultural environments and technical and cost considerations. These criteria were chosen based on their ability to identify potential positive and negative effects of each option and distinguish the advantages and disadvantages between them. The design options were assigned a score based on the following scoring system:

○	◔	◑	◕	●
Highest negative impacts or lowest benefits	Higher negative impacts or lower benefits	Moderate negative impacts and benefits	Lower negative impacts or greater benefits	Lowest negative impacts or greatest benefits

Alternatives represented by a full dark circle symbol were given the highest score where the evaluation criteria resulted in the lowest anticipated impacts, or highest benefits from the road design option. Where the road design option had the highest anticipated impact or lowest benefit according to the evaluation criteria, a lowest score represented by white circle with black outline was assigned. Design options with moderate anticipated impacts and benefits received a moderate score, as represented by a half dark circle. Evaluation of design options is provided in the following table.

Table 5-1: Evaluation of Road Design Options

Evaluation Criterion	Road Design Option 1 – Three-lane Cross-section with Sidewalks and On-Street Bike Lanes	Road Design Option 2 – Three-lane Cross-section with Sidewalks and Off-Street Bike Lanes
Transportation		
Effects on road alignment and profile	The existing horizontal alignment is maintained for both options. The future road profile is proposed based on design speed and associated geometric design guidelines. ●	The existing horizontal alignment is maintained for both options. The future road profile is proposed based on design speed and associated geometric design guidelines ●
Accommodates all road users (pedestrians, cyclists, transit customers and auto drivers)	This option would provide separate facilities (sidewalks, bike lanes, transit stops, and vehicle lanes), which will provide opportunities to accommodate all road users (pedestrians, cyclists, transit customers and auto drivers). This option would be less preferred compared to Option 2, as the horizontal and vertical separation between bike lanes and traffic lanes would be minimal. ◕	This option would provide separate facilities (sidewalks, bike lanes, transit stops, and vehicle lanes), which will provide opportunities to accommodate all road users (pedestrians, cyclists, transit customers and auto drivers). This option would be more preferred compared to Option 1, as physically separated bike lanes from traffic lanes would offer the highest degree of safety and comfort for cyclists. ●
Safety and comfort for all road users (pedestrians, cyclists, transit customers and auto drivers)	**Pedestrians:** This option would provide a dedicated pedestrian facility that would be safe and comfortable for pedestrians, including vulnerable users (e.g., seniors, school students, etc.) **Cyclists:** Although the bike lanes would be separated from the traffic lanes, the horizontal buffer is minimal (i.e., a 0.5 m painted buffer) compared to the physical separation offered by Option 2 (a 3.0 m boulevard). This option would not include vertical barriers (e.g., pre-cast curbs and flexposts) due to the frequent driveways along the corridor, making it challenging to introduce such separation. Additionally, transit and waste collection vehicles would need to enter the bike lanes to pick up and drop off passengers and collect waste, respectively, increasing potential conflict points between these vehicles and cyclists. Overall, this option may be perceived as less safe compared to Option 2. ◕ **Transit Customers:** Dedicated bus shelters are anticipated to improve bus user experience. **Auto drivers:** The centre-turn lane is expected to provide safer maneuver for drivers entering or existing Upper Wellington Street with reduced chances of rear-end collision as compared to existing condition.	**Pedestrians:** This option would provide a dedicated pedestrian facility that would be safe and comfortable for pedestrians, including vulnerable users (e.g., seniors, school students, etc.) **Cyclists:** Physically separated bike lanes would provide the greatest horizontal separation (3.0 m boulevard), which would provide the comfort and safety of cyclists by eliminating the possibility of vehicle encroachment into the bike lanes compared to on-street bike lanes. Additionally, transit and waste collection vehicles would no longer need to enter the bike lanes to pick up and drop off passengers and collect waste, respectively, eliminating potential conflict points between these vehicles and cyclists. Overall, this option would be perceived as safer compared to Option 1. ● **Transit Customers:** Dedicated bus shelters are anticipated to improve bus user experience. The raised bike lanes would offer better connections to the transit stops along the corridor by allowing cyclists to seamlessly connect to/from the bus without having to jump the curb at the stop locations. **Auto drivers:** The centre-turn lane is expected to provide safer maneuver for drivers entering or existing Upper Wellington Street with reduced chances of rear-end collision as compared to existing condition.
Alignment with City's Transportation Policies and Directives	This option addresses the recommendation of City's Transportation Master Plan Review and Update (2018), which recommend widening of this corridor (City of Hamilton, 2018a). This option also addresses the recommendation of City's Cycling Master Plan and Update (2018), which recommended bike lanes for this corridor (it did not identify specific bike facility type i.e., on-street or off-street bike lanes) (City of Hamilton, 2018b). This option does not align with the City's Cycling Committee's Motion, which requested physically separated bike lanes for this corridor (City of Hamilton Cycling Committee, 2022). ◕ This option does not align with City's Council Approved Proposed Accelerated Active Transportation Implementation Plan (2024–2028) (November 2023), which recommends separated cycle facilities for this corridor (City of Hamilton, 2023).	This option addresses the recommendation of City's Transportation Master Plan Review and Update (2018), which recommend widening of this corridor (City of Hamilton, 2018a). This option also addresses the recommendation of City's Cycling Master Plan and Update (2018), which recommended bike lanes for this corridor (it did not identify specific bike facility type i.e., on-street or off-street bike lanes) (City of Hamilton, 2018b). This option aligns with City's Cycling Committee's Motion, which requested physically bike lane for this corridor (City of Hamilton Cycling Committee, 2022). ● This option aligns with City's Council Approved Proposed Accelerated Active Transportation Implementation Plan (2024–2028) (November 2023), which recommends separated cycle facilities for this corridor (City of Hamilton, 2023).
Social Environment		
Planning for Equity	There are several institutions along the corridor that will generate a large number of "peaked" trips throughout the week (e.g., Bethel Gospel, Kingdom Worship) as well as a retirement/long-term care home for seniors (The Wellington), who are considered as vulnerable road users. In addition, elementary students living in the neighbourhood to the east of Upper Wellington Street generally do not qualify for bussing to Pauline Johnson Elementary School (to the north of the Lincoln Alexander Parkway), who will be walking/riding along the road to get to the school. ◕ This option would be less preferred from an equity point of view, as on-street bike lanes may be perceived less safe compared to physically separated bike-lanes, which would offer the highest degree of safety and comfort for the vulnerable road users.	There are several institutions along the corridor that will generate a large number of "peaked" trips throughout the week (e.g., Bethel Gospel, Kingdom Worship) as well as a retirement/long-term care home for seniors (The Wellington), who are considered as vulnerable road users. In addition, elementary students living in the neighbourhood to the east of Upper Wellington Street generally do not qualify for bussing to Pauline Johnson Elementary School (to the north of the Lincoln Alexander Parkway), who will be walking/riding along the road to get to the school. ● This option would be more preferred from an equity point of view, as physically separated facilities would offer the highest degree of safety and comfort for the vulnerable road users.
Effects on private properties	Based on the current preliminary design, both options would result in some level of encroachment in 17 private properties. These property impacts would need to be confirmed during detailed design phase when the design is advanced to a sufficient level of detail and grading limits are defined. There may be opportunities at that time to reduce property impacts through design refinements. ◕	Based on the current preliminary design, both options would result in some level of encroachment in 17 private properties. These property impacts would need to be confirmed during detailed design phase when the design is advanced to a sufficient level of detail and grading limits are defined. There may be opportunities at that time to reduce property impacts through design refinements. ◕
Effects on accesses to adjacent properties	The proposed centre-turn lane is anticipated to improve access to and from the residences without causing delays to through traffic. ●	The proposed centre-turn lane is anticipated to improve access to and from the residences without causing delays to through traffic. ●
Noise effects	There will be temporary noise impacts during project construction. The contractor will be required to implement measures to limit noise emission and adhere to City's Noise by-law. ◕	There will be temporary noise impacts during project construction. The contractor will be required to implement measures to limit noise emission and adhere to City's Noise by-law. ◕

Evaluation Criterion	Road Design Option 1 – Three-lane Cross-section with Sidewalks and On-Street Bike Lanes	Road Design Option 2 – Three-lane Cross-section with Sidewalks and Off-Street Bike Lanes
Natural Environment		
Effects on terrestrial resources and wildlife	A woodlot is located on the southwest side of Upper Wellington Street and Towercrest Drive / Sirente Drive. The Natural Environment Assessment identified this woodlot to have an extensive spread of alien species, many trails, and a light amount of dumping. The Eastern Wood-pewee (a Special Concern bird species) was heard in the woodlot during the breeding bird season; this habitat is suitable for nesting. Both design options will result in minor vegetation/tree removal along the edges of the woodlot, resulting in a loss of less than 200 square metres of this area. The amount of vegetation/tree removal will be confirmed during detailed design phase, pending the final design. The City will provide tree planting within the road right of way to compensate for the loss of trees. Effects on terrestrial resources and wildlife could be avoided and minimized by adhering to sensitive ecological timing windows (for example, completing vegetation and tree removals outside of the sensitive bird and bat windows) and implementation of appropriate mitigation measures.	A woodlot is located on the southwest side of Upper Wellington Street and Towercrest Drive / Sirente Drive. The Natural Environment Assessment identified this woodlot to have an extensive spread of alien species, many trails, and a light amount of dumping. The Eastern Wood-pewee (a Special Concern bird species) was heard in the woodlot during the breeding bird season; this habitat is suitable for nesting. Both design options will result in minor vegetation/tree removal along the edges of the woodlot, resulting in a loss of less than 200 square metres of this area. The amount of vegetation/tree removal will be confirmed during detailed design phase, pending the final design. The City will provide tree planting within the road right of way to compensate for the loss of trees. Effects on terrestrial resources and wildlife could be avoided and minimized by adhering to sensitive ecological timing windows (for example, completing vegetation and tree removals outside of the sensitive bird and bat windows) and implementation of appropriate mitigation measures.
Effects on trees	Based on the current preliminary design, both options are expected to have similar impacts on trees, with approximately 45 removals anticipated. These tree impacts would need to be confirmed during detailed design phase when the design is advanced to a sufficient level of detail and grading limits are defined. There may be opportunities at that time to reduce tree impacts through design refinements. To ensure existing tree cover is maintained, the City's Tree Protection Guidelines require 1:1 compensation for any trees to be removed (City of Hamilton, 2010). A Tree Protection Plan would be required during detailed design phase to identify trees to be removed, trees to be preserved, and tree protection and maintenance measures that will be implemented during construction. Additionally, a Landscape Plan will be required to show proposed tree plantings. These plans would need to be developed in accordance with City's Tree Protection Guidelines (2010).	Based on the current preliminary design, both options are expected to have similar impacts on trees, with approximately 45 removals anticipated. These tree impacts would need to be confirmed during detailed design phase when the design is advanced to a sufficient level of detail and grading limits are defined. There may be opportunities at that time to reduce tree impacts through design refinements. To ensure existing tree cover is maintained, the City's Tree Protection Guidelines require 1:1 compensation for any trees to be removed (City of Hamilton, 2010). A Tree Protection Plan would be required during detailed design phase to identify trees to be removed, trees to be preserved, and tree protection and maintenance measures that will be implemented during construction. Additionally, a Landscape Plan will be required to show proposed tree plantings. These plans would need to be developed in accordance with City's Tree Protection Guidelines (2010).
Effects on fish and fish habitat	There are no watercourses along the Study Corridor. Effects are not anticipated on fish and fish habitat.	There are no watercourses along the Study Corridor. Effects are not anticipated on fish and fish habitat.
Effects on stormwater quantity and stormwater quality	The impervious surface area associated with the roadway will slightly increase. The Stormwater Management Assessment Report will propose stormwater management measures to provide stormwater quality and quantity controls. Stormwater management measures are recommended as part of the Stormwater Management Report.	The impervious surface area associated with the roadway will slightly increase. The Stormwater Management Assessment Report proposed stormwater management measures to provide stormwater quality and quantity controls.
Cultural Environment		
Effects on Archaeological Resources	The Stage 1 Archaeological Assessment determined that majority of the Study Area has been previously disturbed. This option would result in minor encroachment into areas of archaeological potential. A Stage 2 Archaeological Assessment and any further recommended assessment (e.g., Stage 3 and 4) caried out by a licensed archaeologist would be required as early as possible during detailed design and prior to any ground disturbing activities to determine impacts and potential mitigation measures.	The Stage 1 Archaeological Assessment determined that majority of the Study Area has been previously disturbed. This option would result in minor encroachment into areas of archaeological potential. A Stage 2 Archaeological Assessment and any further recommended assessment (e.g., Stage 3 and 4) caried out by a licensed archaeologist would be required as early as possible during detailed design and prior to any ground disturbing activities to determine impacts and potential mitigation measures.
Effects on Built Heritage Resources and Cultural Heritage Landscapes	The Cultural Heritage Report identified three (3) known inventoried heritage properties of which two (2) are extant, and one (1) has been demolished. Both options may have indirect impacts associated with land disturbance and property acquisitions on the two (2) inventoried heritage properties. The Cultural Heritage Report will outline the required mitigation measures.	The Cultural Heritage Report identified three (3) known inventoried heritage properties of which two (2) are extant, and one (1) has been demolished. Both options may have indirect impacts associated with land disturbance and property acquisitions on the two (2) inventoried heritage properties. The Cultural Heritage Report will outline the required mitigation measures.
Technical Environment		
Effects on existing utilities	30 hydro poles will require relocation. There may also be potential for impacts on other utilities (e.g., gas). Coordination will be required with the utility owner(s) during detailed design and construction phases for the relocation of hydro poles.	30 hydro poles will require relocation. There may also be potential for impacts on other utilities (e.g., gas). Coordination will be required with the utility owner(s) during detailed design and construction phases for the relocation of hydro poles.
Effects on bridge structure	No structural modifications required to the bridge structure over Lincoln M. Alexander Parkway. Bike lanes and sidewalks can be provided by reducing the traffic lanes from four through lanes to two 3.3 m wide through lanes, separated by a 3.0 m wide median.	No structural modifications required to the bridge structure over Lincoln M. Alexander Parkway. Bike lanes and sidewalks can be provided by reducing the traffic lanes from four through lanes to two 3.3 m wide through lanes, separated by a 3.0 m wide median.
Economic Environment		
Construction Cost	Both options are anticipated to have potentially similar construction costs.	Both options are anticipated to have potentially similar construction costs.
Maintenance Cost	Lower maintenance cost compared to Option 2.	Higher maintenance cost compared to Option 1.
Recommendation	**Not Recommended**	**Recommended**

5.5 Preferred Design (Three-lane Cross-section with Sidewalks and Off-Street Bike Lanes)

Based on the evaluation provided in the preceding table, both options were identified to have similar advantages and disadvantages. However, **Option 2 (Three-lane Cross-section with Sidewalks and Off-Street Bike Lanes)** was identified as preferred design due to the following key benefits:

- Physically separated bike lanes would offer the highest degree of safety and comfort for cyclists by eliminating the possibility of vehicle encroachment into the bike lanes. Additionally, transit and waste collection vehicles would no longer need to enter the bike lanes to pick up and drop off passengers and collect waste, respectively, eliminating potential conflict points between these vehicles and cyclists.
- The raised bike lanes would offer better connections to the transit stops along the corridor by allowing cyclists to seamlessly connect to/from the bus without having to jump the curb at the stop locations.
- It aligns with the recommendations of the City's transportation plans, including Pedestrian Mobility Plan (2012), TMP Review and Update (2018), Cycling Master Plan Review and Update (2018), Cycling Committee's Motion (2022), Complete Streets Design Guidelines (2022), and the Accelerated Active Transportation Implementation Plan (2024–2028) (2023).
- This option would be more preferred from an equity point of view, as physically separated facilities would offer the highest degree of safety and comfort for the vulnerable road users.

The preferred design is shown in Figure 5-4 and Figure 5-5.

5.5.1 Refinement and Finalization of Preferred Design following PIC #2

As required by the Municipal Class EA process, PIC #2 was held in December 2024 to share the preferred design for review and input by the Indigenous Nations, the public, impacted property owners, government agencies, utilities owners, and interested stakeholder groups. Section 9 provides a description of the consultation program, including feedback from PIC #2.

The initial preferred design for Segment 2 featured 1.8-meter off-street bike lanes and 1.6-meter sidewalks, separated by a 0.6-meter buffer, alongside a 1.5-meter boulevard/planting strip to separate vehicular travel lanes from bicycle lanes. Following PIC #2, the preferred design for Segment 2 underwent minor modifications based on feedback from the City's Surface Infrastructure Team. This feedback emphasized leveraging the existing bridge sidewalks and utilizing the existing roadway platform for bike lanes, with consideration for the bridge's existing configuration, specifically the impacts to the bridge waterproofing and structure, and minimizing additional loads. Consequently, the cross-section design across the bridge structure was modified to propose 2-meter sidewalks and 1.8-meter bike lanes, physically separated from vehicular traffic by medians. Similar median separations for active transportation facilities have been implemented by the City on other roads – an example is provided in Figure 5-6. Section 6 provides a description of the final preferred design, along with final cross-sections.

Figure 5-6: Example of Median Separation for Bike Lanes - Main Street over Hwy 403, Hamilton

6 PROJECT DESCRIPTION

6.1 Description of Preferred Design

As noted throughout this report, the Study Corridor has been designed as a Complete Livable Better Street, and it will provide dedicated and continuous facilities for all modes of transportation, including vehicular traffic, transit, pedestrian, and cycling. The preferred design features road-widening for Segment 1 from a two-lane cross-section to a three-lane cross-section, and road diet for Segment 2 to reduce from a four-lane cross-section to a two-lane cross-section with a centre turn lane at the intersections. This design also provides dedicated cycle track, sidewalks and landscape areas across the Study Corridor.

The preferred design was finalized following PIC #2. The final cross-sections for Study Corridor are provided in Figure 6-1, Figure 6-2, and Figure 6-3. The preferred design is depicted on Functional Design Plans provided in Appendix H. This Class EA Study developed the design to a functional level. Further design details and refinements will be addressed during the detailed design phase of the project (i.e., the next phase of the Project). Design-related considerations identified by City staff during this study have been documented in Section 8. These considerations are based on the current understanding of the design and will need to be reviewed and incorporated during detailed design phase, as appropriate. Additional design considerations may be identified at that time.

The following sub-sections discuss the key features of the preferred design, including design criteria, vehicular travel lanes, pedestrian and cycling facilities, transit stops, horizontal alignment, vertical profile, intersection improvements, property requirements, stormwater management, municipal services, and the preliminary construction cost estimate.

6.1.1 Design Criteria

The roadway design was developed in accordance with the Geometric Design Guide for Canadian Roads, 2017 (TAC) and City's Complete Streets Design Guidelines (2022). Design criteria for the Study Corridor is provided in Table 6-1.

6.1.2 Vehicular, Pedestrian, and Cycling Facilities

The preferred design for Segment 1 proposes widening of the existing two-lane cross-section to a three-lane cross-section, incorporating 3.3-meter vehicular through-lanes, a 3-meter center-turn lane. It also proposes 1.5-meter off-street bike lanes and 1.8-meter sidewalks on both sides, separated by a 0.6-meter buffer and physically separated from vehicular traffic lanes by 3-meter planting strips/boulevards.

For Segment 2, road diet is proposed to reduce the existing four-lane cross-section to a two-lane cross-section with 3.3-meter vehicular through-lanes and dedicated turning lanes at intersections. The reclaimed space accommodates 1.8 metre bike lanes, 1.5 metre buffer for streetscaping elements, and maintaining existing 1.6-metre sidewalks with 0.6-metre buffer. Over the Lincoln M. Alexander Parkway overpass, the design transitions to leverage the existing 2.0-meter bridge sidewalks and repurpose the existing roadway platform for 1.8-meter bike lanes, physically separated from vehicular traffic by medians and guardrails, reducing impacts to the existing bridge and structure.

Figure 6-1: Preferred Design for Segment 1

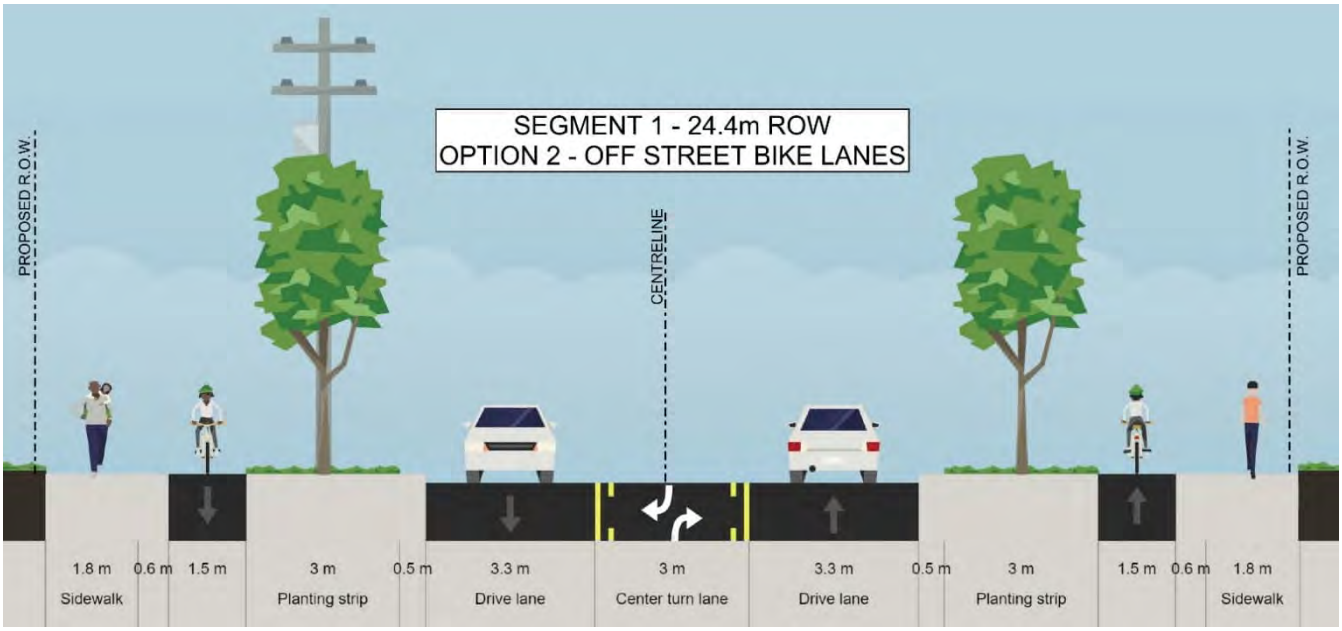


Figure 6-2: Preferred Design for Segment 2

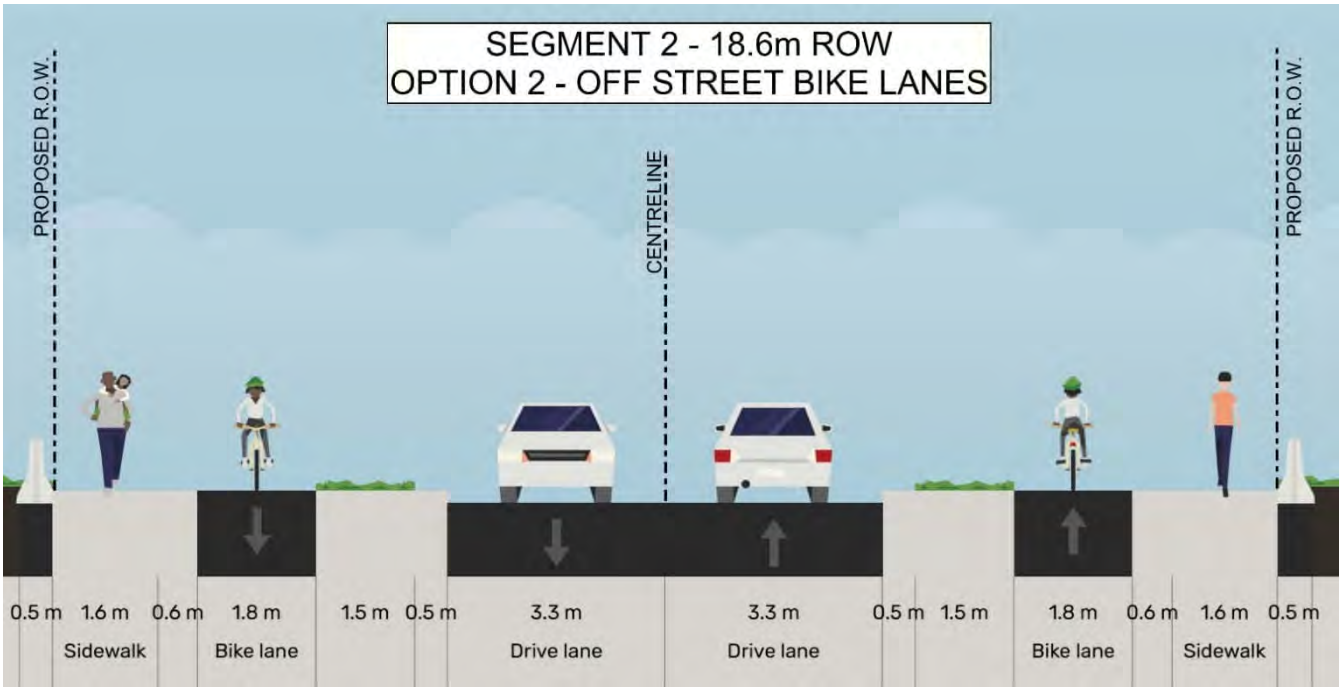


Figure 6-3: Preferred Design for Segment 2 (Over Lincoln M. Alexander Parkway)

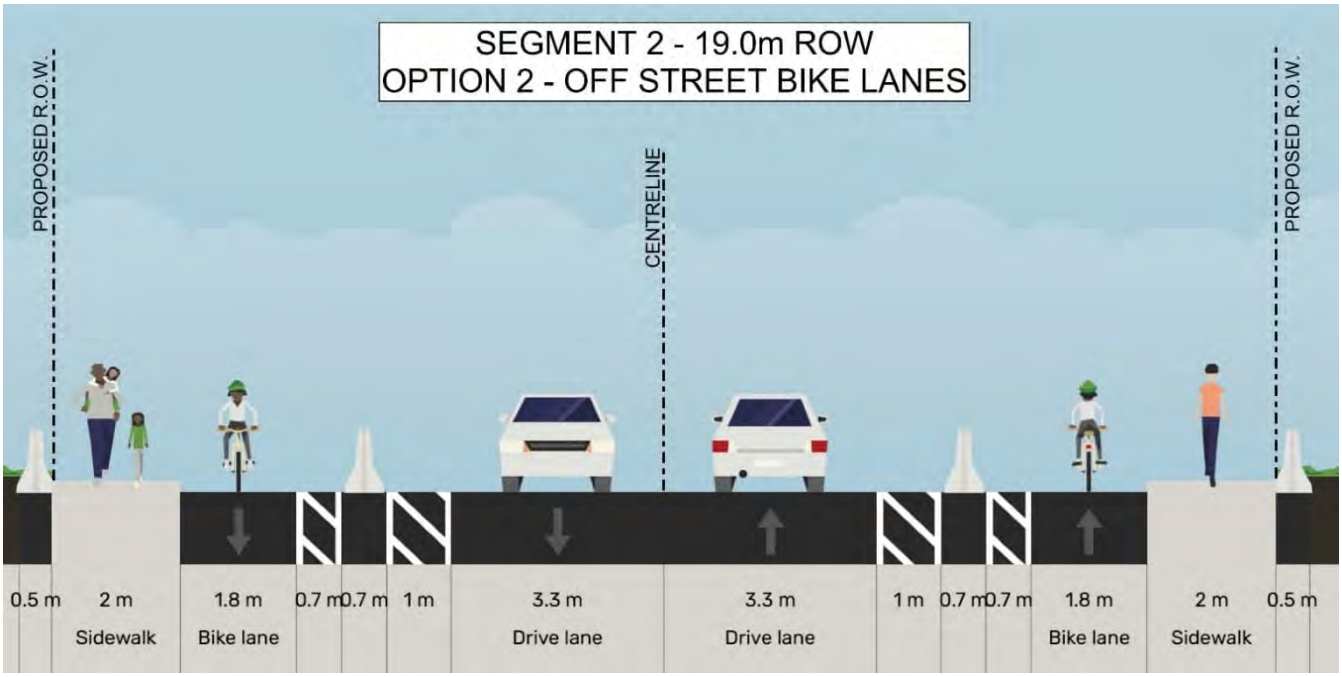


Table 6-1: Design Criteria for Segment 1 (Upper Wellington St (Stone Church Rd E to Limeridge Road East)

	Design Standards*	Proposed
Road Classification	UAU 70 (Minor Arterial)	UAU 70 (Minor Arterial)
Posted Speed (km/h)	50	50
Design Speed (km/h)	60	60
Usage	Neighbourhood Collector	Neighbourhood Collector
Design Vehicle	LSU	LSU, B-12**
Stopping Sight Distance (min)	85	85
Right Turn Taper	60	60
Left Turn Taper	50-118	50
Left & Right Turn Storage (min)	15	15
Through Lane Width	3.0	3.0
Left Turn Lane Width	3.0	3.0
Right Turn Lane Width	3.3	3.3
Curb Lane Width	3.0 - 3.3	3.3
Two Way Left Turn (TWLT) Width	3.0-3.5	3.0
Bike Lane Width (On Road)	1.2-1.8	1.5-1.8
Bike Lane Width (Off Road)	1.5-2.0	1.5-2.0
Boulevard Width (m)	3.0	3.0
Sidewalk Width (m)	1.8-2.0	1.8-2.0
Curb Radii	6-8	8
Right-of-Way (ROW) Width (m)	30.480***	30.480***

* Design standards are based on City of Hamilton Standards, City of Hamilton Complete Street Guidelines and TAC Geometric Guide for Canadian Roads

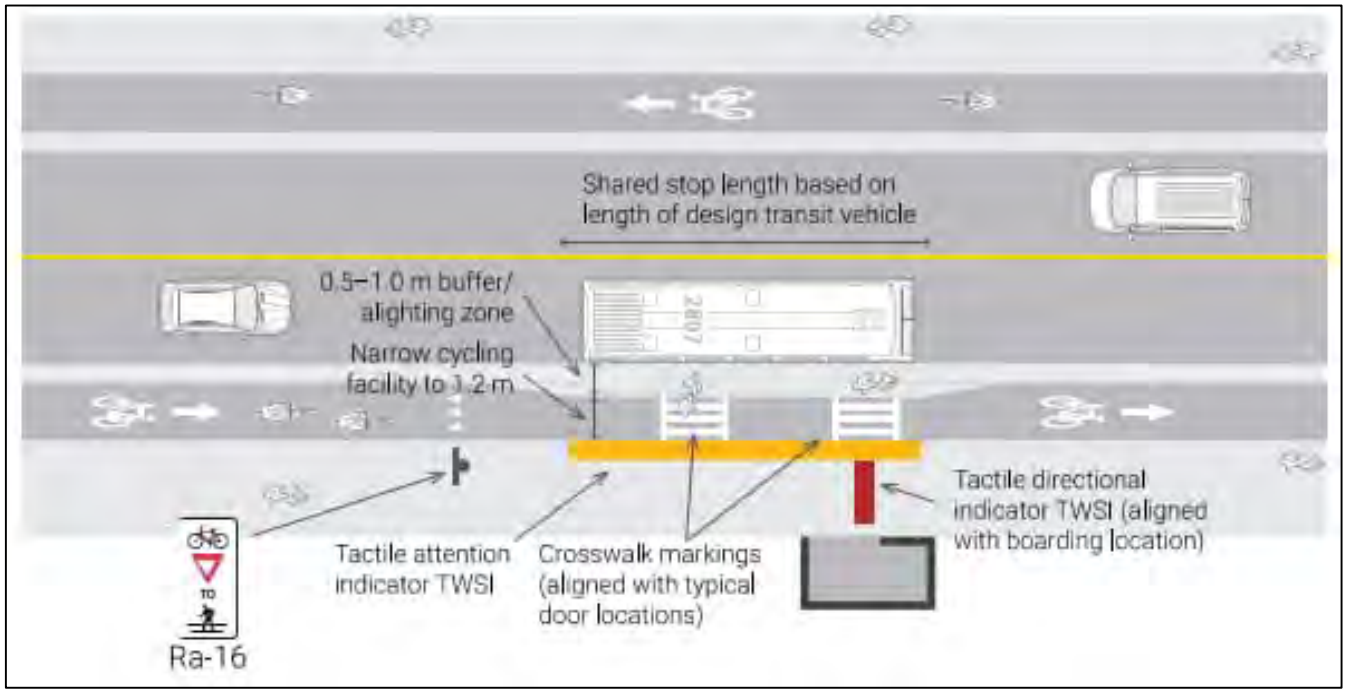
** LSU used as design vehicle, B-12 used as control vehicle

*** Per City's Official Plan

6.1.3 Transit Stops

The preferred design incorporates all existing bus stop locations. While no additional bus stops are proposed as part of the preferred design, travel lane and curb lane reductions as part of the complete street program may impact some existing transit stop locations. Transit stops may need to be relocated (i.e., near-side to far side) or have curb side stops in the live lane. Final stop locations and facilities will be determined in consultation with the City during the detailed design phase. The City is reviewing improved treatments for the transit stops along the corridor such as OTM Book 18, Share Cycle Track Transit Stop.

Figure 6-4: Share Cycle Track Transit Stop (Figure 7.5 - OTM Book 18)



6.1.4 Horizontal Alignment

The horizontal alignment for the Study Corridor will generally follow the existing alignment. The road widening will occur in Segment 1 (between Stone Church Road and Towercrst Drive / Sirente Drive) on both sides of the of the roadway.

6.1.5 Vertical Profile

The vertical profile was not developed as part of the Class EA Study due to the lack of detailed topographic survey. Numerous driveway and road connections create constraints that limit the opportunity to revise the profile without major development works. The vertical road profile for the Study Corridor will be developed during detailed design phase and will generally follow the existing ground profile to minimize grading and property impacts, and to match into the existing road network. The Transportation Assessment Report recommended that opportunities to flatten the vertical grade south of the intersection of Upper Wellington Street and Towercrest Drive/Sirente Drive shall be explored, in order to improve desirable stopping sight distance to

this intersection. This assessment was beyond the scope of this study, and will be completed during detailed design phase.

6.1.6 Intersection Improvements

The intersections were designed considering geometric considerations for intersection radii outlined City's Complete Streets Design Guidelines (2022) and based on the Design Criteria developed. Detailed intersection design will be developed during detailed design phase. Intersections will be designed and constructed to meet the *Accessibility for Ontarians with Disabilities Act* (AODA) requirements and integrating pedestrian and cycling crossings.

Crossrides can be reviewed at intersections to provide a designated space where pedestrians and cyclists can ride across intersections. The design of the pedestrian and cyclist facilities, including material type, pavement markings, signage, and lights, will be completed during detailed design phase, following design standards from the Ontario Traffic Manual Book 15 and Book 18.

In Segment 1, potential Intersection Pedestrian Signal (IPS) was identified at Desoto Drive. This pedestrian signal would improve pedestrian/cyclist access and provide connection to the transit stops on both sides of the corridor reducing the potential for mid-block jaywalking. This pedestrian signal would also provide a connection to existing place of worship (Bethel Gospel Tabernacle). The feasibility of a mid-block pedestrian signal in Segment 1 will be reviewed through a warrant study during the detailed design phase, in consultation with City staff.

6.1.7 Property Requirements

Based on City’s Official Plan, the City shall reserve or obtain right-of-way dedications of up to 30.480 m for Upper Wellington Street, between Rymal Road and Mohawk Road (City of Hamilton, 2013). During the development of design alternatives, property impacts were reviewed and minimized through to the extent possible. Preliminary property acquisition requirements are shown on design plans provided in Appendix H. Property impacts to will be confirmed during the detailed design phase when the project design is advanced to finalize the design and grading. There may be opportunities during the detailed design phase in consultation with the City to reduce impacts to properties through design refinements such as modifications to the boulevard.

6.1.8 Stormwater Management Strategy

A Stormwater management strategy for the proposed road improvements was recommended in the Stormwater Management Report provided in Appendix F. Future improvements will increase the ROW impervious area by approximately 0.46 hectares (this may be refined as part of subsequent detailed design phase). A future conditions updated hydrologic / hydraulic model was developed in PCSWMM for the Study Area to assess the impacts of these changes. Based on the results of this assessment, quantity control storage and water quality controls are required. It is also recommended that erosion\volume controls be provided, and the 25mm rainfall event be captured through a combination of infiltration and active storage volume, with a preference for infiltrative measures if feasible.

Potential SWM measures were assessed and a short-list of measures prepared for further consideration. The following was recommended for further refinement at the detailed design stage with respect to SWM measures:

- Two (2) separate superpipe systems are expected to be required to control post-construction peak flows to pre-development values; preliminary requirements are as follows:
  - Sirente Drive: 95 m3 +\- (south of the Intersection of Upper Wellington Street & Sirente Drive) – 55 m of 1500 mm pipe +\-
  - Desoto Drive: 220 m3 +\- (north of Intersection of Upper Wellington Street & Desoto Drive) – 150 m of 1350 mm pipe +\-

These layouts and sizings are considered conceptual only given the limited information available as part of the Class EA Study. It is recommended that these measures be re-assessed as part of the subsequent detailed design phase, including consideration for using sub-surface storage chamber systems (rather than superpipes) along the periphery of the roadway right-of-way to limit the construction cost and footprint (as opposed to one large central chamber system that may conflict with utilities).

Given the proposed road urbanization (curb and gutter) additional storm sewers and associated conveyance appurtenances (i.e. catchbasins and maintenance holes) may be required. In addition to the proposed superpipe systems previously described:

- The storm sewers south (downstream) of Desoto Drive would generally be proposed to be preserved based on an overview of capacity, subject to further review of the proposed roadway profile and sewer condition as part of subsequent detailed design phase.
- Additional storm sewers would be proposed upstream of Sirente Drive (from the roadway high point to the south), in the area that does not currently have storm sewer servicing.
- No new storm sewers are proposed to the north of Sirente Drive given that no overall change in imperviousness is proposed in this area, and the storm sewers in this area are therefore generally considered adequate.
- It is expected that numerous additional catchbasins will be required as part of the subsequent detailed road design to ensure collection of stormwater from the new urbanized road section.

For quality control, two (2) oil/grit separator units (OGS) have been proposed to provide treatment in conjunction with the locations of the proposed superpipe systems. It is expected that at a minimum, additional secondary water quality controls will be required south of Desoto Drive (to Stone Church Road East) to accommodate the additional paved\impervious area in this location. CB Shield™ inserts may be the most direct solution in this case, however secondary LID BMPs could also be considered (such as tree planter\soil retention cells, exfiltration pipes etcetera). Further discussion with City staff would also be required to determine the degree to which OGS units can be accepted\credited for overall TSS removal.

If sub-surface storage chambers are ultimately determined to be feasible for quantity control, as noted it is considered the most efficient to combine these features with an infiltration function to provide water quality and erosion\volume control requirements. As such, while alternative LID BMP measures were short-listed (i.e. tree planter\soil retention cells, exfiltration pipes) it is expected that these would be less preferred if sub-surface storage chambers can be accommodated. Similarly, while other quality control measures were short-listed (i.e. OGS units, CB ShieldsTM) these would not be required if quality control requirements can be met by the infiltrative function of the chambers.

The preceding is subject to the collection of additional site-specific data to assess feasibility as well as further analysis and design, to be completed as part of the subsequent detailed design phase. It is expected that additional considerations would include (but are not limited to):

- Geotechnical investigation (types of surficial soils and infiltration potential, depth to bedrock, etcetera)
- Hydrogeological investigation (depth to groundwater and seasonal variation, infiltration potential of surficial soils)
- Topographic survey (to inform the subsequent road profile and grading)
- Subsurface Utility Engineering (SUE) investigation (to confirm locations of utilities and potential conflicts with proposed works)

The base PCSWMM models developed as part of this study should ideally be utilized and updated as part of the subsequent detailed design phase, including not only re-confirming SWM sizing and specifics, but also determining storm sewer sizing requirements and re-assessing major system overland flow capacity, which was not feasible as part of the current phase of study.

It should also be noted that the preceding analyses did not consider the potential impacts of climate change and more intense rainfall. As part of the subsequent detailed design phase, the City may wish to incorporate this into the design to provide a factor of safety and additional resiliency against the potential impacts of climate change.

6.1.9 Municipal Services

No other municipal services are proposed as part of this Class EA Study. The City noted during the road design phase that the City is reviewing the feasibility to extend the existing sanitary sewer along Upper Wellington Street to serve proposed development. The timing of this extension was not determined at the time of this study. Coordination with the City's Planning and Economic Development department, responsible for the sewer extension's design and implementation, will be necessary during the detailed design phase.

6.2 Preliminary Construction Cost Estimate

The preliminary cost estimate for the proposed improvements, based on the Functional Design, is estimated to be approximately $15.8M. A breakdown of the cost estimate is provided in Table 6-2. The cost estimate is based on June 2025 rates. The construction cost estimate would need to be reviewed and finalized during detailed design phase.

The cost estimate considers cost for storm sewer(s) between north of Desoto Drive and Towercrest Drive / Sirente Drive. The cost estimate assumes that the existing storm sewer between Stone Church Road East and Desoto Drive is adequately sized and can be re-purposed. If this storm sewer is not determined to be adequately sized during detailed design, then additional storage or replacement storm sewer(s) would be required.

Table 6-2: Preliminary Construction Cost Estimate

No.	Item Description	Unit	Quantity	Unit Cost	Total
1	Mobilization	LS	1	$50,000	$50,000.00
2	Construction Staging and Traffic Management	LS	1	$200,000	$200,000.00
3	Erosion and Sediment Control	LS	1	$60,000	$60,000.00
4	Excavation / Grading	m²	9000	$35	$315,000.00
5	Clearing and Grubbing	m²	265	$75	$19,875.00
6	Tree Removals	Each	46	$300	$13,800.00
7	Removal of Asphalt Paving and Driveway	m²	13200	$35	$462,000.00
8	Removal of Concrete Curb	m	1050	$30	$31,500.00
9	Removal of Concrete Sidewalk	m²	1900	$30	$57,000.00
10	Removal of Concrete Median	m²	70	$50	$3,500.00
11	Removal of Gravel Shoulder and Driveway	m²	2400	$25	$60,000.00
12	Removal of Asphalt Path	m²	780	$35	$27,300.00
13	Removal of Bus Shelter	Each	5	$3,500	$17,500.00
14	Asphalt Paving for Roadway	m²	10100	$120	$1,212,000.00
15	Asphalt Paving for Cycle Track	m²	3000	$100	$300,000.00
16	Concrete Curb	m	4000	$80	$320,000.00
17	Concrete Sidewalk	m²	3000	$150	$450,000.00
18	Concrete Median	m²	60	$150	$9,000.00
19	Catchbasins	each	24	$3,000	$72,000.00
20	Oil Grit Separators	each	2	$150,000	$300,000.00
21	1200 mm MH (approx 4 m deep)	each	2	$12,000	$24,000.00
22	2400 mm MH (approx 4.5 m deep)	each	3	$45,000	$135,000.00
23	2400 mm MH (approx 7 m deep)	each	2	$55,000	$110,000.00
24	375 mm storm sewer	m	65	$300	$19,500.00
25	450 mm storm sewer	m	50	$350	$17,500.00
26	525 mm storm sewer	m	20	$400	$8,000.00
27	1350 mm storm sewer	m	150	$3,000	$450,000.00
28	1500 mm storm sewer	m	55	$4,000	$220,000.00
29	CB Shield Inserts	each	8	$2,000	$16,000.00
30	Pre-treatment Measures (Goss Traps, LittaTraps™, etc.)	each	24	$1,000	$24,000.00
31	Temporary Concrete Barrier (TCB)	m	130	$200	$26,000.00
32	Bus Pads	m²	150	$175	$26,250.00
33	Topsoil and Sod	m²	5000	$15	$75,000.00
34	Tree Plantings (Estimated)	LS	1	$100,000	$100,000.00
35	Traffic Signal Adjustments	Each	3	$75,000	$225,000.00
36	Pavement Markings and Signage	LS	1	$200,000	$200,000.00
37	Streetlighting	LS	1	$1,000,000	$1,000,000.00
38	Hydro Pole Relocation	Each	30	$45,000	$1,350,000.00
39	Utility Relocation		15.0%		$1,201,100.00
	Subtotal (Construction)				**$9,207,825.00**
40	Engineering Services		10.0%		$920,800.00
41	Property		5.0%		$460,400.00
42	City Internal Costs		7.5%		$690,600.00
	Subtotal				**$11,279,625.00**
43	Contingency		40.0%		$4,511,900.00
	TOTAL (excluding HST)				**$15,791,525.00**

7 POTENTIAL ENVIRONMENTAL EFFECTS AND MITIGATION MEASURES

The Class EA process requires that the effects on the environment (both positive and negative) are to be identified and assessed based on the following process:

- Review of existing conditions within the Study Area.
- Review of future conditions within the Study Area (where applicable).
- Assessment of the potential effects that alternatives may have on the existing and future conditions.
- Identification of a technically preferred alternative based on the overall net effects.
- Review with affected parties per the requirements of the Class EA process.

As part of this study, the potential environmental effects were identified and assessed by the following step-by-step approach:

- Considering existing and future conditions along the Study Corridor (Section 3),
- Identifying and evaluating alternative solutions (Section 4),
- Developing and evaluating road design options (Section 5),
- Identifying preferred design (Section 6), and
- Assessing the potential positive and negative effects as a result of implementation of the preferred design (Section 6).

The proposed road improvements were designed to minimize effects through the Class EA process. For example, in response to the public feedback during PIC #1, the originally contemplated widening in Segment 1 was reduced from a four-lane cross-section to a three-lane cross-section. This reduced the need for private property taking requirements and impacts to street trees. During the detailed design phase, the City will have the opportunity to further refine the design and develop additional details, such as grading limits. At that stage, there may be opportunities to further reduce impacts on private properties and trees.

The assessment of potential effects was conducted based on the Functional Design provided in Appendix H. Project's potential effects, along with recommended avoidance and mitigation measures, are discussed below.

7.1 Transportation

Overall, this project provides the opportunity to transform the Study Corridor into a "Complete Livable Better Street ", that is safe and comfortable for all road users: pedestrians, cyclists, transit users, and drivers, and people of all ages and abilities. This is proposed to be achieved through dedicated and continuous spaces for all road users (vehicular traffic lanes, physically separated bike lanes, and sidewalks).

During construction of the proposed road improvements works, there is potential for temporary short-term effects on the road traffic. It is anticipated that the construction activities will result in

potential traffic delays along the Study Corridor. There may be potential for delays to the travel time of the school buses and response time of the emergency response providers during construction. In addition, there are various properties that have driveway access along the Study Corridor. These driveway accesses may be temporarily affected during construction, when the driveways will need to be tied into the roadway.

The following measures are being proposed for the detailed design and construction phases:

- During detailed design, a Construction Staging Plan and a Traffic Management Plan shall be developed to be included in the Tender Documents. These plans shall identify how construction will be staged, and how vehicular, pedestrian and cycling traffic will be managed during construction, recognizing the need for maintaining traffic flow to minimize traffic delays, and associated effects on the school bus travel time and emergency response time. Efforts should be made to maintain driveway accesses and reduce the length of time during which the driveway accesses may be impacted. The location and size of temporary laydown areas shall be confirmed during detailed design. Where possible, road right-of-way should be used for temporary laydown areas.
- The road users (including, area residents, businesses, local schools, emergency service providers and other key parties) shall be notified of proposed construction works well in advance. Attempts shall be made to inform residents and businesses in a larger area, not just in the immediate vicinity of the subject road segments. Construction notification method will be identified by the City. Potential notification methods may include mailout of direct letters to the area residents and businesses, installation of signages, newspaper ads, and/or notification posting on the City’s website.

7.2 Social Environment

7.2.1 Planning for Equity

Land-uses along the Study Corridor include residences, a place of worship, a neighbourhood park, an existing retirement/long-term care home for seniors, a new retirement home (under construction at the time of writing of this report), and planned future residential developments (both low-density and high-density). The surrounding area is primarily residential, with some elementary schools, neighborhood parks, and a few commercial buildings.

Considering that the primary land use is residential with some community services, it is likely that many trips along the corridor will be short-distance and recreational in nature. This leads to a higher likelihood that active transportation is used or could be considered by road users. Understanding this land use context also helped identify potential vulnerable road users that would use the Study Corridor, including families with children, students walking or cycling to schools, seniors, and individuals with disabilities. With these potential vulnerable road users in mind, and an understanding of types of trips, the Study Corridor was designed to incorporate separate facilities (vehicle lanes, bike lanes, sidewalks and transit stops), accommodating all road users (pedestrians, cyclists, transit riders and auto drivers). This approach is intended to improve safety, accessibility, and inclusivity, ultimately enhancing the overall well-being of the road users.

7.2.2 Property Requirements

Property acquisition will be required to implement proposed road improvements. In addition, there may also be temporary impacts on the adjacent properties to tie-in the grade of the roadway to the existing grade of the adjacent properties. Preliminary property acquisition requirements are shown on Functional Design Plan provided in Appendix H. Grading limits were not identified as part of the Functional Design.

The Project Team distributed Study notifications to the properties along the Study Corridor. A summary of consultation is provided in Section 9. Where possible, efforts were made to minimize the amount of property required. For example, in response to the public feedback, the originally contemplated widening in Segment 1 was reduced from a four-lane cross-section to a three-lane cross-section, which reduced the need for private property acquisitions. Property requirements shall be confirmed during detailed design phase when the design is advanced to a sufficient level of detail and grading limits are defined. Based on City's Official Plan, the City shall reserve or obtain right-of-way dedications of up to 30.480 m for Upper Wellington Street, between Rymal Road and Mohawk Road (City of Hamilton, 2013). Efforts shall be made to reduce impacts to properties through design refinements, where possible. The City shall undertake thorough consultation with the impacted property owners during detailed design to confirm property requirements and discuss the process for property acquisitions. Where property is required, property acquisition shall be completed in accordance with the City's realty policies and procedures.

Grading limits of the proposed road improvements shall be identified during detailed design.

7.2.3 Construction Noise

The properties along Study Corridor are anticipated to experience higher noise levels during construction. Noise effects during construction will be associated with excavation, drilling, vehicular truck traffic and operation of heavy machinery. These impacts will be temporary in nature and largely unavoidable.

To minimize the potential for construction noise effects, it is recommended that provisions be written into the contract documentation for the Contractor to implement during construction, including but not limited to:

- All equipment shall be properly maintained to limit noise emissions. As such, all construction equipment shall be operated with effective muffling devices that are in good working order.
- There shall be explicit indication in contract documents that Contractor is expected to comply with all applicable requirements of the contract and City of Hamilton Noise By-law No. 11-285, as may be applicable.
- Enforce lower speed limits during construction, if needed.
- Construction machinery shall adhere to the speed limits.
- The Contract documents shall contain a provision that any initial noise complaint will trigger verification that the general noise control measures agreed to above are in effect.

7.2.4 Air Quality

The construction activities are anticipated to affect the local air quality. These effects include dust from various material handling operations and combustion emissions from construction equipment. Such emissions will be of a temporary nature and the effects are not predicted to move far from the immediate vicinity of the construction activities.

Recommendations for mitigation measures for reducing construction related air quality impacts are discussed in the "Best Practices for the Reduction of Air Emissions from Construction and Demolition Activities" (Cheminfo Services Inc., 2005). Standard mitigation measures and non-chloride dust suppressants identified in this document shall be utilized during construction to

mitigate impacts on air quality. Typical mitigation measures are outlined below. It is recommended that provisions be written into the contract documentation for the Contractor to implement during construction, including but not limited to:

- Scheduling of construction works to consider weather forecast to take advantage of precipitation for natural dust suppression.
- Construction activities and the site shall be monitored for wind direction and weather conditions to ensure that high-impact activities be reduced when the wind is blowing consistently towards nearby critical and sensitive receptors. Visible fugitive dust shall also be monitored and immediate action shall be taken to determine the root-cause in order to counteract this.
- Each area of the construction site shall be graded separately (i.e., not all at once), timed to coincide with the actual construction in that area. This allows vegetation and cover to remain intact within the construction zone, until just prior to construction occurring on that segment of the construction site.
- Construction activities shall be scheduled and planned to limit areas of exposed soil at any given time (i.e., clear vegetation, but strategically grub).
- Site layout shall be planned to maximize separation from machinery and dust-causing activities.
- Ensure that equipment (and adequate water supply, if applicable) required for dust control and trained workers are available at work site prior to commencing construction activities with potential for dust generation.
- Exposed ground surfaces shall be stabilized with non-erodible material as soon as practicably possible after construction in the affected area where soil surfaces will remain exposed for extended periods.
- Construction vehicles / machinery and equipment shall be in good repair, equipped with emission controls, as applicable, properly maintained and operated within regulatory requirements.
- A minimal number of machines operating in any one area should be carefully considered during construction activities.

- Minimize idling of equipment and trucks located in queuing areas in proximity of residences and other establishments.

7.3 Natural Environment

7.3.1 Natural Heritage

7.3.1.1 Impacts

An impact assessment was completed as part of the Natural Environment Assessment (Appendix B) for the Project. This impact assessment is based on the Functional Design provided in Appendix H. During the detailed design phase, the City is expected to have the opportunity to refine the project design and develop other details (e.g., grading limits).

The Dry-fresh Oak-hickory Deciduous Forest near the southwest corner of the intersection of Towercrest Drive and Upper Wellington (Figure 3-14) was classified as a Significant Woodland and SWH (candidate bat maternity colonies SWH, confirmed rare vegetation community and confirmed habitat for species of conservation concern). In addition, three Special Concern SAR have been confirmed (Barn Swallow, Eastern Wood-pewee, and Monarch) in the Project Location. This section assesses the predicted impacts associated with the proposed design on the Dry-fresh Oak-hickory Deciduous Forest and SAR.

The following analysis of the direct and indirect effects of the Project was based on professional judgment and qualitative evaluation of Project-specific activities' impacts on NHF during the construction and operation phases. An underlying assumption was that the Project would be designed and constructed with due care for the safety and the environment, using current and technically feasible engineering and construction mitigation measures.

The potential environmental effects and impacts are described separately for each NHF under the following two categories:

Construction Impacts—Construction-related impacts typically associated with the physical and initial removal, alteration, or disturbance of NHFs are expected to be short-term or temporary disruptions to the existing NHFs.

Operation Impacts—Operation-related impacts, changes, or impacts to the NHFs. These impacts are anticipated to be long-term disruptions from potential ongoing operations and maintenance of the Project.

7.3.1.1.1 Vegetation

The Project Location and Study Area has been heavily influenced by past anthropogenic disturbances, such as vegetation trimming along the existing roadway and have extensive coverage of non-native and invasive species. The Dry-fresh Oak-hickory Deciduous Forest is located on the southwest side of Upper Wellington Street and Towercrest Drive / Sirente Drive, which is significant to the area and contains SWH. This woodlot has an extensive spread of alien species, many trails, and a light amount of dumping. The Project activities will not directly change the ELC type; therefore, the vegetation community's ecological form and function will not be impacted.

Construction

Construction impacts on vegetation are expected to be short-term or temporary and stem from direct vegetation removal, indirect effects, and altered site conditions.

Direct Impacts

Vegetation Removal: The proposed Project will result in minor vegetation/tree removal along the edges of the Dry-fresh Oak-hickory Deciduous Forest, resulting in a loss of less than 200 square metres of this area. Based on the current preliminary design, approximately 45 tree removals are anticipated. These tree impacts would need to be confirmed during the detailed design phase when the design is advanced to a sufficient level of detail and grading limits are defined. There may be opportunities at that time to reduce tree impacts through design refinements. The City will provide tree planting within the road right of way to compensate for the loss of trees.

Damage to Adjacent Vegetation: Activities like clearing, grubbing, and staging equipment may harm adjacent vegetation and trees.

Indirect Impacts

Spread of Invasive Species: Disturbed areas are vulnerable to colonization by non-native and invasive species. Equipment and personnel moving in and out of the site can exacerbate this spread unless proper decontamination measures are taken. Invasive plants may outcompete native vegetation, delaying natural recovery.

Dust Deposition: Construction-related dust can reduce light availability on plant leaves, impacting vegetation health.

Contamination Risks: Potential releases of deleterious substances such as fuels (diesel and propane), lubricants (engine oil, transmission oil, etc.), and coolants (ethylene glycol) can lead to localized vegetation loss.

Soil Disturbance and Erosion: Exposed soil from vegetation removal can lead to sedimentation and erosion, affecting downstream ecosystems. Loss of riparian vegetation may exacerbate this effect, altering water quality and hydrology. Topsoil loss from wind and water erosion of exposed stockpiles can be detrimental to the land capability by decreasing the amount of available nutrients and growth medium for vegetation.

Operation

Operational impacts currently exist and are anticipated to be long-term, primarily related to ongoing roadway use and maintenance. Impacts on vegetation are anticipated to be low in the operation phase.

Pollution from Roadway Use: Hydrocarbon spills, salt runoff, and litter and garbage from vehicles into the adjacent natural systems will continue to present a risk. Accumulated pollutants can harm vegetation health and indirectly impact aquatic and terrestrial ecosystems.

The existing conditions are characterized by high disturbance, suggesting that vegetation communities are already adapted to some degree of anthropogenic stress. Therefore, ecological functions of vegetation communities are expected to return to pre-construction conditions during the operation phase, though ongoing maintenance and pollutant management will be critical to prevent further degradation.

7.3.1.1.2 Wildlife and Wildlife Habitat (including Species and Risk) Construction

Construction

During field investigations, the Study Area was identified to have high or moderate habitat suitability for SAR birds and bats (See Section 3.3.1.4 for more details). Construction-related impacts to wildlife are expected to be short-term or temporary but can include direct habitat loss, wildlife mortality (insects, small mammals, reptiles, amphibians, and immature birds most likely to be affected because of their reduced mobility), and indirect impacts such as increased sensory disturbance. The ecological form and function of the habitat within the Study Area are expected to return to pre-construction conditions or remain.

Direct Impacts

Habitat Loss: Vegetation clearing will result in potential habitat removal degradation.

Direct Mortality Risks: Vegetation clearing increases mortality risks for less mobile species (e.g., insects, small mammals, reptiles, amphibians, and immature birds). Mortality risk is highest during spring and summer – nesting, denning, and maternity roosting season. Timing construction to avoid sensitive breeding/nesting and maternity roosting periods reduces the potential for wildlife mortality. Construction activities and wildlife salvage efforts increase the risk of wildlife mortalities. Wildlife salvage inherently has risks for the individuals being moved (causing harm or death), the risk of transferring disease and the risk of competition for resources at the recipient site.

Indirect Impacts

Sensory Disturbance: Construction activities are anticipated to result in increased sensory disturbance, including light, noise, and vibration. Wildlife confirmed in the Study Area is already acclimatized to human activity, and the impacts of increased sensory disturbance on these species are expected to be low.

Operation

Operational impacts represent long-term disruptions due to ongoing roadway use, maintenance, and traffic-related activities. Historical human activity, including road networks, residential areas, and commercial development, has resulted in significant habitat fragmentation and reduced landscape connectivity. The existing levels of disturbance mean that wildlife in the area is generally acclimatized, and the project's long-term operational effects are not expected to create an additional reduction in wildlife habitat effectiveness.

Direct Impacts

Wildlife-Vehicle Collisions: The Project aims to accommodate more vehicles, which may result in an increase in vehicle collisions with wildlife. Roadway widening can lead to increased traffic (via increased capacity) and a larger crossing area, both of which contribute to a higher risk of wildlife-vehicle collisions.

Other Mortality: Vegetation management (cutting and pruning) along the roadway poses a mortality risk for wildlife. Detrimental effects on wildlife health and behaviour can occur when wildlife have access to site waste and/or hazardous materials (e.g., ingestion of plastic, entanglement, reliance on food sources).

Indirect Impacts

Light Pollution: Lighting improvements can change wildlife behaviour as prey species try to avoid predators or animals get disoriented due to light pollution at night. Light pollution already occurs, and therefore, this sensory disturbance on species is expected to be low.

7.3.1.2 Recommended Mitigation Measures

Mitigation measures were developed in accordance with the City of Hamilton Environmental Impact Statement Guidelines (City of Hamilton, 2015) to minimize potential ecosystem impacts from the Project. These measures include erosion and sediment controls, general construction mitigation, vegetation, wildlife and timing windows.

Mitigation measures shall be incorporated into construction specification documents to ensure that the Contractor implements them during construction.

7.3.1.2.1 Mitigation for Pre-Construction and Construction

Erosion and Sediment Control

The following Erosion and Sediment Control (ESC) mitigation is generally recommended. Site-specific ESC mitigation shall be developed as part of the final detailed design.

- Protect all exposed surfaces and control all runoff during construction;
- All ESC shall be installed before starting construction and remain in place until restoration is complete. Once the site is stabilized, all non-biodegradable ESC materials must be removed.
- Additional ESC materials shall be on-site and implemented as required;
- The entire construction site shall be monitored daily to update and/or maintain ESC during construction activities, particularly during spring melt and high rainfall events;
- Sediment buildup behind or within ESC measures shall be removed in compliance with regulatory requirements and manufacturer specifications. All accumulated sediment must be removed prior to the removal of ESC controls and disposed off in an approved on-site location as determined by the contract administrator or construction project manager.

- Minimize area disturbed during construction; no excavation or grading may occur outside the disturbance limits.
- Protect all catch basins and maintenance holes from sediment intrusion using geotextile (Terrafix 270R);
- Keep all sump pumps clean during construction;
- Prevent wind-blown dust and implement dust suppression methods when and where applicable;
- All silt fencing and details are at a minimum to be constructed and in accordance with Erosion and Sediment Control Guide for Urban Construction (2019).

General Construction Measures

General construction mitigation measures are as follows:

- Equipment idling should be kept to a minimum during construction to prevent impacts to wildlife as a result of noise and vibrations. Minimizing equipment idling will also reduce carbon emissions and overall carbon footprint of construction activities. Construction outside of daylight hours should be avoided.
- Topsoil that is removed during grubbing and stripping activities should be stockpiled for reapplication post-construction. A construction work plan should designate specific locations for the stockpiling of soils and/or materials.
- A dust control plan shall be developed and implemented by the Contractor to suppress dust impacts to adjacent NHFs.
- A spill response plan shall be curated by the Contractor prior to construction commencement. Onsite personnel should be equipped with spill kits and trained in a spill response reporting protocol prior to entering the work site. Spill kit materials, instructions regarding their use, and emergency contact numbers shall always be present on site for implementation in the event of an accidental spill. All spills are to be reported to the MECP Spills Action Centre at 1-800-268-6060.
- All equipment, including worker personal equipment, heavy machinery, and vehicles should arrive clean and free of fluid leaks, invasive species and noxious weeds.
- Development and site alteration shall be confined to the established limits of the development, including grading. All construction materials and equipment shall be stored within the designated work boundaries.
- The area of impact adjacent to natural areas should be searched for wildlife by a qualified biologist daily prior to the commencement of construction activities.
- Implement drip pans under equipment (i.e., generators, pumps, etc.) in operation within the work areas.

- The laydown area to have silt fencing installed on the downslope side of the stockpile(s). Vehicle and equipment refuelling and maintenance shall occur at least 30 m from all wetlands and watercourses and be conducted to prevent any deleterious substance from entering the natural environment.
- Identify local regulatory authorities and have contact information available on-site. Local regulatory authorities are to include the MECP, MNR, City of Hamilton and emergency service providers.

The final design / tender package shall include task-specific mitigation requirements.

Vegetation

With the implementation of recommended mitigation measures and restoration measures, the health of the wooded ecosite could be improved. The following measures are recommended to be implemented:

- Limiting the amount of clearing of or disturbance to vegetation to the minimum area required;
- Revegetate disturbed areas using appropriate species or seed mixes based on the species present and the specific site conditions (species such as milkweed);

The following measures are recommended to be implemented for all tree removals and/or injury:

- A Tree Inventory and Preservation Plan shall be developed to identify Project impacts on trees, especially those protected under the City of Hamilton Public Tree Protection By-law (City of Hamilton, 2015). The tree protection plan shall be developed in accordance with City's Tree Protection Guidelines (City of Hamilton, 2010). This can be developed during detailed design phase.
- Trees on shared, private, and neighbour properties that will be removed should be discussed with private property owners during the detailed design phase.
- Pruning of low-lying branches may be required within the construction zone to accommodate construction equipment. Additionally, any branches broken during the construction process should be properly pruned by an ISA-certified arborist immediately after the damage.
- Where it is feasible, it is recommended that the City re-uses trees (appropriate sizes and species) from the removals in the compensation plan design or in the adjacent complete corridor design for bioengineering or habitat enhancements. Species re-used shall include native species free of pests and disease.
- Patches of invasive species are recommended to be treated prior to construction mobilization.
- To ensure existing tree cover is maintained, the City's Tree Protection Guidelines require 1:1 compensation for any trees to be removed (City of Hamilton, 2015). A Tree Protection

Plan would be required during detailed design phase to identify trees to be removed, trees to be preserved, and tree protection and maintenance measures that will be implemented during construction. Additionally, a Landscape Plan will be required to show proposed tree plantings. These plans would need to be developed in accordance with City's Tree Protection Guidelines (2010).

- An invasive species management plan is recommended to be included with the restoration enhancement and planting plan designs to prevent the further spread of invasive species within the remaining natural heritage systems.

Tree Protection Barriers

During the detailed design phase, a Tree Inventory and Preservation Plan will be required to identify trees to be removed, trees to be preserved, and tree protection and maintenance measures that will be implemented during construction. Trees designated for protection as per the Tree Inventory and Preservation Plan for this Project require Tree Protection Barriers. The tree protection fencing and sediment control measures shall be installed along the limits of the retained features prior to the start of construction works and will be regularly monitored and inspected to ensure its efficacy. The objective of the tree protection barriers is to protect the integrity of retained trees and act as a barrier from construction works.

Wildlife and Wildlife Habitat

To negate impacts on nesting birds, vegetation removal should be done outside of the typical breeding bird nesting period Zone C1 (Late March - Late August). These recommended timing constraints should not be perceived as absolutes as this period represents the core breeding period, and some species nest earlier in March and into September; occupied nests are protected from harm regardless of timing windows. The objective from a compliance perspective is to not circumvent the MBCA and its associated regulations.

For activities (including vegetation removal) that must occur during the bird nesting season, surveys should be undertaken by a qualified avian biologist to identify nesting activity and/or nests to the extent possible within 24 hours and no more than 48 hours of the schedules work activities (including ground sweeps and vegetation assessments). The selected qualified person must be able to identify birds by species and be knowledgeable of nesting seasons, nesting habitat, bird behaviour, and understand species general tolerance to disturbance. The sweeps should occur when winds are low, no precipitation, and temperatures are above 10 degrees Celsius. Flushing birds off their nests in adverse weather conditions may leave the young vulnerable to the exposure of elements. Due to the uncertainty of nest sweeps performed during construction, especially during leaf-on conditions, it is strongly advised that all vegetation-clearing activities occur outside of the bird's nesting window. If nest sweeps are necessary, they should only be conducted in simple habitats such as singular trees or a small, well-defined area. Complex habitats, such as vegetation communities with layers of dense foliage, reduce the certainty of observing nests and potential breeding.

If a bird and/or its nest protected under the MBCA, FWCA, and ESA are encountered during works, any work-related disturbance must stop in the vicinity of the observation until further direction is provided by a qualified professional. The birds and their nests are not to be

disturbed, tormented, injured, destroyed, and/or separated from eggs, hatchlings, or chicks in any way. A protective buffer, dependent on the species tolerance and level of disturbance, should be established around the nest in consultation with a qualified avian biologist and the MNRF, MECP, and/or Canadian Wildlife Services.

Nest searches should also be performed on equipment that has been stationary for more than 48 hours. Nest/area searches should be completed before construction equipment enters an area to ensure no wildlife is present on the ground. Bird tape and other bird nesting deterrents can be implemented to try to deter birds from nesting within the Study Area. The deterrents should only be used to prevent birds from nesting and shall not be placed around birds that have already begun nesting. All deterrents must be removed post-construction.

To negate impacts on SAR bats, vegetation removal should be done outside of the maternity bat roosting window. If trees are proposed to be removed within the active season for bats, a qualified biologist shall examine the tree and use professional judgement on whether the tree is candidate bat habitat. If the characteristics are not easily visible, or if the biologist is unsure in any way, the MECP must be consulted on next steps and acoustic surveys and/or exit surveys may be required to determine SAR occupancy.

As feasible, the designated project footprint should be bound by exclusion (silt) fencing to prevent wildlife from entering the project work zone. The fencing should be installed within 48 hours of the commencement of construction activities. The exclusion fencing shall be examined daily by a qualified biologist and repaired as required to ensure it functions as intended. If wildlife is detected against the fencing, a biologist with the applicable permit approvals (i.e., FWCA) shall use professional judgment on where to relocate the wildlife. This will be of particular importance during periods of high wildlife movement (species dependent), i.e., migration, breeding, and hibernation periods, to ensure that wildlife can safely locate their respective habitat depending on their life cycle requirements. The construction party is responsible for obtaining the permit to handle and relocate wildlife. If wildlife enters the construction limits, construction should stop until the wildlife has left of its own volition or until it has been shepherded off the area of impact by qualified personnel.

The following general mitigation is recommended to reduce impacts to wildlife:

- Construction should be completed within daylight hours to reduce light pollution. The City should comply with all applicable local municipal by-laws and Ministry of Transportation (MTO) practices regarding both permanent and temporary construction activities for lighting in roadway areas.
- Food waste and littering from construction personnel must be managed to prevent attracting animals to the construction footprint. Wildlife-proof trash cans are recommended and should be maintained throughout the construction period.

The culvert replacement within the watercourse feature is recommended to be designed as an eco-passage to encourage safe travel routes for wildlife.

Timing Windows

Timing windows to minimize the potential for negative impacts on wildlife (birds and bats) and their habitat are identified in the sections above and summarized in table below. When combined, the proposed project activities shall adhere to the following timing windows:

- All vegetation and tree removals (including grubbing) shall be completed between 1 October and 30 March of any given year.

Table 7-1: Timing Windows

Environmental Sensitivity	Key Sensitivity Window When Work Should Be Avoided	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
Migratory Bird nesting period[1]	31 March through 25 August												
SAR – maternity bat roosting window	1 April through 30 September												

Red cells identify when work associated with these sensitivities shall be avoided.

1 – Under the MBCA

7.3.1.2.2 Mitigation for Operations

The following mitigation should be considered in the long-term to avoid ongoing impacts on the surrounding NHFs:

- Non-native species should be monitored and managed to ensure that native species are not being displaced or heavily impacted and that original vegetation communities remain intact.
- In addition to the above, additional measures recommended in the Stormwater Management Report should be implemented.

7.3.1.3 Environmental Monitoring

7.3.1.3.1 Construction Monitoring

Environmental construction monitoring should be completed to ensure compliance with mitigation measures and minimize ecological impacts during construction activities. Environmental construction monitoring will include monitoring of ESC measures, particularly during high-risk periods like spring melt and heavy rainfall, and dust management and spill control plans. Additionally, monitoring will ensure that vegetation clearing is conducted in accordance with best practices to protect wildlife. Regular communication with local regulatory authorities will be maintained to address any environmental concerns promptly.

7.3.1.3.2 Post-construction Monitoring

The City shall conduct post-construction monitoring to ensure the success of rehabilitation measures (e.g., landscaping) and to remove waste and surplus materials. The development of a post-construction monitoring plan is to be initiated prior to construction works and should take place at a built-out stage or after the construction activities have been completed. The specific timeline for the transition from construction to post-construction monitoring will be the responsibility of the City, but typical intervals include 1, 3, or 5 years.

7.3.2 Contamination

As noted in Section 3.3.2, the following represents potentially contaminating activities which results in areas of potential environmental concern along the Study Corridor:

- Hamilton Builder's Supply located at 164 Limeridge Road East;
- Husky RFO located at 221 Limeridge Road East;
- The Fire Hall located at 1400 Upper Wellington Street;
- The former excess fill receiving site (currently Jerome Park), located adjacent west to the central portion of the Site; and
- Potential salt-impacted soils beneath the roadway due to winter salting activities.

Based on the Phase I ESA, there is evidence of actual and potential contamination associated with the Site from on-Site and off-Site land uses. An intrusive investigation (i.e., Phase II ESA) is recommended to address the areas of environmental concern with soil and/or ground water sampling to confirm the presence/absence of any contaminants of potential concern associated with the on-Site and off-Site land uses.

The location of above noted areas of potential environmental concern (potentially contaminating activities) is shown on Figure 3-18. Phase I ESA Report is provided in Appendix C.

7.3.3 Source Water

As noted in Section 3.3.3, the Study Corridor is not situated in any Wellhead Protection Areas or Intake Protection Zones.

7.4 Cultural Heritage Environment

7.4.1 Built Heritage Resources and Cultural Heritage Landscapes

As discussed in Section 3.4.1, the Cultural Heritage Report identified three (3) properties inventoried on the City's Heritage Inventory. Of these, one was demolished previously, leaving two extant properties: 1355 Upper Wellington Street (CHR 1) and 164 Limeridge Road (CHR 2). The location of built heritage resources and cultural heritage landscapes is shown on Figure 3-21.

The Cultural Heritage Study Area did not contain known heritage properties listed on the City's Heritage Register, nor designated under Part IV or Part V of the *Ontario Heritage Act*.

Furthermore, it did not contain heritage properties designated by the Minister of Citizenship and Multiculturalism or any other provincial heritage properties within the Study Area.

Following a review of the preliminary design, the preliminary impact assessment determined that the Project may result in indirect impacts to CHR 1 and CHR 2. Accordingly, the Cultural Heritage Report recommended the following:

- Indirect impacts are anticipated to CHR 1 (1355 Upper Wellington Street) and CHR 2 (164 Limeridge Road) relates to minor property acquisition to accommodate the proposed sidewalks and bike lines. For both properties, the property acquisition is minor and will not alter landscape elements or buildings. Post-construction landscaping is recommended to restore, or improve, pre-construction conditions.

7.4.2 Archaeological Resources

As discussed in Section 3.4.2, a Stage 1 Archaeological Assessment was completed, which indicated that the Archaeological Study Area has archaeological potential. Areas of archaeological potential that would be subject to disturbance as part of project construction, shall be assessed through a Stage 2 Archaeological Assessment (and any subsequent assessments, if required) by a licensed archaeologist as early as possible in the detailed design phase and prior to any ground disturbing activities (e.g., geotechnical drilling). Indigenous Nations shall be invited to participate in future archaeological assessment(s). Results of Stage 1 Archaeological Assessment are shown in Figure 3-22. The Stage 1 Archaeological Assessment Report is provided in Appendix E.

Should previously undocumented archaeological resources be discovered, they may be a new archaeological site and therefore subject to Section 48(1) of the *Ontario Heritage Act*. The proponent or person discovering the archaeological resources must cease alteration of the site immediately and engage a licensed consultant archaeologist to carry out an archaeological assessment, in compliance with Section 48(1) of the *Ontario Heritage Act*.

The *Funeral, Burial and Cremation Services Act*, 2002, S.O. 2002, c.33 requires that any person discovering human remains must cease all activities immediately and notify the police or coroner. If the coroner does not suspect foul play in the disposition of the remains, in accordance with Ontario Regulation 30/11 the coroner shall notify the Registrar, Ontario Ministry of Public and Business Service Delivery, which administers provisions of that Act related to burial sites. In situations where human remains are associated with archaeological resources, the Ministry of Citizenship and Multiculturalism should also be notified (at archaeology@ontario.ca) to ensure that the archaeological site is not subject to unlicensed alterations which would be a contravention of the *Ontario Heritage Act*.

7.5 Technical Environment

7.5.1 Utilities

As discussed in Section 3.5.2, there are several utilities located along Study Corridor. The existing utilities along the Study Corridor will require relocation to implement proposed improvements. Consultation and coordination shall be undertaken with the utility companies during detailed design for relocation of their infrastructure, where required.

8 COMMITMENTS FOR FUTURE WORK

This section discusses the commitments for the future work, including design considerations, technical studies, and required permits, approvals, and compliance actions. These commitments shall be reviewed during detailed design, and confirmed at that time. It may be possible that there may be changes to these commitments at that time (for example, some of this work may not be required, or additional work may be required).

8.1 Design Considerations

8.1.1 Road Design

The vertical road profile for the Study Corridor shall be developed during the detailed design phase and shall generally follow the existing ground profile to minimize grading and property impacts, and to match into the existing road network.

8.1.2 Pedestrian and Cycling Facilities Design

Design elements related to pedestrian and cycling facilities shall be determined during detailed design Phase. These include but are not limited to:

- The transition of the sidewalks and off-street bike lanes to the north and south of the Study Corridor limits. This will include details such as, separate cyclist and pedestrian signalling, pavement markings, etc.
- Type and materials for sidewalks and off-street bike lanes, including the separation between the two.
- Feasibility of bike lane connection to Jerome Neighbourhood Park to increase safety for park users. Note that site constraints such as trees, utilities, and property boundaries may limit feasibility.
- Flattening of sidewalk grade along with handrail south of Upper Wellington Street and Towercrest Drive intersection (based on input from City's Structural Team).
- Median and guard / railing design on the Lincoln M. Alexander Parkway overpass (based on input from City's Structural Team). Medians and guardrails are proposed to create a separation between bike lanes and vehicle lanes.
- The need and details for crash attenuator on the Lincoln M. Alexander Parkway overpass (based on input from City's Structural Team).

8.1.3 Intersection Design

Detailed intersection design shall be developed during detailed design phase. Intersections shall be designed and constructed to meet the AODA requirements and integrating pedestrian and cycling crossings.

City's Sustainable Mobility Team noted that a protected intersection for Upper Wellington Street and Stone Church Road East intersection should be explored during detailed design phase. Additionally, City's Public Health Team noted that advanced signals for pedestrians and

cyclists shall be considered at signalized controlled intersections to promote pedestrian and cyclist safety. With the older adult population living in the various retirement homes and increased number of children accessing BGT Field or Jerome Neighbourhood Park, equitable considerations may be warranted. These details will need to be determined during detailed design phase.

Crossrides can be reviewed at intersections to provide a designated space where pedestrians and cyclists can ride across intersections. The design of the pedestrian and cyclist facilities, including material type, pavement markings, crossing locations, stop bars, signage, and lights, shall be completed during detailed design phase, following design standards from the Ontario Traffic Manual Book 15 and Book 18.

In Segment 1, potential IPS was identified at Desoto Drive. The feasibility of a mid-block pedestrian signal in Segment 1 shall be reviewed through a warrant study during the detailed design phase, in consultation with City staff. If warranted, the IPS design shall be developed during detailed design phase. City's Sustainable Mobility Team noted if IPS is required, it should include provisions for bike crossings (i.e., bike heads) and will need to be integrated into the proposed off-street bike lane.

8.1.4 Grading Limits

Grading limits of the proposed road improvements including any temporary and permanent impacts to property shall be identified during detailed design.

8.1.5 Sightline Improvements

The Transportation Assessment Report recommended that opportunities to flatten the vertical grade south of the intersection of Upper Wellington Street and Towercrest Drive/Sirente Drive shall be explored, in order to improve desirable stopping sight distance to this intersection. This assessment will be completed during detailed design phase.

8.1.6 Transit Stops

Details of the transit stop designs, and layout shall be confirmed during detailed design phase. The City is reviewing improved treatments for the transit stops along the corridor such as OTM Book 18, Share Cycle Track Transit Stop, (Figure 6-4). Transit stops may need to be relocated (i.e., near-side to far side) or have curb side stops in the live lane. Final stop locations and facilities shall be determined in consultation with the City during the detailed design phase.

Additionally, City's Transit Team noted that the bus stop at the intersection of Upper Wellington Street and Towercrest Drive is situated adjacent to a dedicated right-turn lane, and this would require transit signal priority and/or "No Right Turn – Buses Excepted" signage. Additionally, clear pavement markings on the adjacent bike path will be required to reduce potential conflicts between cyclists and turning vehicles. These details will need to be determined during detailed design phase.

8.1.7 Stormwater Management Design

Stormwater management strategy is summarized in Section 6.1.8 of this report, and detailed in the Stormwater Management Report (Appendix F). The recommendations of this report shall be addressed during detailed design phase.

8.1.8 Street Lighting

Streetlights shall be installed along the Study Corridor, in the planting strip / boulevard, as appropriate. Illumination requirements shall be determined during detailed design in accordance with appropriate guidance documents, e.g., City's Sidewalk and Roadway Lighting Policy (2011), Transportation Association of Canada's Guide for the Design of Roadway Lighting (2006), and Ontario Traffic Manual - Book 18 – Cycling Facilities (2021). Street lighting shall be designed such that it effectively illuminates the entire roadway as well as the bike lanes and the sidewalks and is compatible with the proposed tree plantings.

8.1.9 Utilities Coordination

Consultation with utility owners should be undertaken during detailed to:

- Coordinate utility relocations.
- Assess the feasibility of shared poles for streetlights and hydro utilities.
- Determine pole locations.
- Coordinate tree placement with City staff and Hydro to ensure a cohesive layout of poles and trees.

8.1.10 Construction Staging Plan and a Traffic Management Plan

During detailed design, a Construction Staging Plan and a Traffic Management Plan shall be developed to be included in the Tender Documents. These plans shall identify how construction will be staged, and how vehicular, pedestrian and cycling traffic will be managed during construction, recognizing the need for maintaining traffic flow to minimize traffic delays, and associated effects on the school bus travel time and emergency response time. Efforts should be made to maintain driveway accesses and reduce the length of time during which the driveway accesses may be impacted. The location and size of temporary laydown areas shall be confirmed during detailed design. Where possible, road right-of-way should be used for temporary laydown areas.

Details and staging for the construction will be reviewed during detailed design to determine the extent if any of impacts to the transit stop.

8.1.11 Property Requirements

Based on City's Official Plan, the City shall reserve or obtain right-of-way dedications of up to 30.480 m for Upper Wellington Street, between Rymal Road and Mohawk Road (City of Hamilton, 2013). Preliminary property acquisition requirements are shown on design plans provided in Appendix H. Property impacts shall be confirmed during the detailed design phase when the project design is advanced to finalize the design and grading. There may be

opportunities during the detailed design phase in consultation with the City to reduce impacts to properties through design refinements such as modifications to the boulevard.

8.1.12 Construction Schedule

Construction schedule shall be developed during detailed design phase.

8.1.13 Tree Removals, Protection and Planting Plans

Based on current preliminary design, it is anticipated that removal of approximately 45 trees would be required to implement the proposed improvements. Tree impacts (injury and removals) would need to be confirmed during detailed design phase when the design is advanced to a sufficient level of detail and grading limits are defined. There may be opportunities at that time to reduce tree impacts through design refinements and/or through consideration of tree relocation strategies.

To ensure existing tree cover is maintained, the City's Tree Protection Guidelines require 1:1 compensation for any trees to be removed (City of Hamilton, 2010). A Tree Protection Plan would be required during detailed design phase to identify trees to be removed, trees to be preserved, and tree protection and maintenance measures that will be implemented during construction. Additionally, a Landscape Plan will be required to show proposed tree plantings. These plans would need to be developed in accordance with City's Tree Protection Guidelines (2010).

8.1.14 Streetscaping and Landscaping Plan

Dedicated space for streetscaping and landscaping has been provided along the corridor. Segment 1 includes additional planting areas for trees. The ultimate design, including materials, for streetscaping shall be determined detailed design phase.

8.2 Consultation

8.2.1 Consultation with Indigenous Nations

The City shall consult with the Indigenous Nations during detailed design phase to provide them the opportunity to participate in the Stage 2 Archaeological Assessment (and any subsequent assessments, if required).

8.2.2 Consultation with Impacted Property Owners

The City shall undertake thorough consultation with the impacted property owners during detailed design to confirm property requirements and discuss the process for property acquisitions. Where property is required, property acquisition shall be completed in accordance with the City's realty policies and procedures.

8.3 Additional Technical Studies

The following technical studies shall be completed during detailed design phase of the project.

8.3.1 Contamination Study

Based on the Phase I ESA, there is evidence of actual and potential contamination associated with the Site from on-Site and off-Site land uses. An intrusive investigation (i.e., Phase II ESA) shall be completed during detailed design to address the areas of environmental concern with soil and/or ground water sampling to confirm the presence/absence of any contaminants of potential concern associated with the on-Site and off-Site land uses.

8.3.2 Archaeological Assessment(s)

Areas of archaeological potential that would be subject to disturbance as part of project construction, shall be assessed through a Stage 2 Archaeological Assessment (and any subsequent assessments, if required) by a licensed archaeologist as early as possible in the detailed design phase and prior to any ground disturbing activities (e.g., geotechnical drilling). Indigenous Nations shall be invited to participate in future archaeological assessment(s). Results of Stage 1 Archaeological Assessment are shown in Figure 3-22. The Stage 1 Archaeological Assessment Report is provided in Appendix E.

8.3.3 Topographic Survey

A detailed topographic survey shall be completed to inform the subsequent vertical road profile and grading.

8.3.4 Subsurface Utility Engineering

Subsurface Utility Engineering (SUE) investigation shall be completed to confirm locations of utilities and potential conflicts with proposed works.

8.3.5 Structural Load Capacity Assessment

The need for the evaluation of increased load capacity for the overpass over Lincoln M. Alexander Parkway shall be determined. If required, this assessment shall be completed at that time.

8.3.6 Geotechnical Investigation

Geotechnical Investigation shall be completed to identify subsurface conditions along the Study Corridor. This investigation would also support the proposed stormwater management strategy by identifying types of surficial soils and infiltration potential, depth to bedrock, etc.

8.3.7 Hydrogeological Investigation

Hydrogeological Investigation shall be completed to determine groundwater conditions. This investigation would also support the proposed stormwater management strategy by identifying depth to groundwater and seasonal variation, and infiltration potential of surficial soils. This assessment should also identify the need for a Permit to Take Water (PTTW) or Environmental Activity and Sector Registry (EASR) for water taking.

8.4 Anticipated Permits, Approvals and Compliance Actions

The following table provides a preliminary list of permits, approvals and compliance actions that may be required prior to the start of Project construction. The final requirements, including any additional permits or approvals, shall be confirmed during detailed design.

Table 8-1: Anticipated Permits, Approvals and Compliance Actions

Subject Matter	Authority	Permit, Approval, or Compliance Requirement	Relevant Legislation or Policy
Species at Risk	Ministry of the Environment, Conservation and Parks	Advice related to species at risk bats (see Section 7.3.1.2)	*Endangered Species Act*
Water Taking	Ministry of the Environment, Conservation and Parks	Environmental Activity and Sector Registry (EASR) or a Permit to Take Water (PTTW)	*Ontario Water Resources Act*
Archaeological Resources	Ministry of Citizenship and Multiculturalism	Archaeological Clearance (see Section 7.4.2)	*Ontario Heritage Act*
Trees	City of Hamilton	Consultation with City's Forestry & Horticulture section regarding review of tree removal and protection requirements	City's Tree Protection Guidelines
Stormwater	City of Hamilton	Consolidated Linear Infrastructure (CLI) Environmental Compliance Approval (ECA) for sewage works (storm sewers)	*Ontario Water Resources Act*
Construction Noise	City of Hamilton	Exemption from Noise By-law, if required (Contractor's responsibility)	Noise By-law No. 11-285

9 CONSULTATION PROGRAM

9.1 Consultation Approach

Comprehensive consultation was a key component of the Class EA Study. Consultation process carried out during the Class EA study was designed to exceed the formal notice and consultation requirements of the Class EA process. Study notices were distributed, and project information was made using various media (e.g., virtual and in-person consultation events) to provide engagement opportunities to the Indigenous Nations, the public, impacted property owners, government agencies, utilities owners, and interested stakeholder groups. The following sub-sections describe the consultation process for this Class EA Study. Consultation documentation (such as, project notices, PIC materials, emails, etc.) are provided in following appendices:

- Appendix I: Study Contact List
- Appendix J: Study Notices
- Appendix J: Public Consultation
- Appendix K: Agency Consultation
- Appendix L: Indigenous Nations Consultation
- Appendix M: Utility Circulation

9.1.1 Study Webpage

A webpage was developed at the commencement of this study. Information related to the Study was posted on this webpage throughout the Class EA process, including study notices, materials related to PICs, and study reports. The Study webpage can be accessed from this link: https://www.hamilton.ca/environmental-assessments/upper-wellington-street-limeridge-road-east-stone-church-road-east

9.1.2 Study Contact List

A Study Contact List was developed at the commencement of this study. This list included contacts from the Indigenous Nations, City staff, federal and provincial government agencies, utility companies, special interest groups, members of the public who expressed interest in the Study, and the area residents and businesses, including impacted property owners. The Study Contact List was updated throughout the Study. The final Study Contact List is provided in Appendix I. Contact information for members of public and the area residents and businesses, including impacted property owners is not included in the public version of the Study Contact List due to privacy reasons.

9.1.3 Study Notices

Notice of Study Commencement and Public Information Centre #1

A combined Notice of Study Commencement and PIC #1 was issued to introduce this study and invite the Indigenous Nations, the public, impacted property owners, government agencies, utilities owners, and interested stakeholder groups to participate in the Study

process and PIC #1. The following table identifies the method of distribution of this notice. The final notice is provided in Appendix J.

Table 9-1: Notice of Study Commencement and PIC #1 Distribution

Notice Distribution Method	Date
Email circulation to Indigenous Nations	May 13, 2021
Posting on project webpage	May 14, 2021
Issued for mailout to the area residents	May 13, 2021
Email circulation to Government Agencies, Utilities Companies and Special Interest Groups	May 17, 2021
Publications in Hamilton Spectator	May 27, 2021 June 3, 2021

Notice of Public Information Centre #2

A Notice of PIC #2 was issued to invite the Indigenous Nations, government agencies, utility companies, special interest groups, members of the public, and the area residents and businesses to participate in PIC #2. The following table identifies the method of distribution of this notice. The final notice is provided in Appendix J.

Table 9-2: Notice of PIC #2 Distribution

Notice Distribution Method	Date
Hand delivery to properties along Study Corridor	November 18, 2024
Posting on City website (under News Releases section)	November 19, 2024
Posting on project webpage	November 19, 2024
Posting on Ward 8 Councillor’s website	November 20, 2024
Email circulation to Indigenous Nations	November 21, 2024
Email circulation to Government Agencies, Utilities Companies and Special Interest Groups	November 21, 2024
Publications in Hamilton Spectator	November 29, 2024 December 06, 2024

9.2 Public Consultation

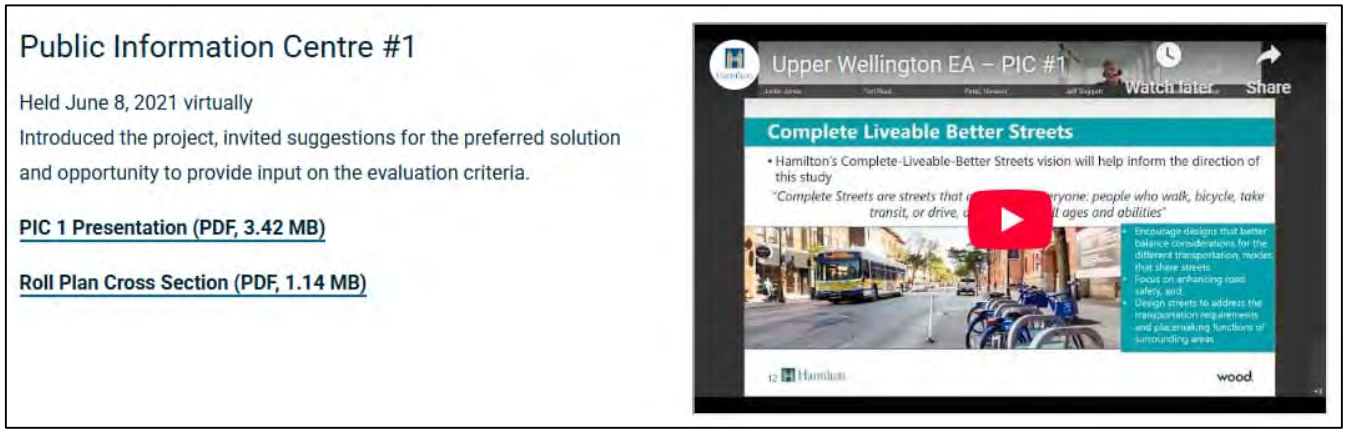
9.2.1 Public Information Centre #1

PIC #1 was held virtually in an online meeting format. The purpose of PIC #1 was to present the study background, Municipal Class EA process, planned and completed technical studies, problem and opportunity statement, and possible cross-sections, while soliciting public feedback to inform future design evaluations and outline the next stage of the process.

The virtual meeting was held on June 8, 2021. The PIC presentation and preliminary roll plan and meeting recording were posted online on the project webpage (Figure 9-1). Comments were invited at the online meeting and during a three-week period following the event (June 8 – 29, 2021).

Online meeting attendees were encouraged to voice their comments during the meeting, or to email them to Study Team Members following the event. A total of 15 attendees joined the online meeting. As of July 14, 2021, the recording obtained 43 views. An online comment form was made available on the project webpage and which interested individuals were invited to fill out by June 29, 2021. The PIC #1 slides are provided in Appendix K.

Figure 9-1: Snapshot of Public Information Centre #1 Materials



9.2.1.1 Summary of Feedback from PIC #1

A summary of key PIC #1 comments and Study Team's responses is provided in Table 9-3. The comments received through PIC #1 were grouped by subject and the content of comments was summarized. Please note that the comments provided in Table 9-3 do not reflect the exact wording, but instead provide a summary of those comments.

Table 9-3: Summary of PIC #1 Comments and Study Team's Responses

Subject	Summary of Comments	Study Team Responses
Bike Lanes / Active Transportation	How would transit stops interact with bicycle lanes?	The City is in the process of reviewing improved treatments for the transit stops along the corridor such as OTM Book 18, Share Cycle Track Transit Stop. Bus stop treatments will be determined during detailed design phase.
	Why isn't there a cycle track / bike lane planned for over the Lincoln Alexander Parkway? If a three-lane cross-section is possible, why can't a bike lane be incorporated over the Lincoln Alexander Parkway with two lanes and a centre lane?	As explained in Section 4, as a result of feedback from the public received during PIC #1, further traffic analysis was suggested by the City staff to build a potential case for a three-lane cross-section. A thorough review was conducted to assess the growth rate along Upper Wellington Street based on the available historical data along other parallel corridors. Based on the updated traffic assessment, it was determined that the Study Corridor is a good candidate for a three-lane cross-section. Accordingly, the preferred solution was revised to include the following: ▪ Stone Church Road to Towercrest Drive: Widening from two to three traffic lanes, including a dedicated centre turn lane and active transportation facilities. ▪ Between Towercrest Drive and Limeridge Road: Road diet to reduce from four to two traffic lanes, with active transportation facilities integrated within the existing roadway (no bridge widening required). Following PIC #1, design options were identified and evaluated that included bike lanes for the entire Study Corridor. The updated Preferred Solution and preferred design was presented at PIC #2.
	Does transportation demand include bike trips?	Yes, all forms of active transportation were included in transportation assessment. The City is trying to encourage different modes of transportation, including walking and cycling.
	Will curbs between bicycle facilities be poured formed concrete or precast?	While there will be bike lanes and sidewalks, the exact details of the facilities, including methods of separation, have not been confirmed yet. This will be determined during detailed design phase of the project.
	Will this be brought to the Hamilton Cycling Advisory Committee during the process that will design the bike lane?	The Hamilton Cycling Advisory Committee was circulated the project information. The Committee is in favour of providing cycling infrastructure as part of this study.
Cross-Sections / Traffic Assessments	When will it be determined if widening will be to 4 lanes or 5 lanes? Have you considered two lanes with a turning lane to match what is there for Upper Wellington Street, south of Stone Church Road? Will the decision for which option to go with be made before PIC 2?	The number of lanes were determined following PIC #1. The number of lanes being proposed are as below: ▪ Stone Church Road to Towercrest Drive: Widening from two to three traffic lanes, including a dedicated centre turn lane and active transportation facilities. ▪ Between Towercrest Drive and Limeridge Road: Reduction from four to two traffic lanes, with active transportation facilities integrated within the existing roadway (no bridge widening required). The updated Preferred Solution and preferred design was presented at PIC #2.
	In other areas of the City they have narrowed motor vehicle lanes to accommodate bike lanes. Is 3.5 m driving lanes on par with this? Wider lanes make it comfortable for speeding.	Narrow lanes were designed per input from City staff and City's Complete Streets Design Guidelines (June 2022): 3.0m thru traffic, 3.5m center-turn.
	What's the plan where the lanes change from 4 lane to 2 lanes in the area "50m south of the intersection at Stone Church"? If capacity with 4 lanes is "well below" in the north section of Upper Wellington, why increase to 4 lanes instead of two with a turning lane? What is the capacity to the south?	There is no widening proposed south of Stone Church. The section of Upper Wellington Street, between Stone Church Road to Towercrest Drive is being proposed to be widened from two lanes to three lanes (two thru lanes and a centre turn lane). This lane configuration would be consistent with existing lane configuration south of Stone Church Road. The area to the south of Stone Church Road is beyond the scope of this study so no traffic analysis was completed for that section.

Subject	Summary of Comments	Study Team Responses
	Have you considered 3 lanes of contraflow for motorists? 2 lanes for the rush hour direction and 1 in the other?	A three-lane cross-section for Segment 1 was considered, which included two thru lanes, and one centre-turn lane.
	Do your traffic projections consider the need to use transit more than single occupied vehicles in the future?	Yes, the traffic projections came out of the City's transportation master plan which considers transportation management.
	Doesn't this just put the same problem onto the area south of Stone Church?	Not necessarily, the traffic assessment showed lots of turning movements occurring at the Upper Wellington/Stone Church intersection.
Utilities	Will the utilities be moved in all the possible cross-section scenarios?	Utilities along the Study Corridor will require relocation. The City will consult with utilities owners during detailed design phase to identify exact utility-conflicts and coordinate relocation of utilities, as required.
	Will hydro lines be relocated underground as part of this project?	At this time, utilities are not planned to be relocated underground. This is due to factors such as the construction budget, utility provider infrastructure plans, and provincial legislation.
	Will a sewer line be installed as part of this project along Sirente Drive?	Storm sewer infrastructure is proposed for the Study Corridor as part of this Class EA Study. Sanitary sewer needs assessment is outside the scope of this study.
Other / General Comments	Does the future transportation projects for traffic factor in the proposed long-term care facility at 1411 Upper Wellington?	As part of this study traffic assessments related to future developments were made available, and were taken into consideration.
	What is the current width of the section of Upper Wellington that needs to be improved?	The roadway's width is inconsistent throughout the corridor. Segment 1 varies between 20 m and 30 m, but Segment 2 is significantly wider, ranging from 25 m to 60 m.
	Does the impact on properties require any land acquisition/expropriation?	Preliminary property acquisition requirements are shown on design plans provided in Appendix H. Property requirements will be confirmed during detailed design phase when the design is advanced to a sufficient level of detail and grading limits are defined.
	What is the estimated cost of project?	The preliminary construction cost estimate for the project is provided in Section 6.2.
	What cultural/archaeological sites have been identified?	As discussed in Section 3.4.1, the Cultural Heritage Report identified three (3) properties inventoried on the City's Heritage Inventory. Of these, one was demolished previously, leaving two extant properties: 1355 Upper Wellington Street (CHR 1) and 164 Limeridge Road (CHR 2). The location of these properties is shown on Figure 3-21. Project's potential impacts and mitigation measures are discussed in Section 7.4.1. As discussed in Section 3.4.2, the Stage 1 Archaeological Assessment, which indicated that the Archaeological Study Area has archaeological potential. Areas of archaeological potential that would be subject to disturbance as part of project construction, will be assessed through a Stage 2 Archaeological Assessment (and any subsequent assessments, if required) by a licensed archaeologist as early as possible in the detailed design phase and prior to any ground disturbing activities (e.g., geotechnical drilling). Indigenous Nations will be invited to participate in future archaeological assessment(s). Results of Stage 1 Archaeological Assessment are shown in Figure 3-22.
	Is the grading considered to be changed? Properties at 1318-1324 Upper Wellington have some concerns.	Grading will be determined during detailed design phase.
	What is the traffic annual growth rate of study area?	A compound annual growth rate (CAGR) of 1% was applied, based on discussions with the City.

9.2.2 Public Information Centre #2

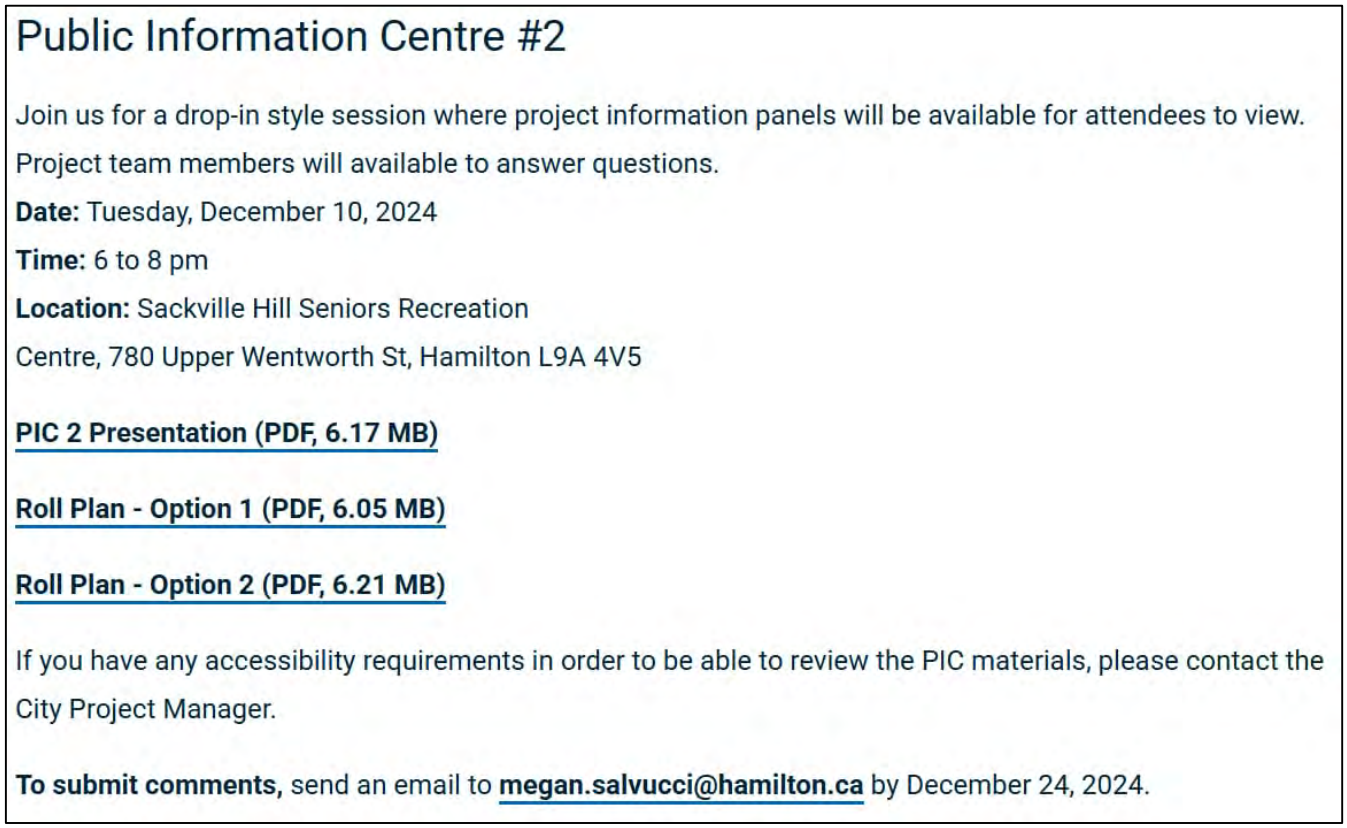
PIC #2 was held in a hybrid format (in-person and online posting of PIC materials). The purpose of PIC #2 was to present the Preliminary Preferred Design for the Study Corridor and solicit public feedback.

The in-person event was hosted at Sackville Hill Seniors Recreation on Tuesday, December 10, 2024 from 6 to 8 pm. During the in-person event, information panels were set up along the perimeter of the room and roll plan of the preliminary preferred design was set up in the middle of the room for attendees to review (Figure 9-3). The PIC materials were also posted online on the project webpage on December 10, 2024 for interested parties to review on their own time (Figure 9-3).

The attendees at the in-person event were encouraged to sign-in, ask any questions and provide feedback using the comment forms. Questions/comments were also invited by December 31, 2024 via email. A total of four (4) individuals signed up on the sign-in sheet. The PIC #2 slides are provided in Appendix K.

Figure 9-2: Public Information Centre #2 – In-Person Event Setup

Figure 9-3: Snapshot of Public Information Centre #2 Materials



Public Information Centre #2

Join us for a drop-in style session where project information panels will be available for attendees to view. Project team members will available to answer questions.

Date: Tuesday, December 10, 2024

Time: 6 to 8 pm

Location: Sackville Hill Seniors Recreation Centre, 780 Upper Wentworth St, Hamilton L9A 4V5

PIC 2 Presentation (PDF, 6.17 MB)

Roll Plan - Option 1 (PDF, 6.05 MB)

Roll Plan - Option 2 (PDF, 6.21 MB)

If you have any accessibility requirements in order to be able to review the PIC materials, please contact the City Project Manager.

To submit comments, send an email to **megan.salvucci@hamilton.ca** by December 24, 2024.

9.2.2.1 Summary of Feedback from PIC #2

A summary of key PIC #2 comments and Study Team's responses is provided in Table 9-4. The comments received through PIC #1 were grouped by subject and the content of comments was summarized. Please note that the comments provided in Table 9-4 do not reflect the exact wording, but instead provide a summary of those comments.

Table 9-4: Summary of PIC #2 Comments and Study Team's Responses

Subject	Summary of Comments	Study Team Responses
Preference for Widening to Four-Lane Cross-Section	It would be beneficial to have two lanes each way within the Study Corridor, instead of just one lane each way, making it a viable alternative route to Rymal Road. Currently, heading south on this street is inconvenient. Nearby businesses would likely benefit from improved accessibility for their customers.	A four-lane cross-section was initially proposed for the Study Corridor and presented at PIC #1 in 2021. However, following public feedback raised concerns about the need for a four-lane cross-section, as the section to the south only has three lanes. Issues such as significant property takings, the removal of mature trees, and potential increases in vehicle speeds were highlighted. In response, the Project Team conducted further analysis to evaluate the feasibility of a three-lane cross-section. A review of historical growth data along other parallel corridors confirmed that the Study Corridor would be suitable for a three-lane configuration. Please refer to Section 4 for more details.
Concern about Proposed Planting Strips	The proposed planting strips on both sides of Upper Wellington Street, between Stone Church Road and Towercrest Drive/Sirente Drive, are unnecessary. Eliminating them will save tax dollars by avoiding the costs of maintaining and replacing grass and trees, which are frequently damaged by plows, grass cutting, and City crews. The buffer/planting area should be made of materials like asphalt or concrete instead.	There will be tree removals required along the Study Corridor as part of the construction of proposed road improvements. The proposed planting strip will provide space to provide compensation for tree removals by planting trees.
Safety Concern	There is a concern with a three-lane cross-section that when a bus stops, drivers pass the bus in the left turn lane.	Bus stop locations will be reviewed in consultation with the City during the detailed design phase. Curb side stops in reduced corridors occurs in many cities and is part of an overall strategy to prioritize a complete street design.
Preference for Road Design Option 1	The section of Upper Wellington Street south of Stone Church Road has on-street bike lanes wide enough for safe bicycle travel without interfering with traffic. The three traffic lanes are also wide enough that large vehicles do not encroach on the bike lanes. To improve safety, the City could install flexible bollards along the bike lane in front of houses to prevent interference with driveways. Road Design Option 1 (On-street Bike Lanes) is preferred over Road Design Option 2 (Off-street Bike Lanes). Option 1 is cheaper, better aligns with the existing infrastructure, and is safer than current conditions, where cyclists must navigate power poles and gravel. The funds saved by choosing Option 1 could be redirected to repave Upper Wellington Street north of Limeridge Road, where the pavement is in poor condition. While bicycle advocates would support Option 2, the green strip between cars and bicycles doesn't provide significant additional value. A more responsible use of taxpayer dollars would be to adopt Option 1 and use the savings to address other road issues.	Option 2 with off-street bike lanes has been identified as the preferred alternative. Off-street bike lanes improve safety and provide separation of passenger vehicle and cycling traffic, reducing conflicts and providing a better user experience. Specific buffering types between cycling and sidewalks/roads will be reviewed during the detailed design phase.

9.3 Agency Consultation

The City contacted the following agencies as part this Class EA Study:

- Hamilton Conservation Authority
- Ministry of Citizenship and Multiculturalism
- Ministry of Municipal Affairs & Housing
- Ontario Provincial Police
- Infrastructure Ontario
- Ministry of Energy
- Ministry of the Environment, Conservation and Parks
- Ministry of Economic Development
- Ministry of Transportation
- Ministry of Natural Resources
- Niagara Escarpment Commission
- Environment and Climate Change Canada
- Impact Assessment Agency of Canada
- Transport Canada

The following sub-sections provide a summary of comments received from the government agencies and Study Team's responses.

9.3.1 Transport Canada

On December 18, 2024, the Transport Canada Assessment Program responded to the Notice of PIC #2, requesting removal from the mail distribution list. They indicated that future notices should be sent electronically to EnviroOnt@tc.gc.ca. Transport Canada also clarified that they do not need to receive all Individual or Class EA notifications. Instead, project proponents should self-assess whether their project:

- Will interact with federal property and/or waterways by reviewing the Directory of Federal Real Property (www.tbs-sct.gc.ca/dfrp-rbif/); and
- Will require approval and/or authorization under any Acts administered by Transport Canada (http://www.tc.gc.ca/eng/acts-regulations/menu.htm).

If these criteria do not apply, Transport Canada should not be included in further correspondence, and future notifications will not receive a response. If there is a role under the program, correspondence should be sent to EnviroOnt@tc.gc.ca with a brief description of Transport Canada's expected role.

Transport Canada identified the following most common Acts relevant to projects in an Environmental Assessment context:

- *Canadian Navigable Waters Act*
- *Railway Safety Act*
- *Transportation of Dangerous Goods Act*
- *Aeronautics Act*

The Study Team notes that the project involves improvements to a municipal roadway and does not interact with federal property or Acts administered by Transport Canada.

The Study Team responded to Transport Canada on the same day, confirming their removal from the Study Contact List.

9.3.2 Ministry of the Environment, Conservation and Parks

On May 25, 2021, the MECP staff provided a response to the Notice of Study Commencement and PIC #1, and shared Ministry's letter of acknowledgement and Client's Guide to Preliminary Screening for Species at Risk (Draft – May 2019).

The letter included Ministry's updated (February 2021) "Areas of Interest" document, which provided guidance regarding the Ministry's interests with respect to the Class EA process. Through the acknowledgement letter, the MECP delegated the procedural aspects of rights-based consultation to the City. The letter identified the following indigenous communities as potentially affected by the project and required consultation:

- Mississaugas of the Credit First Nation (MCFN)
- Six Nations of the Grand River (SNGR) (Elected Council and Haudenosaunee Confederacy Chiefs Council (HCCC) with a copy to Haudenosaunee Development Institute (HDI))

9.3.3 Ministry of Citizenship and Multiculturalism

As noted in Section 3.4.1, the following documents were prepared as part of this Class EA Study to identify BHRs and CHLs along the Study Corridor:

- Cultural Heritage Memo (dated September 14, 2021)
- Cultural Heritage Report: Existing Conditions and Preliminary Impact Assessment (Cultural Heritage Report) (dated April 4, 2025)

The Study Team contacted the MCM to seek input in the preparation and finalization of both documents.

As part of the preparation of the Cultural Heritage Memo, the Study Team contacted the MCM on January 25, 2021, to request information to help identify protected and potential cultural heritage resources within, and adjacent to, the Study Area. On January 27, 2021, the MCM provided a response, noting that no properties have been designated by the Minister of Citizenship and Multiculturalism under the *Ontario Heritage Act*. They also noted that the Ministry is not aware of any provincial heritage properties within or adjacent to the Study Area.

On June 24, 2021, the MCM staff provided a response to the Notice of Study Commencement and PIC #1, requesting information about Stage 1 Archaeological Assessment and Cultural Heritage Memo (MCM Checklist: Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscapes). MCM requested technical cultural heritage studies for this undertaking before issuing a Notice of Completion or commencing any work on the site.

On February 21, 2023, the Study Team shared the draft Cultural Heritage Memo with the Ministry for review. On March 17, 2023, the Ministry provided a response, noting if the

preferred alternative could directly or indirectly impact any of the identified potential cultural heritage resources, then the Cultural Heritage Assessment Report as recommended in the memo, will be required.

As part of the preparation of the Cultural Heritage Report, the Study Team contacted the MCM on July 26, 2024, to request information to help identify known and potential built heritage resources and cultural heritage landscapes in the Study Area, as well as any general information, background history, or photographs of the Study Area. On August 12, 2024, the MCM provided a response, noting that no properties have been designated by the Minister of Citizenship and Multiculturalism under the *Ontario Heritage Act* as of yet. They also noted that there are no known provincial heritage properties within or adjacent to the Study Area.

On February 28, 2025, the Study Team shared the draft Cultural Heritage Report with the MCM for review. On April 1, 2025, the Ministry completed its review of the report, and issued a letter noting that the report is generally consistent with MCM guidance and expectations, and have no substantial concerns with it. The Ministry commented that as the findings of such a report rely on the professional expertise of its authors, it should include a summary of each staff member's qualifications and their individual role in the preparation of the report. The final report including authors' qualifications was submitted to the Ministry on April 4, 2025.

9.3.4 Ontario Heritage Trust

On July 26, 2024, the Study Team contacted the Ontario Heritage Trust to request information to help identify known and potential built heritage resources and cultural heritage landscapes in the Study Area, as well as any general information, background history, or photographs of the Study Area.

On August 15, 2024, Ontario Heritage Trust provided a response, confirming that the Study Area does not contain (nor is it adjacent to) any properties subject to a Trust easement or Trust ownership, or a provincial plaque. Further, *Ontario Heritage Act* Register does not list any designated properties within the Study Area, although the Trust cannot guarantee the completeness of the information as it relies on municipalities sharing information on designations.

9.3.5 Hamilton Conservation Authority

On October 19, 2020, City staff informed HCA about the commencement of a Study. HCA responded on January 7, 2021, indicating that the proposed road widening does not intersect HCA's regulated features but expressed interest in ongoing engagement regarding stormwater management studies. HCA requested continued correspondence as the Study progresses.

On February 3, 2021, City staff shared the draft Stormwater Management Existing Conditions Report with HCA for review. HCA provided comments on February 19, 2021, noting that the Study Area contributes stormwater to the trunk storm sewer at T.B. McQuesten Community Park. HCA deferred to City of Hamilton staff regarding constraints related to the Upper Wellington stormwater capacity assessment but highlighted that municipal sewers in the Upper Ottawa subwatershed contribute stormwater to Red Hill Creek and Hamilton Harbour. HCA recommended additional measures to meet Level 1 quality control requirements and

suggested revising the report's quality control section to include measures suitable to the municipal road network given ongoing concerns with the Mount Brow SWM, which is not meeting Level 2 requirements.

Proposed stormwater management measures are summarized in Section 6.1.8 of this report. The Stormwater Management Report is provided in Appendix F.

9.4 Indigenous Nations Consultation

The City contacted the following Indigenous Nations as part this Class EA Study:

- Mississaugas of the Credit First Nation (MCFN)
- Six Nations of the Grand River (SNGR) (Elected Council)
- Haudenosaunee Confederacy Chiefs Council (HCCC) as represented by Haudenosaunee Development Institute (HDI))
- Huron-Wendat Nation (HWN)
- Métis Nation of Ontario (MNO)

The following sections provide a summary of communications between the City staff and the Indigenous Nations, as provided by the City staff.

9.4.1 Mississaugas of the Credit First Nation

Communication between the City staff and MCFN is summarized in the following table.

Table 9-5: Communication with Mississaugas of the Credit First Nation

Date	Summary of Communication
November 26, 2020	City sent Project introduction email, including: ■ Project introduction cover letter ■ Project summary memo Received response and request for information from Fawn Sault on December 1, 2020 ("MCFN Response to Upper Wellington Street Municipal Class EA"). Received response and request for information from Megan DeVries on December 2, 2020 ("MCFN Archaeological Review for Upper Wellington Municipal Class EA" and "MCFN FLR Participation for Upper Wellington Street Municipal Class EA").
December 14, 2020	The City staff called MCFN to inform that the response to MCFN’s letters of December 1, 2020 and December 20, 2020, was being prepared but that it would not be completed within the requested two-

Date	Summary of Communication
	week window. It was noted that the City would provide information as soon as possible. No concerns were raised by the MCFN.
December 15, 2020	The City staff sent follow-up email to MCFN to inform that the response to MCFN's letters of December 1, 2020 and December 2, 2020, was being prepared but that it would not be completed within the requested two-week window. It was noted that the City would provide information as soon as possible. No response was received.
January 13, 2021	The City staff sent follow-up email to MCFN to inform that a response including the information requested would be available early the following week. Also mentioned that the Purchas Order has been received and that our next step was to sign the agreement related to the review of the draft Stage 1 Assessment. Advised that the request to participate in natural heritage field work would be discussed during the meeting on January 15, 2021. No response was received.
January 18, 2021	The City staff sent follow-up email, providing response to MCFN's letters received on December 1, 2020 and December 2, 2020.
January 19, 2021	MCFN thanked City staff for letter of response, and indicated that they would look forward to receiving the review agreement.
February 5, 2021	The City staff sent agreement for the review of the Stage 1 Archaeological Assessment signed by the City of Hamilton. Received the fully executed agreement on February 5, 2021.
February 17, 2021	The City staff sent draft Stage 1 Archaeological Assessment Report for review. Sent follow-up email on February 23, 2021 to ensure documents were received. MCFN provided a response that day, indicating that comments would be provided in approximately 2-3 weeks.
May 17, 2021	The City staff sent the Notice of Commencement & PIC #1.
June 28, 2021	The City staff called MCFN to inquire about any comments on the Notice of Commencement & PIC #1. MCFN indicated that there were no comments on the Project and requested to be kept involved in archaeological and natural heritage components.
November 20, 2024	The City staff sent the Notice of PIC#2 via mail.
November 21, 2024	The City staff sent the Notice of PIC#2 via email.

Date	Summary of Communication
December 12, 2024	The City staff called MCFN to follow-up on the Notic of PIC #2. MCFN indicated that they hired an Environmental Manager that would take over all the EA related files. It was indicated that the staff was reviewing EA project files, and there were no comments regarding this project. MCFN requested that ESR be sent to them, when prepared, for review.

9.4.2 Six Nations of the Grand River

Communication between the City staff and SNGR is summarized in the following table.

Table 9-6: Communication with Six Nations of the Grand River

Date	Summary of Communication
November 26, 2020	City sent Project introduction email, including: ■ Project introduction cover letter ■ Project summary memo Received acknowledgement email from SNGR on November 27, 2020, noting that they will review draft Stage 1 Archaeological Assessment Report.
November 27, 2020	SNGR Archaeology staff acknowledged that the received City email with Project introduction documents. SNGR expressed interest in receiving the draft Stage 1 Archaeological Assessment Report.
February 17, 2021	The City staff sent draft Stage 1 Archaeological Assessment Report for review.
February 18, 2021	SNGR Archaeology staff acknowledged receipt of the draft Stage 1 Archaeological Assessment Report.
March 4, 2021	The City staff sent follow-up email to confirm if documents were received. SNGR replied on March 5, 2021, indicating that the documents were received.
May 17, 2021	The City staff sent the Notice of Commencement & PIC #1.
May 17, 2021	SNGR Archaeology staff acknowledged that the received Notice of Commencement and PIC #1.
June 28, 2021	The City staff called SNGR to follow up about the Notice of Commencement & PIC #1. The City staff left a voice message with reception that they would try calling again.
November 20, 2024	The City staff the Notice of PIC#2 via mail.
November 21, 2024	The City staff the Notice of PIC#2 via email.
December 2, 2024	SNGR Lands staff requested that the project documents be sent to them, when available. The City staff shared PIC #2 panels, noting that they show the alternative design assessment process. It was noted that the Environmental Study Report can be sent to SNGR, when completed (in approximately 6 to 8 months). The City staff inquired if SNGR staff wanted anything else / have more information on.

Date	Summary of Communication
December 12, 2024	The City staff called SNGR to follow-up on the Notic of PIC #2. SNGR staff indicated that they would forward City staff's message to appropriate staff at SNGR to reach out to the City if they have any questions about the Project.
December 13, 2024	As a follow up to City staff's voice message of December 12, 2024, SNGR Lands staff indicated that the EIS/Natural heritage study will be the most important document for their review. The City staff shared the Natural Heritage Assessment for SNGR Land staff's review and comments. No comments were received from SNGR on the Natural Heritage Assessment as of March 24, 2025.
December 13, 2024	As a follow up to City staff's voice message of December 12, 2024, SNGR Archaeology staff indicated that any Archaeology related requested be sent to them in the future. The City staff provided a response indicating that the Archaeological Assessment for this project was completed in 2021, and the Study Team were at the final stages of this EA now. The City staff forwarded the Stage 1 Archaeological Assessment Report to SNGR Archaeology staff on December 16, 2024. No comments were received from SNGR on the Stage 1 Archaeological Assessment as of March 24, 2025.

9.4.3 Haudenosaunee Confederacy Chiefs Council as represented by Haudenosaunee Development Institute

Communication between the City staff and HDI is summarized in the following table.

Table 9-7: Communication with Haudenosaunee Development Institute

Date	Summary of Communication
November 26, 2020	City sent Project introduction email, including: ■ Project introduction cover letter ■ Project summary memo
February 17, 2021	The City staff sent draft Stage 1 Archaeological Assessment Report for review.
February 23, 2021	The City staff sent a follow-up email to confirm if documents were received. No response was received.
May 17, 2021	The City staff sent the Notice of Commencement & PIC #1.
June 28, 2021	The City staff attempted to contact HDI via a phone call to follow up on the Notice of Commencement and PIC #1, but did not receive a response.
June 29, 2021	The City staff called HDI to follow up on the Notice of Commencement and PIC #1. The City staff left a voice message, requesting HDI staff to call back or respond to email if there are any comments, questions, concerns.
November 20, 2024	The City staff the Notice of PIC#2 via mail.
November 21, 2024	The City staff the Notice of PIC#2 via email.
December 12, 2024	The City staff called HDI to follow-up on the Notic of PIC #2. The City staff spoke to HDI Admin, which provided the correct email address for Todd Williams (toddwilliams@hdi.land) and informed the City staff to reach out again to the general email address (info@hdi.land) and email Todd.
December 12, 2024	The City staff contacted the general email address and Todd Williams to inquire if HDI had any comments regarding the Project. No response was received from HDI as of March 24, 2025.

9.4.4 Huron-Wendat Nation

Communication between the City staff and HWN is summarized in the following table.

Table 9-8: Communication with Huron-Wendat Nation

Date	Summary of Communication
November 26, 2020	City sent Project introduction email, including: ■ Project introduction cover letter ■ Project summary memo Received acknowledgement email from HWN on November 27, 2020, indicating that they would review materials and looked forward to reviewing draft Stage 1 Archaeological Assessment Report.
February 17, 2021	The City staff sent draft Stage 1 Archaeological Assessment Report for review.
February 22, 2021	Received response from HSN, indicating no comments on the content of the report. HWN expressed interest in participating in Stage 2 archaeological assessment fieldwork.
May 17, 2021	The City staff sent the Notice of Commencement & PIC #1.
November 20, 2024	The City staff the Notice of PIC#2 via mail.
November 21, 2024	The City staff the Notice of PIC#2 via email.
December 4, 2024	HWN expressed interest in participating in Stage 2 archaeological assessment fieldwork.
December 5, 2024	The City staff shared the Stage 1 Archaeological Report and noted that the EA is approaching is final phase. The City staff noted that the City will contact HWN during detail design phase to coordinate HWN's participation in Stage 2 archaeological assessment fieldwork.
December 12, 2024	The City staff contacted left a voice message, requesting HWN staff to reach out to if they have any comments regarding the Project. No response was received from HWN as of March 24, 2025.

9.4.5 Métis Nation of Ontario

Communication between the City staff and MNO is summarized in the following table.

Table 9-9: Communication with Métis Nation of Ontario

Date	Summary of Communication
May 17, 2021	The City staff sent the Notice of Commencement & PIC #1.
City November 20, 2024	The City staff the Notice of PIC#2 via mail.
November 21, 2024	The City staff the Notice of PIC#2 via email.
December 12, 2024	The City staff contacted left a voice message, requesting MNO staff to reach out to if they have any comments regarding the Project. No response was received from MNO as of March 24, 2025.

9.5 Utility Circulation

9.5.1 Alectra Utilities

On September 23, 2024, the City shared cross-sections and roll plans for the proposed Road Design Options 1 and 2 to obtain Alectra Utilities' input regarding potential utility impacts. It was noted that the existing hydro poles would likely need to be relocated. We seek your input on this relocation for evaluation purposes, as well as the corresponding financial implications.

On October 4, 2024, Alectra Utilities responded, noting that they have 19 poles on the west side and one pole on the east side of Study Corridor Segment 1 that would require relocation. Alectra Utilities confirmed that there are no poles along Study Corridor Segment 2.
The estimated cost for the relocations along the Study Corridor is approximately $580,000 (2024 dollars). The costs for labor and equipment will be split 50-50 between Alectra Utilities and the City of Hamilton, with Alectra Utilities covering all material costs. This will result in an approximate cost of $290,000 (2024 dollars) to the City of Hamilton.

Alectra Utilities staff noted that once 60%-90% design drawings are provided to them during detailed design phase, they can complete more thorough analysis of the details and provide a more accurate estimate.

10 CLOSURE

This report has documented the planning, consultation, and decision-making process for improvements to Upper Wellington Street, between Stone Church Road East and Limeridge Road East, in accordance with the Municipal Class EA process for a Schedule ‘C’ project. This report is available for review by the Indigenous Nations, the public, impacted property owners, government agencies, utilities owners, and interested stakeholder groups. The location and timing of the review of this report is identified in the Notice of Study Completion. Interested persons are encouraged to provide written comments to the following contact in accordance with the timeline identified in the Notice of Study Completion:

Megan Salvucci, RPP
Senior Project Manager – Infrastructure Programming and Planning
City of Hamilton
megan.salvucci@hamilton.ca

11 REFERENCES

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