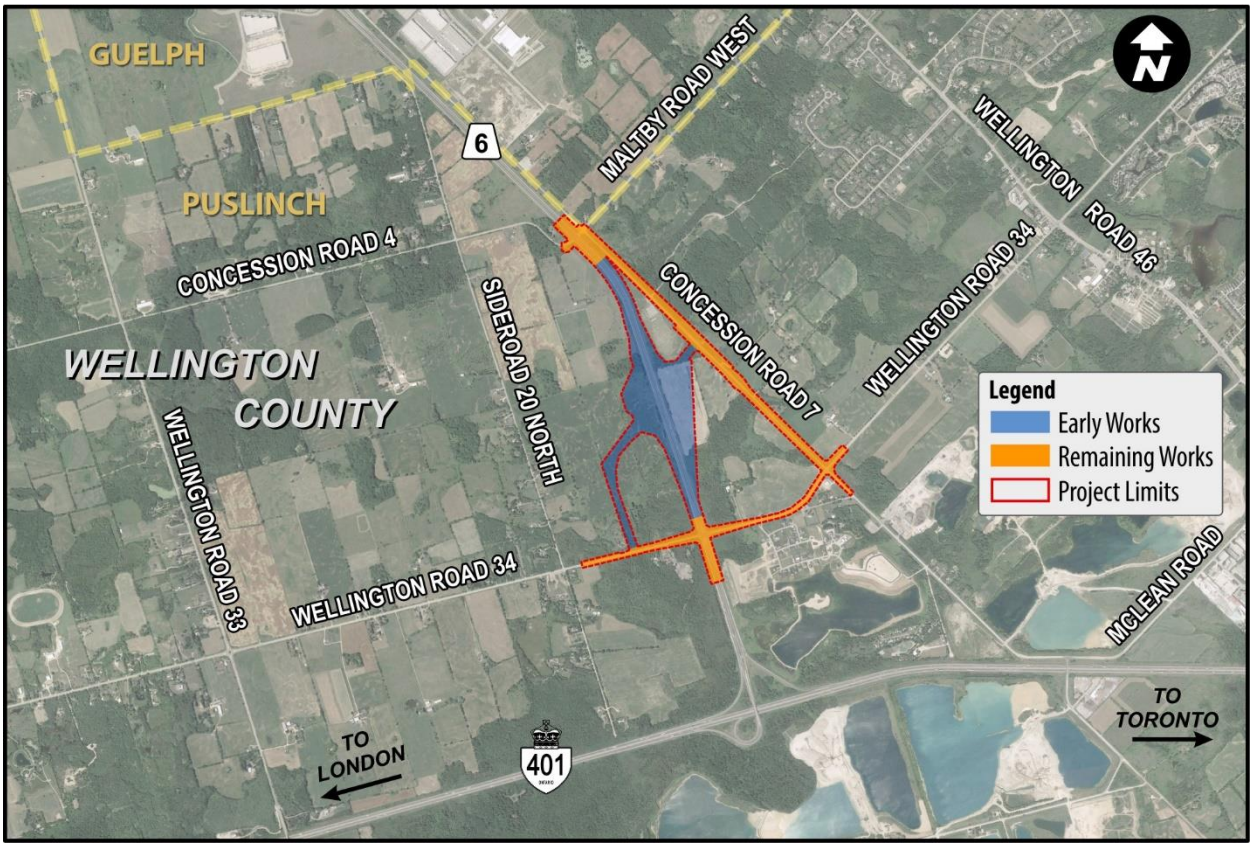
Design and Construction Report #2

Highway 6/Hanlon Expressway Midblock Interchange – Remaining Works

Township of Puslinch, Township of Guelph/Eramosa, in the County of Wellington, Ontario

G.W.P. 3059-20-00
DB Contract Number: 2021-3004



June 2023
Final

ISSUANCE APPROVAL

Prepared By	Reviewed and Approved By
	
Christine Green, B.A.	Peter Bamforth, P.Eng, CEng, MICE
Environmental Planner	Consultant Senior Project Manager

DISCLAIMER

The Public Record

This Design and Construction Report has been prepared under the Ontario Ministry of Transportation's *Class Environmental Assessment for Provincial Transportation Facilities* (2000), in compliance with the requirements of the *Ontario Environmental Assessment Act*. This Design and Construction Report has been prepared to document the recommended improvements, consultation undertaken, and potential environmental issues and mitigation measures associated with the Design-Build and Group "A" Class Environmental Assessment process for the Remaining Works of the Highway 6/Hanlon Expressway Midblock Interchange project.

A copy of this document has been submitted to the following office of the Ministry of the Environment, Conservation and Parks:

Ministry of the Environment, Conservation and Parks
West Central Region – Guelph District Office
1 Stone Road West, 4th Floor
Guelph, ON N1G 4Y2

A copy of this Design and Construction Report is available for review online at https://highway6midblock.ca/reports/ for a 30-day public and agency review period. If you wish to review the Report and require an alternate format, you may email the Project Team at ProjectTeam@Highway6midblock.ca to discuss review options.

Comments are being collected to provide and obtain information, and to identify concerns in accordance with the *Ontario Environmental Assessment Act*. This material will be maintained on file for use during the study and may be included in project documentation.

Information collected will be used in accordance with the *Freedom of Information and Protection of Privacy Act*. With the exception of personal information, all comments will become part of the public record.

If you have any accessibility requirements in order to participate in this project, please contact the Project Team at ProjectTeam@Highway6midblock.ca.

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1.0 PROJECT OVERVIEW

1.1 Project Location and Background

The Highways 6 and 401 Improvements from Hamilton north limits to Guelph south limits ("The Overall Project", G.W.P. 3042-14-00) are being undertaken by the Ontario Ministry of Transportation (MTO) in a phased approach.

- Phase 1, which was completed in 2020, included the replacement of the Concession Road 7 Bridge over Highway 401.
- Phase 2 includes the Class Environmental Assessment (Class EA), detail design and construction (i.e., Design-Build) of the Highway 6 / Hanlon Expressway Midblock Interchange, just north of Highway 401 (the Project, G.W.P. 3059-20-00).
- MTO is currently reviewing opportunities for the next phases of the Highways 6 & 401 Improvements Project. Once that has been confirmed, the timelines and details will be announced. The ministry is continuing all necessary field work and design in order to complete this project.

In 2022, the Design-Build contract for Phase 2 was awarded to Dufferin Construction, in which WSP Canada Inc. was acquired as the Designer. Phase 2 is located within the Township of Puslinch and Township of Guelph/Eramosa, in the County of Wellington (refer to **Figure 1**).

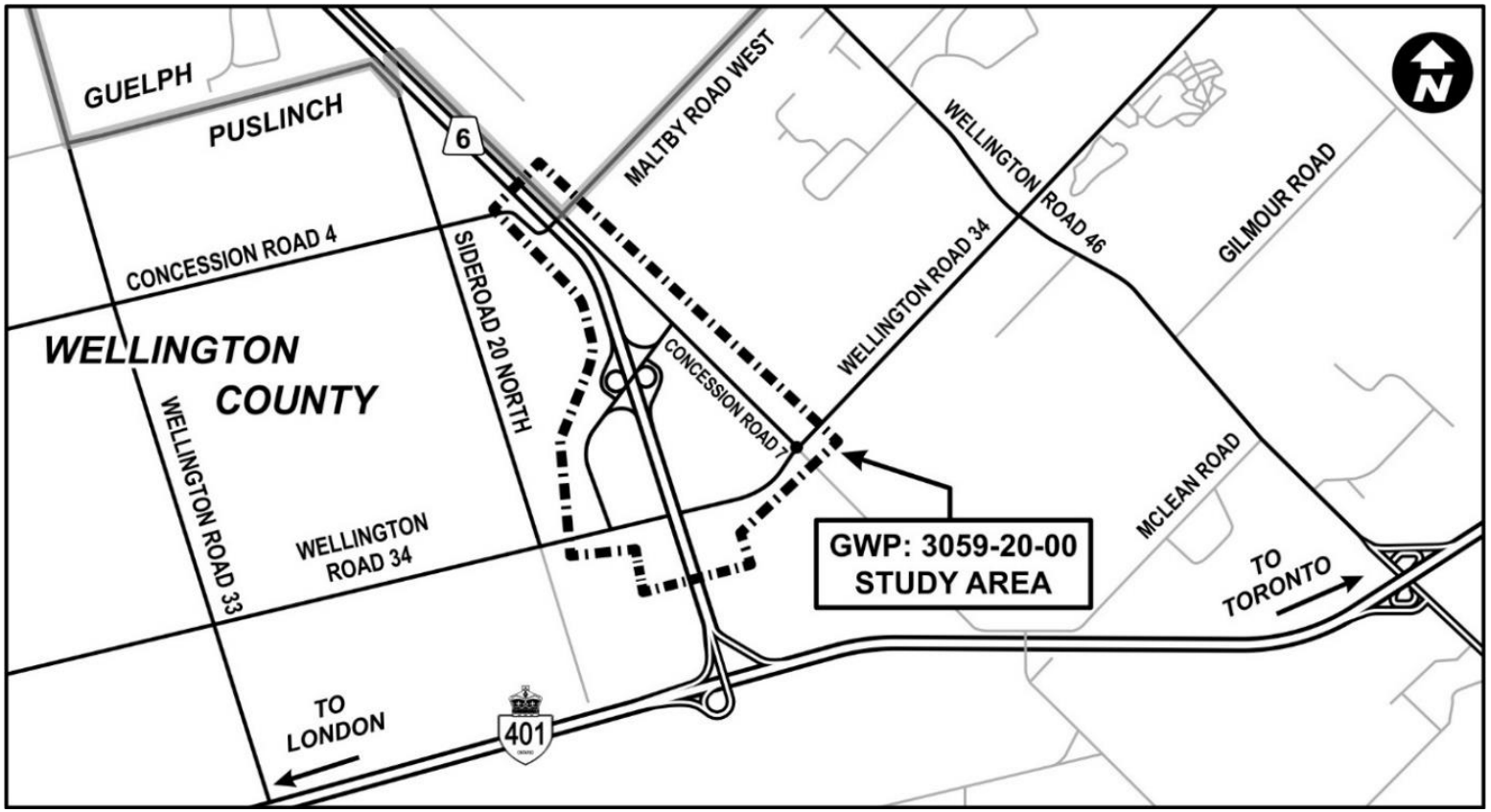


Figure 1: Study Area for the Highway 6 / Hanlon Expressway Midblock Interchange Project (G.W.P. 3059-20-00)

1.2 Proposed Works

The proposed works for Phase 2 have been split into two (2) separate design packages (referred to as “Early Works” and “Remaining Works”). This split was undertaken to clear and commence the construction of the Midblock Bridge and Interchange (i.e., the Early Works), prior to the commencement of work at Wellington Road 34, Concession Road 7 and Maltby Road West (i.e., the Remaining Works). Therefore, two (2) Design and Construction Reports (DCRs) were prepared for Phase 2. This report (i.e., DCR #2) focuses solely on the Remaining Works for the Midblock Bridge and Interchange. DCR #1 (WSP, 2022) was produced under a separate cover and published for review in September 2022.

1.2.1 Early Works

The Early Works (DCR #1) scope of work included:

- Construction of a new Midblock Interchange on Highway 6 / Hanlon Expressway, north of Wellington Road 34;
- Construction of a new road to connect the Midblock Interchange to Concession Road 7 and to Wellington Road 34; and,
- Drainage improvements, such as infiltration ponds for stormwater management.

1.2.2 Remaining Works

The Remaining Works (DCR #2) scope of work includes:

- Removal of the signalized intersection on the Highway 6 / Hanlon Expressway at Wellington Road 34 and the addition of a new bridge over the Hanlon Expressway;
- Reconstruction and realignment of Concession Road 7, between Wellington Road 34 and Maltby Road;
- Closure of the Maltby Road / Concession Road 4 intersection;
- A new roundabout at the Wellington Road 34 / Concession Road 7 intersection;
- Installation of new overhead sign structures, traffic signals and partial illumination; and,
- Emergency and maintenance vehicle turnarounds along the Hanlon Expressway (one north of Maltby Road and one south of Wellington Road 34).

Figure 2 depicts the overall limits of Phase 2 and delineation of the Remaining Works.

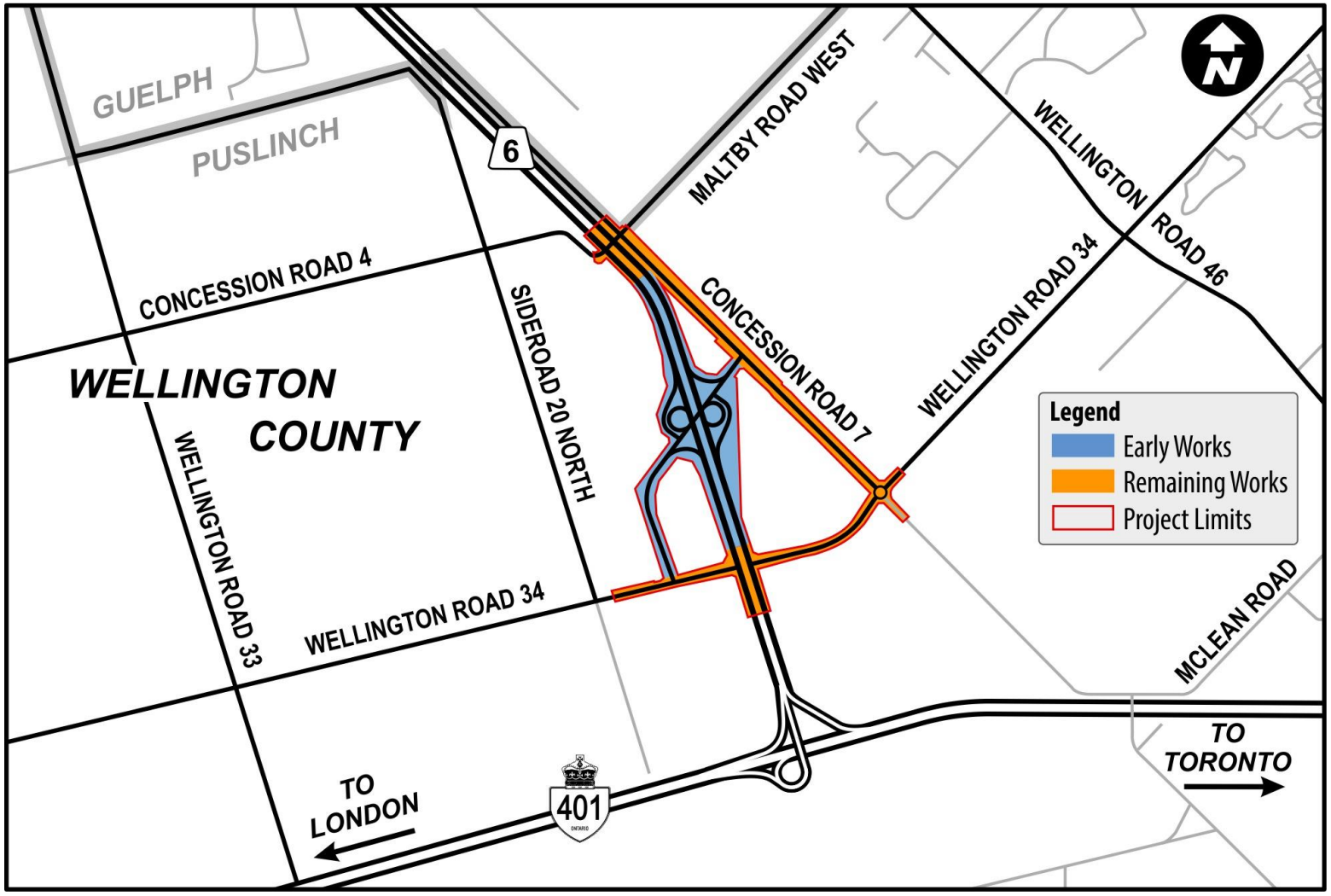


Figure 2: Limits of the Remaining Works

2.0 ENVIRONMENTAL ASSESSMENT PROCESS

2.1 Federal Impact Assessment Act

The proposed improvements associated with this project are not listed as a "designated project" under the Federal *Impact Assessment Act (2019)*, and the work being proposed is not taking place on Federal lands. Therefore, approval from the Impact Assessment Agency of Canada is not required for this undertaking.

2.2 Ontario Environmental Assessment Act

This project is subject to the Ontario *Environmental Assessment Act* (EA Act). The EA Act provides the protection, conservation, and management of the environment in the province of Ontario. The purpose of the EA Act is to help protect and conserve Ontario's environment by requiring that projects subject to the Act follow a planning process leading to environmentally sound decision-making.

The Class EA process is a planning process approved under the provincial EA Act. A Class EA provides a streamlined process that must be followed for projects within a defined class. The purpose of the Class EA process is to ensure that governments and public bodies consider potential environmental effects before an infrastructure project begins. The *MTO's Class EA for Provincial Transportation Facilities (2000)* is an approved planning process under the EA Act that establishes the appropriate Class EA process to be completed for groups of projects and activities.

The Design-Build and Class EA for Phase 2 (G.W.P. 3059-20-00) is following the approved planning process for a Group "A" undertaking under the *MTO Class EA for Provincial Transportation Facilities (2000)*. As part of the Class EA process for Group "A" projects there are opportunities for public input throughout the study (refer to **Section 3.0** for further details on **Consultation and Engagement**).

2.2.1 Historical Environmental Assessment Work

In 1995, the EA and Preliminary Design was completed for the transportation system improvements to the Highway 6 corridor between Freelton and Guelph (W.P. 65-76-05). Following the completion of the EA, the Ministry of Natural Resources and Forestry (MNRF) (formerly known as the Ministry of Natural Resources), Environment Canada, and the Hamilton Region Conservation Authority, raised concerns with respect to potential impacts to Henslow's Sparrow habitat within the project study area.

Agency concerns escalated with the change in designation of the Henslow Sparrow species from "Threatened" to "Endangered" under Ontario's *Endangered Species Act (2007)*. To address these concerns, MTO issued an addendum to the EA in 1997.

In 2007, the Ministry of Environment, Conservation and Parks (MECP) (formerly known as the Ministry of the Environment) completed a review on the 1995 EA and 1997 addendum under the EA Act. A Notice of Approval to Proceed with the Undertaking was subsequently granted by Order in Council on January 22, 2009. A portion of the Preliminary Design along Highway 401 was amended by a Transportation Environmental Study Report (TESR) in 2012 for the Preliminary Design and Class EA for Highway 401, from West of Hespeler Road to the Wellington/Halton Boundary (G.W.P 8-00-00).

The approved EA Plan for the Highways 6 and 401 Improvements from Hamilton north limits to Guelph south limits (G.W.P. 3042-14-00) included:

- A new controlled access four-lane alignment of Highway 6 west of the existing highway, from Highway 6 at Maddaugh Road northerly to Highway 401;
- Improvements to the Highway 6 / Maddaugh Road intersection;
- Structures to carry CP Rail, Calfass Road, Concession Road 1 and Fielding Lane across the new Highway 6 alignment;
- A new two-lane connection road north of the community of Morriston, linking the existing and new alignments of Highway 6;
- Reconfiguration of the Highway 401 interchanges at Highway 6 / Wellington Road 46 (Brock Road), and at Highway 6 (Hanlon Expressway);
- Widening of approximately 3 km of Highway 401 to 10 lanes including High Occupancy Vehicle (HOV) lanes between the two Highway 6 interchanges;
- Replacement of the Hanlon Expressway intersection at Wellington Road 34 with a bridge (no connection to the highway);
- Closure of the Hanlon Expressway intersection at Maltby Road / Concession Road 4;

- A new Hanlon Expressway interchange approximately mid-way between Wellington Road 34 and Maltby Road / Concession Road 4 linking Wellington Road 34 on the west side of the Hanlon Expressway to Concession Road 7 on the east side of the Hanlon Expressway;
- Reconstruction and realignment of the section of Concession Road 7 between the new interchange and Wellington Road 34;
- Replacement of the Puslinch Concession Road 7 Bridge over Highway 401 (Phase 1, completed in 2020 as part of an advanced construction project, G.W.P. 3224-15-00); and
- Reconfiguration and expansion of the Wellington Road 46 (Brock Road) commuter parking lot.

As previously noted in **Section 1.0**, Phase 1 of the approved EA Plan was completed in 2020 under a separate Class EA and Detail Design process. Phase 2 (i.e., this Project) includes the Class EA and Design-Build of the Highway 6 / Hanlon Expressway Midblock Interchange (G.W.P. 3059-20-00).

The Class EA for this Project (G.W.P. 3059-20-00) has built on the work completed during the Preliminary Design and Class EA as documented in the 2012 Transportation Environmental Study Report and in the Detail Design and construction for Phase 1 of the approved EA Plan. The study process has been illustrated in **Figure 3**.

2.3 Purpose of Design and Construction Report #2

A Design and Construction Report (DCR) is prepared per the MTO Class EA to document a project's final design and construction staging. This DCR #2 has been prepared to document the recommended improvements, consultation undertaken, and potential environmental issues and mitigation measures associated with the Design-Build and Group "A" Class EA process for the Remaining Works of the Highway 6/Hanlon Expressway Midblock Interchange project (G.W.P. 3059-20-00).

In accordance with the MTO Group "A" Class EA process, this DCR #2 will be made available on the project website at www.highway6midblock.ca/reports/ for a 30-day public and agency review period. Interested parties that wish to review DCR #2 in an alternate format may email the Project Team at ProjectTeam@Highway6midblock.ca to discuss review options.

Figure 3: Class EA Process Timeline for the Works

All interested parties are encouraged to review the project details and provide input on DCR #2. Comments can be submitted to the following members of the Project Team through hard copy mail or by emailing ProjectTeam@Highway6midblock.ca.

Olga Khuskivadze, P.Eng.
Project Engineer
Ministry of Transportation West Region,
Planning & Design
659 Exeter Road, London, ON N6E 1L3

Peter Bamforth, P.Eng., CEng, MICE
Consultant Senior Project Manager
Dufferin / WSP
610 Chartwell Road
Oakville, ON L6J 4A5

Finalization of the contract drawings and documentation will proceed after this DCR #2 is filed. There is the potential that design plans are revised to reflect minor design changes or refinements that may occur as the Design-Build progresses. However, any modifications are not anticipated to affect the EA commitments documented within this DCR #2.

3.0 CONSULTATION AND ENGAGEMENT

Consultation is a key element of the Class EA process. The following section summarizes the consultation undertaken as part of the Detail-Build stage for the Remaining Works portion of the overall project. Information regarding the consultation undertaken for the Early Works can be found in DCR #1 (WSP, 2022), under separate cover.

3.1 Project Contact List

At the commencement of Detail Design for Phase 2, a contact list was established using the 200-person contact list previously generated for the Preliminary Design stage of the Highways 6 and 401 Improvements (G.W.P. 3042-14-00). The list includes Members of Provincial Parliament (MPP), regulatory agencies, municipalities, emergency services, local interest groups, utility companies, Indigenous communities, and members of the public who requested to be added to the contact list during the project. The project contact list has been updated throughout the project to include any new contacts connecting with the Project Team through telephone, email or webform inquiries.

3.2 Notification of Study Update (Commencement)

A Notice of Study Update was published in local newspapers to inform the public of the initiation of Phase 2 of the Highways 6 and 401 Improvements project. The Notice of Study Update provided an overview of the project (both Early Works and Remaining Works), the project background, information on the Class EA process, details on consultation and links to the project website and the Project Team Email to contact a member of the Project Team for further information or to be added to the project mailing list.

The Notice was published in the following local newspapers:

- Turtle Island News on Wednesday, April 27, 2022
- Two Row Times on Wednesday, April 27, 2022
- The Guelph Mercury Tribune on Thursday, April 28, 2022
- The Wellington Advertiser on Thursday, April 28, 2022

Advertising in these newspapers ensured maximum coverage of the project area. Notification letters advising of the Study Update were mailed to those on the Project Contact List the week of April 25, 2022. The letters to external agencies also included a Stakeholder Contact Information Form. Copies of the Notice of Study Update and letters can be viewed in **Appendix A.**

3.3 Project Website

A project website (https://highway6midblock.ca/) was launched in conjunction with the Notice of Study Update. The website is an effective tool to share information with stakeholders and Indigenous communities, and to obtain feedback from interested parties. Throughout the project (i.e., for both Early Works and Remaining Works), the website has been updated to include information on the project schedule, EA process, project overview, notices, consultation and engagement opportunities, reports (e.g., DCR #1 and #2 for public comment), Frequently-Asked-Questions (FAQs), contact information, links, information on traffic restrictions and/or detour routes and construction progress updates with photographs from the site. Comments and inquiries submitted via the website are delivered to the Project Team email account (ProjectTeam@Highway6midblock.ca).

The website was designed to be user-friendly, using features compliant with the Accessibility for Ontarians with Disabilities Act (AODA). This includes features such as:

- ALT tags for all images – permitting visually impaired users using a screen reader to hear the text (e.g., “map showing the study area”) rather than see the image
- The ability to increase/decrease text size with one click
- The ability to adjust contrast of text/page with one click
- “Naming” text links appropriately to allow for ease of use by screen readers
- “Skip links” for users who may use a screen reader allowing them to skip directly to the content of the page rather than the website header and, perhaps, sidebar links

The project website will remain active throughout the duration of design and construction for both the Early Works and Remaining Works. During construction, the project website has been, and will continue to be, updated on a regular basis to identify any scheduled closures, and provide summaries of construction operations taking place. These updates have also included photographs of construction progress.

3.4 External Agency and Municipal Consultation

The following external agencies were consulted at key milestones of Phase 2, the Design-Build project (i.e., *Study Update, Notice of Completion for DCR #1* and *Notice of Completion for DCR #2*) to obtain information on project area features, exchange project information and obtain input on any project issues:

- Ministry of Municipal Affairs and Housing
- Ministry of Natural Resources and Forestry
- Ministry of the Environment, Conservation, and Parks
- Ministry of Tourism, Culture and Sport
- Ministry of Citizenship and Multiculturalism
- Infrastructure Ontario
- Fisheries and Oceans Canada (DFO)
- Environment and Climate Change Canada
- Grand River Conservation Authority
- Hamilton Conservation Authority
- Upper Grand District School Board
- Wellington Catholic District School Board
- Ontario Heritage Trust
- Ontario Federation of Agriculture
- Ontario Stone, Sand & Gravel Association
- Architectural Conservancy Ontario
- Transport Canada

The following municipalities were consulted during the study process:

- County of Wellington
- City of Hamilton
- City of Guelph
- Township of Puslinch

The following Transit Service Providers were consulted:

- Canadian Pacific Railway
- Guelph Transit
- Go Transit
- Via Rail
- Greyhound

The following emergency service providers were consulted:

- Ontario Provincial Police (OPP) – Wellington District
- Emergency Management – County of Wellington
- Guelph-Wellington Emergency Medical Service
- Guelph Police and Fire Services

- Fire and Rescue Services – Township of Puslinch
- Hamilton Fire Department & Paramedic Services

The following Utility companies were consulted as part of this study:

- Hydro One (Transmission)
- Hydro One (Distribution)
- Bell
- Enbridge
- Rogers Communications
- Telus
- Alectra

A summary of meetings held and comments received from municipal staff and external agencies, as well as the responses from the Project Team are provided below in **Table 1.** For further information on meetings and comments that focused specifically on the Early Works scope and design, please refer to DCR #1 (WSP, 2022), under separate cover.

Table 1: External Agency and Municipal Comments & Project Team Resolutions and Responses

Topics / Comments Received	Resolution / Project Team Response
Notification letters advising of the Study Update (for both Early Works and Remaining Works) were mailed to those on the Project Contact List the week of April 25, 2022. The letters to external agencies and municipalities also included a Stakeholder Contact Information Form.	Following the mailing of the Notice of Study Update, a teleconference meeting was held on June 8, 2022, to discuss the commencement of the project and the scopes of both Early Works and Remaining Works with municipalities. Staff from the City of Guelph, County of Wellington, and Township of Puslinch attended the meeting via Microsoft Teams.
On June 14, 2022, the Township of Puslinch submitted an email to the Project Team regarding comments and concerns from Phase 1 of the Highways 6 and 401 Improvements between Hamilton and Guelph (G.W.P. 3041-14-00). The comments were previously sent to AECOM and MTO on March 19, 2021 and November 23, 2021. The Township also requested a meeting to discuss their concerns. The comments and concerns included requests to remain a stakeholder on the project, copies of technical reports, a request for MTO to fund a peer review of the Township of items of importance, additional public engagement during detail design (including a presentation by MTO at the	A Municipal Meeting was held on June 8, 2022, in which staff from the Township of Puslinch attended. The meeting provided a project overview, information on next steps and consultation process, as well as an opportunity for municipal staff to ask questions and provide input to the study. On August 15, 2022, the Phase 2 Project Team thanked the Township of Puslinch for forwarding comments which were originally submitted on March 19, 2021 to the Phase 1 Highways 6 and 401 Improvements (G.W.P. 3224-15-00) Project Team.

Topics / Comments Received	Resolution / Project Team Response
Puslinch Council), and a request for a schedule that outlines consultation and construction timelines. The following specific comments and questions were also made in the email: • Confirmation as to who the connector road (Concession 7) maintenance responsibility will be assigned to. • A formal request that the MTO indicate what steps will be necessary and what supporting documentation will be required to determine if and where access can be provided for each of the designated parcels of designated Employment/Industrial Lands. • Request to address noise impacts for 6-7 local properties. • Request for the MTO to respond to the Township as to how each of the identified Emergency Services comments or concerns submitted during Phase 1 of the Highway 6 and 401 Improvements project (G.W.P. 3224-15-00) will be addressed.	On September 14 2022, a separate meeting with Township of Puslinch staff and Puslinch Fire and Rescue Services was held to further discuss the optimized design of Concession Road 7 and the Midblock Connection Road profile. The proposed detour routes, emergency turnaround locations and the anticipated schedule of Early Works construction were also presented at the meeting for discussion. The Township of Puslinch requested an additional meeting with their Public Works staff to review the presentation materials and provide open discussion with the Project Team. The meeting is currently being scheduled. The MTO also offered a separate meeting with Puslinch Fire and Rescue Services to discuss comments that were originally distributed to the Highways 6 and 401 Improvements between Hamilton and Guelph (G.W.P. 3041-14-00) Project Team.

Topics / Comments Received	Resolution / Project Team Response
On October 4, 2022, during the 30-day comment period for DCR #1, the Project Team received an email from Mammoet Canada Eastern Ltd, a company that performs heavy lifting and multimodal transports. A representative from Mammoet asked for further specifics on the proposed detour routes and roundabout design at the Wellington Road 34 / Concession Road 7 intersection. It was noted that the 18-axle modular trailers used by Mammoet are difficult to navigate on some roads due to the length of the vehicle.	Between October 20, 2022 and February 14, 2023, the WSP Project Team worked with Mammoet to ensure the dimensions of their oversized vehicles were captured in the route planning programs and the roundabout design. The WSP Project Team also generated a turning movement check using the information provided by Mammoet. The drawings presented truck encroachment onto the curb, gutter, and sidewalk within the future roundabout. This information was presented to Mammoet, in which it was confirmed there were no concerns with making the proposed turn, provided the driver could utilize the inner apron (which is what it is intended for). It was also noted that the Mammoet vehicles frequently pass through the existing roundabouts on Wellington Road 34; therefore, there were no further concerns with the proposed design.
On January 4, 2023, the Project Team requested Wellington County participate in a meeting to discuss the roundabout design at Wellington Road 34 and Concession Road 7. A meeting between Wellington County, Triton Engineering (contracted by Wellington County), WSP, Dufferin Construction and MTO was held on January 16, 2023.	On February 14, 2023, the WSP Project Team provided the following responses to Wellington County and Triton Engineering: • As requested, crosswalks and tactile plates will be provided in the design. Per guidance provided by Wellington County, concrete or asphalt will be used

Topics / Comments Received	Resolution / Project Team Response
The meeting included discussions on WSP's proposed roundabout design for Wellington Road 34 and Concession Road 7, the illumination design, traffic volumes and utility locations. Wellington County and Triton Engineering reviewed the presentation and CAD files of the proposed roundabout design and provided the following comments: **Pedestrian Accommodation** – No Pedestrian crosswalks are proposed. It is County policy and best practice to provide for pedestrian crossings at all roundabouts. The design should provide pedestrian crossings on all legs. The minimum required splitter island width at the crosswalk is 2.4m. Tactile plates are required at all pedestrian crossing points. **Splitter Island Lane Width** – 4.2 m lane width proposed at the start of the islands. Recommend this be increased to **5.0m** to accommodate farm vehicles and tracking of the Mammoet vehicle. **Splitter island Length** – 30m proposed. WSP identified that the curbed splitter islands were shortened from the preliminary design "to be consistent with existing roundabout in the area" I assume they are referencing the roundabouts on WR46 in Aberfoyle. The splitter islands	behind the curb. Concrete pads will be utilized for the Tactile Walking Surface Indicator (TWSI), as required. • The 4.2m lane accommodates a WB-20 design vehicle per the MTO Request for Proposal (RFP). We will review whether increasing it to 5.0m is feasible in regard to the impact on utility and the right-of-way. • The 5.5m to 5.6m proposed entry width accommodates a WB-20 design vehicle per the MTO RFP. Increasing the entry width will change the fastest paths and increase the entry speed which is not desirable. Also, 6.0m is wide enough for two vehicles entering the roundabout side by side, which may result in driver confusion and a safety issue. Although the swept path of the Mammoet vehicle was modelled, this was a representation at most as the software used is not refined enough to represent the rear wheel steering which permit much tighter turns. Mammoet have confirmed that they are content with the geometry of the roundabout in passing through this intersection. However, we will review the opportunity to reduce the splitter island width at the entry and replace with pavement marking per example shown below, without compromising on the crosswalk requirement. • Increasing the circulatory roadway width will change the fastest paths and reduce vehicle entry deflection

Topics / Comments Received	Resolution / Project Team Response
varied in length on that project, with the short ones generally being because of entrance conflicts. The proposed 30m long splitters are sufficient in this location provided that the pedestrian crossings can be accommodated in this length. **Entry width** – 5.5 to 5.6 m proposed. Recommend this be increased to **6.0m** to accommodate farm vehicles and tracking of the Mammoet vehicle. **Exit Width** – 5.5m to 7.6m proposed. Acceptable. **Circulatory Roadway Width** – 6.0m proposed. Recommend this be increased to **6.5m** as has been used on other single lane County roundabouts. This will also better accommodate farm vehicles and tracking of the Mammoet vehicle. **Inscribed Circle Diameter** – 46m proposed. Acceptable. **Truck Apron** – 3.5m proposed. Recommend this be increased to **4.5m – 5.0m** for large vehicle tracking. **Shoulder Width** – 2.5m proposed. Acceptable. **Illumination** – No concerns with the proposed illumination design. **Geometrics** – No further concerns with the overall geometrics, subject to the revisions identified above. The	resulting in higher speed within the roundabout. The request will increase the inscribe circle diameter resulting in a larger roundabout. This is not feasible due to the hydro tower/transmission lines and property constraints. Please see note above regarding Mammoet vehicle. The 6.0m circulatory roadway width will be maintained. • Increasing the inscribe circle diameter will result in a larger roundabout. This is not feasible due to the hydro tower/transmission lines and property constraints. The 3.5m truck apron width will be maintained. • Concrete or asphalt will be used behind the curbs (as noted in item 1). Any additional shoulder width will be gravel. • An updated turning template for the Mammoet truck will be provided once the design been update per response to Item #4 above. Please note that this will be indicative only as the turning rear wheels cannot be modelled. • The roundabout signage will be based on the provided example at Teviotdale Roundabout.

Topics / Comments Received	Resolution / Project Team Response
NE approach on WR34 has a vertical curve of K-4 at the roundabout. This is abrupt, but as noted, it is in a low speed area on the approach and is illuminated. To provide a flatter K value, the roundabout would likely have to be re-graded to not be sloped uniformly out at 2.0%. This has been done at some locations due to grading constraints, but the downside is that some drainage is directed towards the centre island, necessitating catchbasins. On balance, we consider the proposed vertical alignment to be acceptable. **Truck Turns** – the turning template for the large Mammoet truck will require it to encroach on the outside curb and shoulder. The width adjustments suggested above may be sufficient to avoid this. Revised turning templates to be provided to address the encroachments. **Signing** – A signing plan was not provided. It was asked if the County had any specific signing requirements. We have attached the signing plan from the Teviotdale roundabout as a sample.	On April 13, 2023, Wellington County and Triton Engineering confirmed they have no further comments or concerns on the roundabout design or the WSP Project Team responses. It was confirmed that the lane and entry widths are within an acceptable range.

Topics / Comments Received	Resolution / Project Team Response
On February 28, 2023, WSP emailed DFO regarding the Letter of Advice (LOA) that was issued during the preliminary design stage for the replacement of 7 culverts within the Remaining Works study area. WSP provided an update to DFO on minor design changes to the two culverts on a tributary to McCrimmon's Creek at Concession Road 7, and requested confirmation that the LOA remains valid for the works. The preliminary design proposed culvert replacements were to remove the existing culverts and replace them with 22 m long open-bottom culverts. The new proposed culverts will be slightly longer than previously addressed in the LOA: 24.92 m and 29.7 m. It was noted that the design changes were required because the previous design did not provide sufficient overburden, therefore the profile of the road was raised resulting in a longer culvert length. It was also noted the alignment of CR7-2 was altered to skew the culvert to better line up with the existing tributary channel, and reduce the need for realignments and sharp bends in channel tie-ins. WSP also requested clarification on the permitted in-water work timing window.	On March 21, 2023, DFO confirmed the proposed design changes on two of the culverts were of no concern, provided the previously prescribed mitigation measures are followed. DFO confirmed an amended LOA is not required for the works. DFO also confirmed the Remaining Works shall follow the MNRF provided timing window of July 1 – September 30.

Topics / Comments Received	Resolution / Project Team Response
On April 13, 2023, the Project Team met via Microsoft Teams with Wellington County to discuss the illumination design. The Township of Puslinch also received an invitation; however, no representatives from the Township attended the meeting. The WSP Project Team presented the proposed illumination design. Discussions were also had on the proposed detour routes for the Remaining Works and the ownership and naming of Midblock Connection Road and Concession Road 7.	The Township of Puslinch confirmed there were no concerns with the illumination design and requested the Project Team connect with the Township of Puslinch and Hydro One (Transmission) to seek their comments on the design. It was noted that Maltby Road, between Brock Road/Gordon Street and Highway 6, falls under the City of Guelph jurisdiction. Following this confirmation, WSP emailed the City of Guelph and asked if there were any requirements or approvals needed to list Maltby Road as a detour route.
On April 13, 2023, the Project Team met via Microsoft Teams with Hydro One (Distribution) to discuss the proposed utility relocation plan for the Remaining Works along Wellington Road 34 and Concession Road 7. Impacts to the pole lines and a proposed underground crossing of Highway 6 / Hanlon Expressway were discussed.	Following the meeting, the WSP Project Team revised the utility relocation plan where feasible to accommodate Hydro One's requests. The updated relocation plan was provided to Hydro One (Distribution) on April 20, 2023.

3.5 Engagement with Indigenous Communities

As identified in the Preliminary Design phase of the study, the following Indigenous communities have been engaged on this project:

- Six Nations of the Grand River;
- Mississaugas of the Credit First Nation; and,
- Haudenosaunee Confederacy Chiefs Council (HCCC) / Haudenosaunee Development Institute (HDI)

Meetings with Indigenous communities will continue to be arranged throughout the design and construction, as required.

Should the design be revised to result in an increased footprint impact to previously undisturbed lands, additional archaeology investigations will be required. Any additional Stage 2-4 investigations will include the hiring of local First Nation Community Field Liaisons in consultation with MTO. Refer to **Section 5.3.1** for further information on Archaeological Assessments that have been undertaken as part of the overall project.

3.6 Consultation with Members of the Public

A virtual Public Information Centre for Phase 2 was held from December 6 to 12, 2021.

Consultation with stakeholders and members of the public has taken place throughout this project. Stakeholders and members of the public were notified of the Study Update / Notice of Commencement in April 2022 (see **Section 3.2**), as well as the Notice of Completion for DCR #1 in September 2022 and the Notice of Completion for this **DCR #2** (see **Section 3.7**).

Stakeholders and members of the public were encouraged to visit the Project Website to view project details and were encouraged to submit comments to the Project Team at any time throughout the project. All comments received by the Project Team have been responded to and resolved accordingly. Refer to **Appendix B** for relevant correspondence.

3.7 Submission of Design and Construction Report #2

Similar to the submission and public comment period for DCR #1 (Early Works), a Notice of Completion was published in local newspapers to inform the public and Indigenous communities of the DCR #2 submission and the start of the 30-day public comment period. The Notice was published in the following newspapers on the dates listed:

- Turtle Island News on Wednesday, June 21, 2023
- Two Row Times on Wednesday, June 21, 2023
- The Guelph Mercury Tribune on Thursday, June 22, 2023
- The Wellington Advertiser on Thursday, June 22, 2023

The Notice advertised that this DCR #2 had been placed on the project website for public record for a 30-day public comment period commencing on June 22, 2023 and ending on July 21, 2023. Notification letters dated June 16, 2023 were mailed and/or emailed to local MPPs. On June 21, 2023, addressed notification letters were mailed and/or emailed to Indigenous Communities, public members, external agencies, and remaining interested stakeholders on the Project Contact List.

The letters and the newspaper notice provided information on where to access DCR #2 on the project website, as well as contact information for individuals wishing to comment on DCR #2. Interested parties that wish to review DCR #2 in an alternate format can email the Project Team at ProjectTeam@Highway6midblock.ca to discuss review options.

3.8 Construction Consultation and Engagement Plan

A Construction Consultation and Engagement Plan has been prepared to provide a framework for consultation efforts to be completed by Dufferin Construction for the construction of the Early Works and Remaining Works.

The Plan outlines a preliminary strategy to ensure the public, interested stakeholders and Indigenous communities are fully aware of the Remaining Works construction staging plan, timing, and any construction updates following the completion of the Class EA Study, and during construction. The Plan provides a detailed outline of the consultation and engagement methods that should be implemented prior to and during the construction period. This Plan shall be finalized by Dufferin Construction and sent to MTO, prior to implementation.

4.0 DESCRIPTION OF THE RECOMMENDED DETAIL DESIGN

This section of DCR #2 describes the major features of the Remaining Works portion of the Project (G.W.P. 3059-20-00).

4.1 Design Details

4.1.1 Highway

Highway 6 / Hanlon Expressway

Highway 6 / Hanlon Expressway is classified as a divided rural freeway with a design speed of 120 km/h. The existing Hanlon Expressway four-lane cross section will be widened at the Midblock Interchange ramp to accommodate the speed change lanes. The existing at-grade intersections at Highway 6 / Hanlon Expressway and Wellington Road 34, as well as Maltby Road, will be removed during the Remaining Works construction.

Midblock Connection Road

The Midblock Connection Road is classified as an undivided rural arterial with a design speed of 80 km/h. It is a new, 2-lane road for the Midblock Interchange which will connect Wellington Road 34 (west of Hanlon Expressway) to Concession Road 7 (east of Hanlon Expressway). The Project Team is currently working with local municipalities to determine next steps in the naming process for the road, following construction.

Wellington Road 34

Wellington Road 34 is classified as a two-lane, undivided rural arterial road with a design speed of 90 km/h. The road is under Wellington County's jurisdiction. The existing at-grade intersection with Highway 6 / Hanlon Expressway will be removed and replaced with a flyover structure. The Wellington Road 34 profile has been established such that the grade raise ties into the existing roadway before Heritage Lake Drive so that the entrance to the Heritage Lake Estates property and gates are not impacted. Partial Illumination will also be provided at the Wellington Road 34 and Heritage Lake Drive. A roundabout will be provided at the Wellington Road 34 and Concession Road 7 intersection, including full illumination. On the west side of Highway 6 / Hanlon Expressway, a new stop-controlled T-intersection will be constructed at Midblock Connection Road and Wellington Road 34.

Concession Road 7

Concession Road 7 is classified a two-lane, undivided gravel road rural section with a design speed of 80 km/h. The road is under the Township of Puslinch's jurisdiction. Concession Road 7 will be realigned and reconstructed as a fully paved road with 3.5 m lanes and 2.5 m shoulders. The road will remain classified as rural. A new T-intersection will be constructed at Concession Road 7 and Midblock Connection Road with stop controlled for Midblock Connection Road traffic and provision for traffic signal will be provided for future use.

Maltby Road / Concession Road 4

Maltby Road / Concession Road 4 is a 2-lane paved road with a rural cross section that intersects with Highway 6 / Hanlon Expressway at a 2-way stop controlled intersection. Maltby Road is on the east side of Hanlon Expressway, under the City of Guelph's jurisdiction. Concession Road 4 is on the west side of the Highway 6 / Hanlon Expressway and falls under the Township of Puslinch's jurisdiction. As noted above, the existing at-grade intersection of Maltby Road / Concession Road 4 and Highway 6 / Hanlon Expressway will be removed. Concession Road 4 will then be terminated as a cul-de-sac. Maltby Road will end with a reconstructed T-intersection at Concession Road 7, with 3-way stop control.

Wellington Road 34 and Concession Road 7 Roundabout

A single lane roundabout with a 46m inscribed circle diameter, will replace the at-grade Wellington Road 34 and Concession Road 7 intersection. The roundabout and the approaches will have concrete cub and gutter, crosswalks on all four legs, Tactile Waking Surface Indicators (TWSI), concrete sidewalk to connect the crosswalks. Additionally, the roundabout will be fully illuminated.

4.1.2 Structural

A new grade separation is proposed as part of the works for intersection of Wellington Road 34 and Highway 6 / Hanlon Expressway. The proposed Wellington Road 34 structure Underpass is a two-span structure spanning the ultimate 8-lane cross-section of Highway 6 / Hanlon Expressway. An 11 m wide median is proposed with the pier protected by a suitable vehicle restraint system for the current construction. The preferred structure type is a slab-on-girder bridge, and the new profile will tie into the existing Wellington Road 34 profile east and west of the new bridge. The new underpass structure will meet the 5.05 m vertical clearance requirements from the existing Highway 6 / Hanlon Expressway profile. The substructure will consist of integral abutments supported on single roll of steel H-Piles driven to bedrock with concrete

wingwalls at all four corners of the structure. The pier will consist of a pier cap and two (2) columns, and its foundation is supported on two rolls of H-Piles. The Wellington Road 34 Underpass will be located approximately 2 km north of Highway 401.

4.1.3 Pavement

A geotechnical/foundation investigation was carried out for the overall project between 2017 and 2021 by Peto MacCallum Ltd. (PML) as part of the Procurement-Ready Design. PML's investigations included more than 400 boreholes, which were supplemented with additional boreholes and test pits in 2022 and 2023.

The boreholes indicate that the subsurface conditions generally consist of the existing pavement structures or topsoil and localized fill overlying an extensive silty sand to sandy silt till deposit that contains varying proportions of gravel, cobbles, and boulders. Areas of peat and muck are present surrounding the Highway 6 / Hanlon Expressway and Wellington Road 34 intersection.

Pavement widening of Wellington Road 34 will be required to accommodate the new left turn late the new unsignalized T-intersection at Midblock Connection Road and Wellington Road 34. All pavement designs have been completed in accordance with current MTO policies, practices, and directives.

4.1.4 Geotechnical / Foundation Engineering

As noted in **Section 4.1.3**, a geotechnical/foundation investigation was carried out for the overall project in 2017 and 2021 by PML as part of the Procurement-Ready Design. PML's investigations included more than 30 boreholes in the Remaining Works area, which have been supplemented with additional boreholes and test pits in 2022 and Spring 2023. These complement the more than 30 geotechnical/foundation boreholes advanced within the Early Works area.

Based on the borehole results, the subsurface conditions throughout the Project area generally consist of topsoil and localized fill overlying an extensive deposit of silty sand to sandy silt till containing gravel, cobbles and boulders. A wetland/swamp is present in the low-lying area surrounding the Highway 6/Wellington Road 34 intersection, with typically 1 m to 3 m of peat and organic soils present above the till. The till is underlain by strong dolostone bedrock, which was encountered at a depth of approximately 10 m to 17 m below the existing road grade along Wellington Road 34.

The groundwater level is near the ground surface within the wetland/swamp area, and slightly artesian conditions have been observed in boreholes and monitoring wells at the Highway 6/Wellington Road 34 intersection.

As the grade rises outside of the wetland area, the groundwater level has generally been measured in monitoring wells to be between 5 m to more than 10 m below the existing ground surface.

The abutments and center pier for the Highway 6/Wellington Road 34 underpass will be supported on steel H-piles that are driven into the strong dolostone bedrock. The geotechnical aspects of foundation design are in accordance with Canadian Highway Bridge Design Code (CHBDC, 2019).

Construction of the new embankments for Wellington Road 34, east and west of the new bridge, will require some sub-exchange of existing peat and organic soils from within the footprint of the embankments prior to placement of the new embankment fill. Required vegetation removal will be limited to the footprint of the embankment construction. Placement of fill and construction of cuts will also be required along Concession 7 as part of the Remaining Works. The high fill embankments and road cuts will be constructed with maximum (steepest) side slopes at 2 horizontal to 1 vertical to obtain the required factors of safety for global stability.

The sub-excavation of peat and organic soils for the Wellington Road 34 embankment construction will extend below the groundwater table; this operation will be completed in wet conditions without dewatering. Excavations for the Wellington Road 34 bridge centre pier as well as for culverts in low-lying areas will extend near or below the groundwater table with localized dewatering, as required. Other excavations and cuts along Concession 7 associated with the Remaining Works will be maintained above the regional groundwater level at the site. Localized zones of perched groundwater may be encountered above this level during excavation, but such zones will be of limited thickness and lateral extent.

4.1.5 Drainage

Drainage works will consist of flat bottom swales, 17 circular culverts, four (4) open bottom box culverts and one (1) closed bottom culvert. The five (5) box culverts will be designed considering fish habitat. Check dams and rip rap will be provided at culvert outlets and ditches with high velocity in order to provide protection against scour.

Natural channel modifications are required at SR-5, SR-7a, CR7-1, and CR7-2 to adjust to small changes in culvert length and alignment. CR7-1 and CR7-2 on Concession Road 7 also require natural channel reinstatements following the removal of the existing culverts.

Along Highway 6 / Hanlon Expressway, drainage will be provided by roadside ditching and grassed medians with storm sewer outlets towards roadside ditches, ultimately discharging into adjacent watercourses.

4.1.6 Electrical / Illumination

As part of the Remaining Works, partial illumination will be provided on Highway 6 / Hanlon Expressway, as well as signalization of the two (2) ramp terminal intersections. Partial illumination will be provided at the Midblock Connection Road/Concession Road 7 and Midblock Connection Road/Wellington Road 34 intersections, under Wellington County's jurisdiction.

Full roundabout illumination will be provided at Wellington Road 34/Concession Road 7. Partial illumination will be provided on Wellington Road 34 at Heritage Lake Drive. Embedded electrical works within the Wellington Road 34 bridge will be installed. A Traffic Counting Station at each ramp, including one (1) for the Highway 6 / Hanlon Expressway mainline, will be installed. The existing electrical equipment at the intersection of Highway 6/Wellington Road 34 and at the intersection of Highway 6/Maltby Road will be removed, along with the traffic count stations on the Highway 6/Hanlon Expressway mainline.

4.1.7 Advanced Traffic Management System (ATMS)

As part of the Remaining Works, civil provisions and ATMS equipment will be constructed and installed at the Highway 401/Highway 6 Hanlon Expressway interchange, the Highway 6/Hanlon Expressway Midblock Interchange, and along Highway 6 / Hanlon Expressway (near Concession Road 6). The provisions will include, but are not limited to:

- Underground ducts;
- Handwells;
- Concrete pads for cabinets and transformer;
- Concrete footing for communication pedestals;
- A concrete pole for the CCTV camera c/w camera raising and lowering device;
- Sectional steel poles for power supply assemblies; and
- Footing for VMS (as part of structure works)

The ATMS equipment will include:

- CCTV cameras
- Variable Message Sign
- Control cabinets c/w control and communication equipment;
- Communication pedestals

- Power supply assemblies and a transformer

Maintenance sites will be constructed at CCTV and VMS locations.

4.1.8 Property

Property for this work has been acquired by the MTO based on the previously approved Environmental Assessments for Highway 6 from Freelton Northerly to Guelph, WP 65-76-05.

Due to the grade raise on Wellington Road 34 to accommodate the new flyover structure over Highway 6 / Hanlon Expressway, two (2) property owners received Permission to Enter and Construct (PTEC) letters on Wellington Road 34 which proposed two options for the required reconstruction of their driveway entrances which extends into their property.

Option 1 noted the entrance profile could be reconstructed with maximum grade of 6% per design standard for a residence property, with the reconstruction of the entrance extending a number of metres into the property from the existing road right-of-way.

Option 2 noted the entrance profile could be reconstructed with a flatter grade of 3%, not per design standard; however, the reconstruction of the entrance would be extended slightly farther into the property from the existing road right-of-way.

It was also confirmed that tree removal may be required to accommodate the proposed works. Once construction is completed, the MTO will work with the property owners to restore the area affected by construction with topsoil and hydroseed.

4.1.9 Utilities

As noted in **Section 3.4**, the following Utility companies have been consulted as part of this study:

- Hydro One (Transmission)
- Hydro One (Distribution)
- Enbridge Gas
- Bell
- Rogers Communications
- Telus
- Alectra

The Project Team is currently working with the utility companies listed above to identify the conflicts, develop a relocation strategy, and relocate utilities prior to the Remaining Works construction.

4.2 Construction Staging

The Contractor (Dufferin Construction) may revise the proposed construction staging plan; therefore, the staging described below is subject to change.

The proposed roundabout at Wellington Road 34 and Concession Road 7, as well as the Concession Road 7 improvements, will be constructed simultaneously in 2024. Concession Road 7 will be closed for the duration of the realignment and reconstruction to through traffic. Traffic will be detoured onto Highway 6 / Hanlon Expressway between Wellington Road 34 and Maltby Road (refer to **Figure 4** for a map of the detour route).

Once construction on the Highway 6 / Hanlon Expressway Midblock Interchange and Midblock Connection Road is complete and the interchange is open to traffic, the Highway 6 / Hanlon Expressway and Wellington Road 34 intersection will be closed permanently. It is anticipated that a full closure of the Highway 6 / Hanlon Expressway will be required for the girder placement of the new Wellington Road 34 flyover structure. During the road closure, suitable signage will direct traffic from Wellington Road 34 across to Brock Road 7 (using the Midblock Connection Road and Concession Road 7). Refer to **Figure 5** for a map of the detour route.

During the final stage of construction for Wellington Road 34, the road will be closed to through traffic, except for local access. Traffic will be detoured to the new Midblock Connection Road and the Highway 6 / Hanlon Expressway interchange (refer to **Figure 6** for a map of the detour route).

The construction on Wellington Road 34 is anticipated to commence in late 2024, following the construction on Concession Road 7. Construction timing is subject to change based on permitting and approvals.

For real-time traffic updates and road conditions, please visit www.Ontario.ca/511. Additionally, the Ontario 511 service can be accessed via Twitter (511Ontario (@511Ontario) / Twitter) or via the telephone by dialing 5-1-1. The project website will also be updated with information on traffic restrictions and detour routes, as information becomes available: https://highway6midblock.ca/construction-progress-updates/.

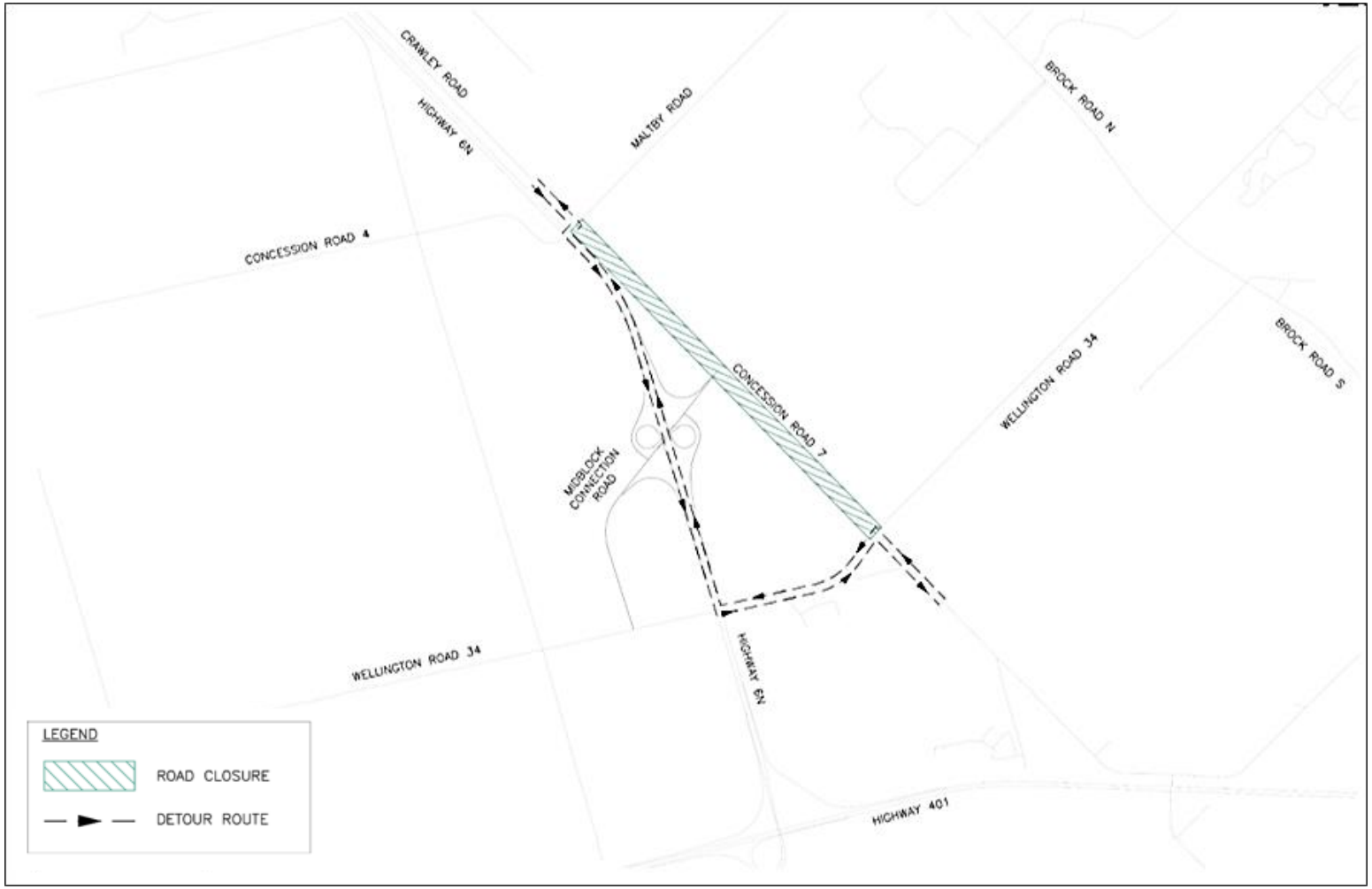


Figure 4: Detour Route for the Construction of Concession Road 7 and roundabout (Remaining Works)

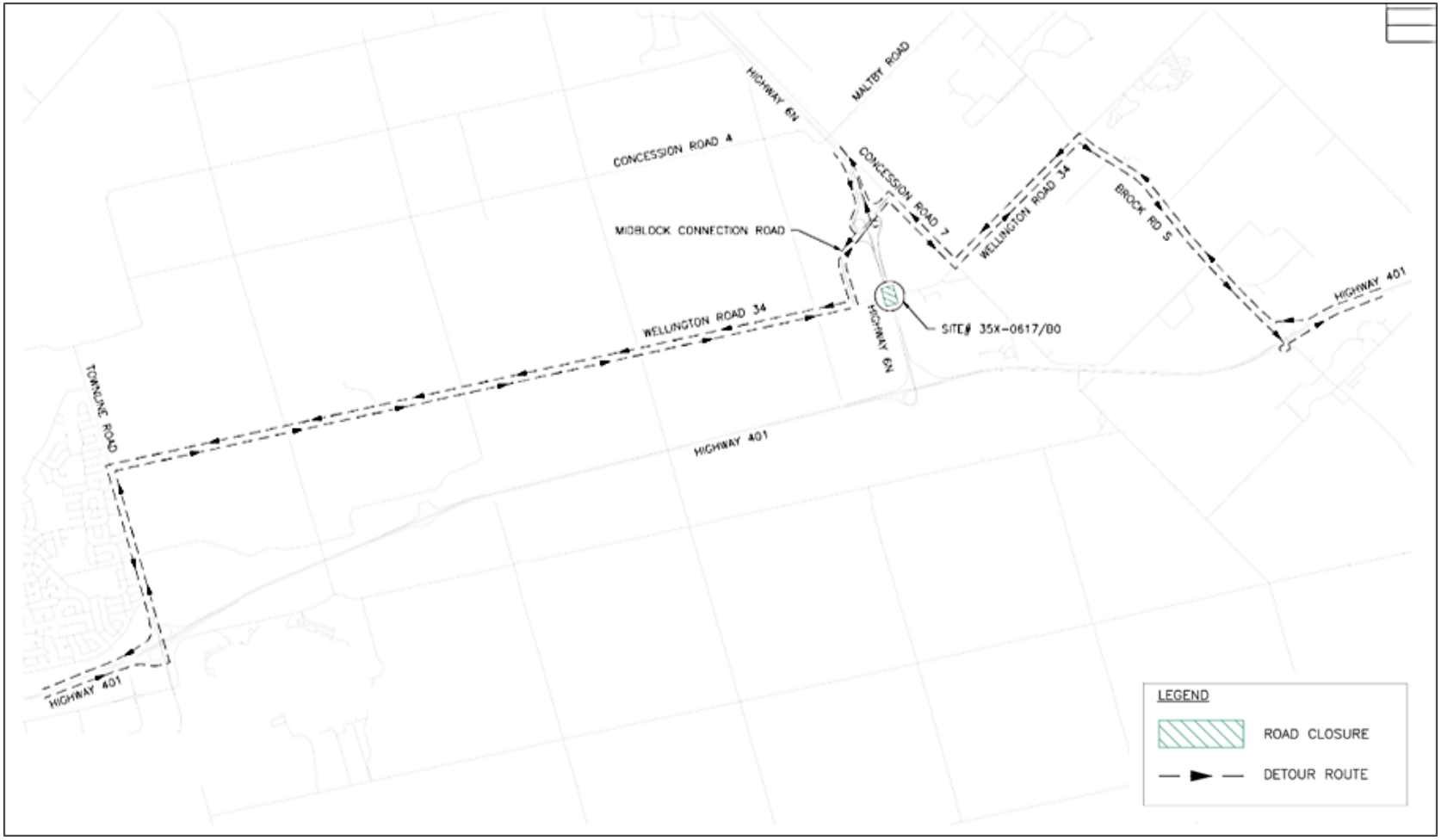


Figure 5: Detour Route for the placement of the Wellington Road 34 flyover structure (Remaining Works)

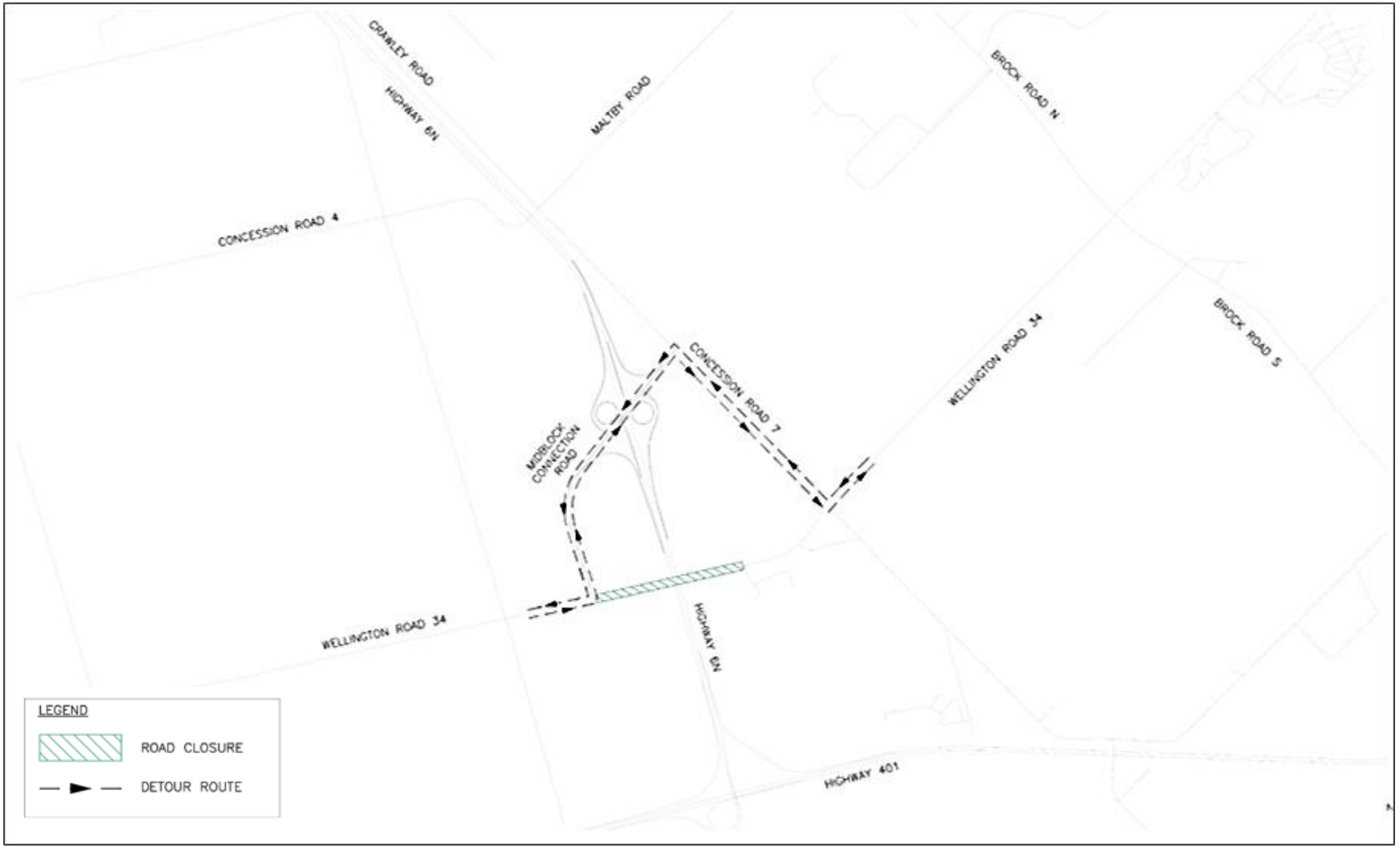


Figure 6: Detour Route for the Construction of Wellington Road 34 (Remaining Works)

4.3 Timing and Duration of Construction

Subject to approvals, construction for the Remaining Works portion of the project is anticipated to begin in Fall 2023 and is anticipated to be completed by the end of 2025.

The detour route for the girder placement during the Remaining Works (shown in **Figure 5**) will be implemented during off-peak hours and the closure will avoid long weekends and/or holidays. The detour route is anticipated to last two (2) nights.

The timing and duration of construction for the Early Works (refer to **Figure 2** for the delineation of work areas) can be found under DCR #1 (WSP, 2022).

As noted in **Section 3.3**, the project website will be updated on a regular basis during construction to identify any upcoming scheduled closures and provide summaries of construction operations taking place. These updates will also include photographs of the construction progress.

5.0 ENVIRONMENTAL ISSUES AND COMMITMENTS

This section presents an overview of the potential impacts to the natural, socio-economic, and cultural environments, as well as transportation effects associated with the design and construction of the Remaining Works Recommended Plan. This section also presents a summary of the environmental mitigation measures proposed to avoid or minimize the impacts associated with the Remaining Works Recommended Plan.

It is noted that environmental effects can be mitigated through implementation of Best Construction Management Practices, as provided in the Ontario Provincial Standard Specifications (OPSS), and Standard and Non-Standard Special Provisions (SSP, NSSP) contained in the Contract Package, and the implementation of the prescribed Construction Monitoring Program.

The environmental protection measures outlined in this DCR #2 will be built into the Contract Package to provide the necessary guidance and direction regarding project commitments and mitigation measures to be employed during construction. A summary of mitigation, protection, and future commitments is presented in **Table 3**.

5.1 Natural Environment

5.1.1 Fish and Fish Habitat

The study area includes several crossings of watercourses and fish habitat within McCrimmons Creek and tributaries that cross Concession Road 7, Wellington County Road 34, and Highway 6 south of the study area. The Remaining Works include replacement of 6 culverts conveying watercourses / tributaries that support fish habitat (culverts SR-7A, CR7-1, CR7-2, SR-5, SR-11, and H6-2).

The McCrimmons Creek system's fisheries have been surveyed in at least three (3) separate studies since Highway 6 / Hanlon Expressway was completed in 1976 to determine the effects of the highway facility on the watercourse and the need for habitat rehabilitation. Reaches of McCrimmons Creek and its tributaries (primarily downstream of the study area) have been subject to extensive rehabilitation efforts by local fishing clubs, the MNRF and others. In 2017 and 2018, Ecologists working on the AECOM Project Team conducted aquatic field investigations to complete detailed fish and fish habitat assessments of the watercourses within the study area (*Fish and Fish Habitat Existing Conditions and Impact Assessment Report: Hanlon Expressway / Wellington Road 34 Midblock Interchange GWP No. 3059-20-00, AECOM 2021*). Fisheries assessments were conducted in accordance with the requirements under the 2016 Protocol; however, the Protocol and Guide was updated in 2020, and as such the data collected was re-assessed under the new Protocol by AECOM, as directed by MTO.

AECOM Ecologists visited the sites to document existing habitat conditions to determine whether or not the proposed works would result in a harmful alteration, disruption or destruction (HADD) of fish habitat, or the death of fish, and therefore would require a Fisheries Act Authorization (FAA).

On June 7, 2022, field surveys were completed by WSP Ecologists to confirm AECOM's previous findings and collect additional data required for channel restoration design components within the Remaining Works limits. The surveys included photo documentation, field notes, as well as electrofishing to determine direct fish use.

McCrimmons Creek and its tributaries drain primarily agricultural areas in the northern and western portions of the Remaining Works study limits (AECOM, 2021), and flows into Mill Creek downstream of the study area. The creek and several of its tributaries have been designated by the MNRF as permanent coldwater streams. The following fish species are known to occur in McCrimmons Creek: Blacknose Dace (*Rhinichthys atratulus*), Bluntnose Minnow (*Pimephales notatus*), Brook Stickleback (*Culaea inconstans*), Brook Trout (*Salvelinus fontinalis*), Brown Trout (*Salmo trutta*), Central Mudminnow (*Umbra limi*), Common Shiner (*Luxilus cornutus*), Creek Chub (*Semotilus atromaculatus*), Fathead Minnow (*Pimephales promelas*), Rainbow Darter (*Etheostoma caeruleum*), Rock Bass (*Ambloplites rupestris*), White Sucker (*Catostomus commersonii*) (AECOM, 2018; MNRF, 2021). Additionally, MNRF has identified Brook Trout and Brown Trout spawning habitat within McCrimmons Creek and its tributaries. A review of online resources, including DFO's online aquatic SAR mapping tool and MNRF Make-a-Map: Natural Heritage Information, did not identify any aquatic SAR within the study area.

The Tributary of McCrimmons Creek (SR-7A) along the west side of the highway, running north to south, is conveyed through a corrugated steel pipe (CSP) at Wellington Road 34. The watercourse is permanent and provides direct habitat for coldwater species (MNRF, 2021). Brown Trout and Brook Trout spawning habitat was also identified in the tributary upstream of Wellington Road 34. There is a 1 m high berm that isolates flow in the tributary from the drainage ditch, flowing parallel to Highway 6 and conveyed by a separate CSP culvert under Wellington Road 34 (SR-7B). At the time of field investigations (WSP 2022), there were only areas of standing water within the drainage ditch, and no continuous flow was observed. Most areas did not contain enough water to conduct electrofishing, and where sampling was possible, no fish were captured or observed. It was determined that the ditch providing drainage along Highway 6 / Hanlon Expressway is not suitable fish habitat. The separation of the ditch and the tributary will be considered in the design of crossings to preserve the existing trout spawning habitat in the Tributary of Aberfoyle Creek.

The main branch of McCrimmons Creek (CR7-1) crosses Concession Road 7 east of Highway 6 / Hanlon Expressway and confluences with a small side tributary (CR7-2) within the MTO right-of-way. The watercourse is permanent and provides direct habitat for coldwater species (MNRF, 2021). Upstream of the CR7-1 crossing, the channel is undefined with diffuse flow through the Mill Creek Puslinch Wetland Complex. Upstream of CR7-2 the tributary has a more defined channel. Downstream of the crossings, the channel has more definition but is still somewhat diffuse through dense riparian wetland vegetation. Electrofishing was conducted by WSP at this location; however, no fish were collected during the field investigations. A refuge habitat for year-of-young (YOY) Cyprinidae was identified outside of the right-of-way by WSP staff. This type of habitat will be considered in the channel restoration works required with the shift of County Road 7 to the east.

The main branch of McCrimmons Creek (SR-5) flows under Wellington Road 34 to its confluence with Mill Creek downstream of the study area. This is the largest watercourse crossing in the study area, with a defined channel of 1.5 m wetted width and identified trout spawning habitat, and Brook Trout were captured at field investigations (AECOM 2018). This crossing will be enhanced to provide aquatic and terrestrial wildlife crossing opportunities. The watercourse also crosses Highway 6 / Hanlon Expressway at the southern limit of the study area (H6-2), south of Wellington Road 34. Both crossings were identified as permanent, providing habitat for coldwater species (MNRF 2021).

An unnamed stream, presumed to be a tributary of McCrimmons Creek, flows north to south through a wetland, crossing Wellington Road 34 just west of Highway 6 / Hanlon Expressway (SR-11). The watercourse is permanent and provides habitat for warmwater species (MNRF 2021).

No aquatic Species at Risk (SAR) were identified within the limits of the Remaining Works. Consequently, permits under the Provincial Endangered Species Act (ESA) and/or the Federal Species at Risk Act (SARA) are not required for the Remaining Works.

Given the confirmation of fish habitat conditions and results of the WSP 2022 field investigation, the conclusion from the *Existing Conditions and Impact Assessment Report (AECOM, 2021)* that no harm to fish or HADD will occur is upheld, assuming application of all specified mitigation measures.

Letter of Advice (LoA)

On June 14, 2021, during the Preliminary Design stage of the project, MTO and AECOM received a LoA from the Fish and Fish Habitat Protection Program of DFO for the replacement of the five (5) culverts within the study area. Structures included in the LoA: Site 401-6-30 (Culverts CR7-1 and CR7-2), Site 401-6-27 (Culvert SR-5), Site 401-6-26 (Culvert SR-11) and Site 401-6-25 (Culvert SR-7A).

The project was reviewed by DFO to determine whether the work is likely to result in:

- The death of fish by means other than fishing and the harmful alteration, disruption, destruction of fish habitat which are prohibited under subsections 34.4(1) and 35(1) of the Fisheries Act; and/or
- Effects to listed aquatic species at risk, any part of their critical habitat or the residences of their individuals in a manner which is prohibited under sections 32, 33 and subsection 58(1) of the *Species at Risk Act*.

To avoid and mitigate the potential for prohibited effects to fish and fish habitat (as listed above), DFO recommended implementing a number of mitigation measures for construction (see **Recommended Mitigation Measures** below). DFO has determined the project does not require an authorization under the *Fisheries Act* or the *Species at Risk Act*, so long as all measures are applied into the project design.

In February 2023, during the detail design of the Remaining Works, it was determined that minor changes were required to the previously approved design of the two culverts at Concession Road 7 (i.e., CR7-1 and CR7-2). The preliminary design proposed culvert replacements were to remove the existing culverts and replace them with 22 m long open-bottom culverts. The new proposed culverts will be slightly longer than previously addressed in the LOA at 24.92 m and 29.7 m. The changes were required because the previous preliminary design did not provide sufficient overburden, therefore the profile of the road was raised resulting in a longer culvert length. In addition, the alignment of CR7-2 was altered to skew the culvert to better line up with the existing tributary channel, and reduce the need for realignments and sharp bends in channel tie-ins. It was noted that the culverts will be constructed with open bottom culverts, and natural channel design to maintain groundwater connectivity and restore fish habitat in the tributary daylighted from the removal of the existing culverts. The WSP Project Team also confirmed that all other conditions and mitigation measures specified in the LoA would be adhered to.

On February 28, 2023, the WSP Project Team provided the new proposed design drawings, dimensions and rationale to DFO for review and confirmation. On March 22, 2023, DFO confirmed there was no concern with the project changes; so long as all mitigation measures and recommendations were followed and implemented. It was also confirmed that an MNRF provided in-water work timing window of July 1 – September 30 is to be used for the Remaining Works scope.

Based on the correspondence above, an amended LoA from DFO was not required for the Remaining Works.

Design Considerations

The design of culvert replacements will incorporate the considerations for fish habitat protection and restoration as detailed in the Fish and Fish Habitat Preliminary Impact Assessment Report (Aecom 2021) and the DFO Letter of Advice.

Four of the five culvert replacements in fish habitat are within coldwater habitat with potential for salmonid spawning (Culverts CR7-1, CR7-2, SR-5, and SR-7A). These replacement culverts will be open bottom concrete structures to restore connectivity with groundwater and improve fish habitat within the culvert. Through the new culverts, fish habitat will be restored through placement of native substrates and creation of low flow channel to ensure maintenance of surface water fish habitat at baseflow conditions. Substrates will be composed of appropriate waterbody aggregates and will be placed to create smooth tie-ins with the upstream and downstream channels to prevent creation of barriers to fish movement.

The culvert replacement on the warmwater watercourse (Culvert SR-11) will be a closed concrete box culvert, but will be embedded to a minimum of 0.3 m and also be lined with waterbody aggregate to create a natural substrate low flow channel with smooth tie-ins to prevent creation of barriers to fish movement and maintain fish habitat within the culvert. The alignment and design of all culvert replacements considered minimizing the length of required tie-ins to the existing channel, as well as minimizing bends in

The two culverts on Concession Road 7 (Culverts CR7-1 and CR7-2) will be shifted to the east with the change in alignment of the road. The existing culverts will be removed, and the channels within those culverts will be restored to open channels using natural channel design principles. The new channels will incorporate the existing habitat conditions of the upstream and downstream habitat as documented through a site visit by WSP fisheries ecologists in June 2022, including bankfull width and depth dimensions, presence of refuge / outlet pools, and abundance of riparian and overhanging vegetation.

At Culvert SR-7A, conveying the Tributary of McCrimmons Creek at Wellington Road 34, works will involve shifting the adjacent roadside ditch to the west, toward the tributary. The ditch is not fish habitat, however design and construction of the culvert replacement has been developed to ensure protection of fish habitat in the tributary. The construction of the SR-7A culvert replacement and final grading has been designed to maintain the berm separation between the coldwater fish habitat in the Tributary to McCrimmons Creek as specified in the DFO LoA. The channel tie-ins of the creek will be separated from the roadside ditch by a 3 m wide berm which will be revegetated immediately to ensure protection of potential salmonid spawning habitat in the creek.

Recommended Mitigation Measures

Provided the following mitigation measures are properly implemented, monitored, and maintained, it is anticipated that serious harm to fish within nearby waterbodies will be avoided:

- Mitigation measures specified by DFO in the LoA:
    - Plan in-water works, undertakings and activities to respect timing windows to protect fish, including their eggs, juveniles, spawning adults
        - In-water work can occur from July 1 – September 30 (confirmed by DFO in March 2023)
    - Capture, relocate and monitor for fish trapped within isolated, enclosed, or dewatered areas;
        - Dewater gradually to reduce the potential for stranding fish
    - Screen intake pipes to prevent entrainment or impingement of fish;
        - Use the code of practice for water intake screens
    - Limit impacts on riparian vegetation to those approved for the work, undertaking or activity;
        - Limit access to banks or areas adjacent to waterbodies
        - Construct access points and approaches perpendicular to the watercourse or waterbody
        - Re-vegetate the disturbed area with native species suitable for the site
    - Restore stream geomorphology (i.e., restore the bed and banks, gradient and contour of the waterbody) to its initial state;
    - Develop and implement an erosion and sediment control plan to avoid or minimize the introduction of sediment into any waterbody during all phases of the work, undertaking or activity; and

        - Conduct all in-water works, undertakings or activities in isolation of open or flowing water to reduce the introduction of sediment into the watercourse
        - Monitor the watercourse to observe signs of sedimentation during all phases of the work, undertaking or activity and take corrective action
    - Develop and implement a response plan to avoid a spill of deleterious substances
- Limit access to any nearby waterbodies and banks to protect riparian vegetation and to minimize bank disturbance.
- A sediment and erosion control plan should be designed and implemented to contain/isolate exposed soils, stockpiled materials and unstable areas in the work zone. Prevent the release of sediment to a waterbody and ensure the work site is stabilized prior to removal following construction.
- Design and implement a work area containment plan to isolate all above-water work to prevent the release of sediment or other contaminants to a waterbody. The design should include regular inspection, repair, removal, and disposal of isolation measures.
- Materials used or generated during construction (i.e., organics, soil, woody debris, construction debris) must be stored and managed in a way that will prevent the release of these materials into a waterbody.
- Dewatering operations should be managed to prevent erosion or the release of sediment-laden water into nearby waterbodies.
- Ensure a Spills Management Plan including materials, instructions, education and emergency numbers is developed, kept on site at all times, is communicated to work crews and is properly implemented in the event of an accidental spill.
- Operate, store and maintain equipment and associated materials in a manner and at a distance that prevents the entry of any deleterious substance from entering nearby waterbodies.
- Limit riparian vegetation removal and use proper cleaning techniques. Herbicides should not be used on site.
- Use only specified amount and types of fertilizer in areas that drain into waterbodies.
- Re-stabilize banks that have been distributed during construction to pre-construction conditions or better. This could include vegetation or stone material.
- Re-stabilize and re-vegetate soils exposed or disturbed during construction, including new or cleaned-out ditches.

- Near-water works should be monitored to ensure mitigation measures are property implemented, functioning, maintained, and repaired, as needed. Measures should also be removed following construction.

5.1.2 Terrestrial Ecosystems

From 2017 to 2022, Terrestrial Ecologists working on the AECOM Project Team conducted a review of background information and up-to-date field investigations, as well as a preliminary assessment of potential impacts associated with the project (*Terrestrial Ecosystem Existing Conditions and Impact Assessment Report for the Hanlon Expressway / Wellington Road 34 Midblock Interchange, G.W.P. 3059-20-00, AECOM 2021*). The following sections provide summaries of the findings and commitments from these investigations.

Designated Natural Areas

The Preliminary Design Report (G.W.P. 3042-14-00) identified five (5) Environmentally Sensitive Areas, including:

- Beverly Swamp – A Regional Area of Natural and Scientific Interest (ANSI) and a Provincially Significant Wetland (PSW)
- Fletchers Creek Swamp Forest – Regional ANSI and PSW
- Crieff Old Field Complex – Municipality designated Environmentally Significant Area (ESA)
- Galt Creek and Forest – A Regional ANSI and PSW
- Aberfoyle Wood – PSW

AECOM's field investigations identified one (2) Designated Natural Areas within the Remaining Works limits (AECOM, 2021):

- Deer wintering areas (Stratum 2)
- The Mill Creek Puslinch PSW Complex

During grading of the site, fill and sediment runoff from the active construction area may enter vegetation communities and/or watercourses associated with the Designated Natural Areas. Dust may also be generated by the movement of vehicles and other construction activities, which could negatively impact adjacent vegetation communities, wetlands and watercourses associated with the Mill Creek Puslinch PSW (AECOM, 2021).

Oil, gasoline, grease and other materials from construction equipment, materials, onsite storage and onsite handling may enter vegetation communities and/or watercourses associated with the Mill Creek Puslinch PSW and Deer wintering areas (AECOM, 2021).

Of the 321 plants recorded during AECOM's investigations, a total of 102 (32%) are non-native, which includes highly invasive species such as common reed, glossy buckthorn, and common buckthorn. These species can easily spread into a variety of habitat types and outcompete native species for required resources. As a result, these species degrade the vegetative quality of natural areas (AECOM, 2021).

Recommended Mitigation Measures

To assist in mitigating potential impacts to Designated Natural Areas, the following mitigation measures and MTO Provisions and operational constraints should be utilized, at a minimum:

- Ontario Provincial Standard Specification (OPSS) 180: General Specification for the Management of Excess Materials
- OPSS 201: Construction Specification for Clearing, Close Cut Clearing, Grubbing and Removal of Surface and Piled Boulders
- OPSS. MUNI.506 Construction Specifications for Dust Suppression
- OPSS. PROV 801 Construction Specification the Protection of Trees
- OPSS. PROV 803 Construction Specification for Vegetative Cover
- OPSS. PROV 804 Construction Specification for Temporary Erosion Control
- OPSS. PROV 805 Construction Specification for Temporary Sediment Control
- OPSS. PROV 100 General Conditions of Contract
- Non-Standard Special Provision (NSSP) CMOOC001 – Operational Constraint (OC) (Environmental) – Hazardous Plants Special Provision
- Special Provision No. ENVR0011 – Invasive and Noxious Vegetation Spraying, Invasive and Noxious Vegetation Cutting
- NSSP Invasive Species Prevention
- SP 199F12 Environmentally Sensitive Areas OC (Environmental) Control measures during Removal of Concrete/Structure, Structure Repair/Construction, and Concrete Saw cutting
- NSSP Equipment Refuelling, Maintenance and Washing
- SP 199S56 Control of Emissions During Structural Work SP 110F10 Use of AirCooled Blast Furnace Slag as Granular Material
- OC Spill Prevention and Response Contingency Plan

The MTO Specifications, Special Provisions and Operational Constraints noted above will, at a minimum, ensure the following mitigation measures are implemented and followed to avoid impacts to Designated Natural Areas:

- Vegetation removal will be kept within the Limits of work
- An emergency spills plan should be developed and implemented
- Best management practices are used to prevent spills to the environment, including:
  - Re-fuelling stations should be constructed to prevent soil and/or surface and groundwater contamination from any leaks or spills
  - An emergency response kit should be made available at each refuelling station in case of a spill
  - All onsite crew members operating construction vehicles should be appropriately trained in handling a potential spill
  - All chemical transfer/maintenance should be conducted within the refuelling station areas.
- Temporarily disturbed areas should be restored as soon as possible following construction.
- Entry of heavy equipment into designated natural areas within the limits of work shall be limited to the extent possible (per NSSP Designated Natural Areas):
  - Where entry must occur, the use of swamp mats is recommended to reduce potential damage to the feature.
- Where feasible, the Limits of Work shall be delineated with tree protection fencing outside the dripline of trees, prior to the initiation of construction activities; (per OPSS.PROV 801).
- The Design Build Contractor shall delineate the boundary of any impacted PSWs. Delineation will be completed by an Ontario Wetland Evaluation System (OWES) certified Ecologist and must be completed prior to the initiation of vegetation removal (per OPSS.PROV 801).
- Install Erosion and Sediment Control (ESC) measures along the Limits of Work prior to the initiation of construction activities, to reduce potential sediment release and reduced the potential of accidental intrusion.
- All ESC measures should remain in place until restoration is complete and disturbed areas are stabilized.
- Excess ESC material should be maintained onsite, prior to the commencement of grading operations and throughout the duration of the construction, so it is readily available in the case of an emergency or repair.

- Protect all exposed surfaces and control all runoff during construction
- Runoffs should be directed away from Designated Natural Areas and naturalized vegetation communities; (per OPSS 805).
- Watercourse banks disturbed by construction activities should be immediately stabilized by any activity associated with the project to prevent erosion and/or sedimentation, through re-vegetation with native species suitable for the site
- Any accidentally damaged trees shall be pruned in accordance with accepted arboricultural practices; (OPSS.PROV 801).
- Disturbed portions of PSWs within the Limits of Work shall be restored to a wetland community in order to reduce overall impacts on PSWs in the Study Area; (per NSSP 'Designated Natural Areas').
- To avoid the spread of invasive species, the Design Build Contractor should follow the Clean Equipment Protocol for Industry (Halloran et.al, 2013).
- Impacts to Designated Natural Areas inside the Limits of Work shall be reduced where feasible

Breeding Birds

As part of the Terrestrial Ecosystem field investigations undertaken by AECOM, breeding bird surveys were conducted at 49-point count stations within the study area (AECOM, 2021). A total of 56 species were observed during AECOM's field investigations. Species included the following migratory birds which are listed as Threatened under the Endangered Species Act (ESA) and/or Schedule 1 of the SARA: Barn Swallow, Bobolink, and Eastern Meadowlark. Eastern wood-pewee, a Species of Conservation Concern (SOCC), was also observed within the Study Area (AECOM, 2021).

Under the ESA (2007), MTO initiated the Notice of Activity (NOA) process and entered into an agreement with the Upper Thames River Conservation Authority (UTRCA) to create 4 ha of habitat within the UTRCA watershed as compensation lands for Eastern Meadowlark and Bobolink. This agreement also includes the monitoring of compensation lands for the species for twenty (20) years. Further information on the recommended mitigation measures for these species can be found in **Section 5.1.2.5 - Terrestrial Species at Risk.**

The AECOM field investigations confirmed that the culverts on site were CPSs. CSPs do not typically support barn swallow nesting habitat as the species cannot affix their nests to this material type and shape. As well, no other nesting birds were noted at any of the culverts assessed (AECOM, 2021).

Recommended Mitigation Measures

To avoid possible contravention of the Migratory Birds Convention Act, 1994 (MBCA) the following provisions are to be included in the contract:

- NSSP Monitoring of Existing Structure for Barn Swallow Nests; and
- NSSP Operational Constraints (Environmental) - Migratory Bird Protection

The above provisions will require the contractor to adhere to the following mitigation:

- All vegetation removal shall occur outside breeding bird season (April 1 to August 31);
- If vegetation removal cannot be scheduled outside of the breeding bird season; an Avian Biologist will be deployed to conduct a nest survey in the area to be cleared in 'simple habitats':
    - If the active nests of migratory birds are located, then the nest will be noted using handheld GPS and vegetation clearing will be delayed allowing for fledging;
    - To avoid potential nest abandonment and/or predation, nests shall only be physically flagged if they are located close to an active construction zone and are a risk of accidental damage; and,
    - The Design Build Contractor shall consult and follow the MBCA (1994).

Significant Wildlife Habitat

As part of the Terrestrial Ecosystem desktop review and field investigations undertaken by AECOM, the following confirmed SWH types were identified within the Remaining Works limits (AECOM, 2021):

- Seasonal Concentration Areas of Animals Bat Maternity Colonies
- Seasonal Concentration Areas of Animals Deer Wintering Areas
- Specialized Habitat for Wildlife Amphibian Habitat (Woodland)
- Special Concern and Rare Wildlife Species Monarch
- Special Concern and Rare Wildlife Species Eastern WoodPewee
- Special Concern and Rare Wildlife Species Plants (honey locust, hispid buttercup, field sedge)

The following SWH types were identified as candidate features within the Remaining Works limits (AECOM, 2021):

- Seasonal Concentration Areas of Reptile Hibernacula
- Specialized Habitat for Waterfowl Nesting Area
- Habitats for Species of Conservation Concern Marsh Breeding Bird Habitat
- Habitats for Species of Conservation Concern Terrestrial Crayfish
- Special Concern and Rare Wildlife Species Eastern Ribbonsnake
- Special Concern and Rare Wildlife Species West Virginia White
- Special Concern and Rare Wildlife Species Canada Warbler
- Special Concern and Rare Wildlife Species Golden-Winged Warbler
- Special Concern and Rare Wildlife Species Red-Headed Woodpecker
- Special Concern and Rare Wildlife Species Snapping Turtle

Recommended Mitigation Measures

To address impacts to SWH and Wildlife the following provisions should be followed:

- OC(Environmental) – Wildlife and Wildlife Habitat are recommended
- OC (Environmental) SP ENVR0007: Protection of Species at Risk
- OC (Environmental) – General Environmental Protection

The above provisions will require the contractor to adhere to the following mitigation:

- Where candidate or confirmed SWH features will be affected, the Limits of Work should be delineated outside the dripline of trees, prior to the initiation of any vegetation removal or construction activities, (per OPSS. PROV 801)
    - Retained portions of these features will be protected, using Erosion and Sediment Control (ESC) measures and/or tree protection fence (installed at or beyond the drip-line of trees).
- If, during construction, any wildlife are observed within the Limits Work (per NSSP-General Environmental Protection, and NSSP 001A860 Operational Constraint (Environmental)-Prevention of Wildlife Harassment):
    - Under no circumstances will any wildlife be knowingly harmed, harassed, or otherwise disturbed. If an animal is encountered, it will be permitted to move away on its own
    - If wildlife is observed within the work area, a qualified biologist or environmental monitor will determine if there is a concern about the significance of the species observed

    - If the species is identified as SAR, do not handle the individual unless it is in immediate danger. A qualified Biologist shall contact the Contracting Authority and MECP immediately. In accordance with the ESA, no threatened or endangered species can be handled or relocated without the proper approvals / permitting and authorization from MNRF
    - If the species is not identified as SAR, direct the species away from the construction zone into the nearest natural area (i.e., woodland, wetland, etc.) if unsure of where to move the species, contact a Qualified Biologist for guidance
- Should an injured or orphaned animal be encountered, a Qualified Biologist will transport the animal to a wildlife rehabilitation centre that is considered to be an approved Wildlife Custodian by the MNRF or a member of the College of Veterinarians of Ontario
- Should any snakes be disturbed during winter hibernation, or found injured at any time of the year, a Qualified Biologist or Environmental Monitor will transport the animal to a wildlife a rehabilitation centre that is considered to be an approved Wildlife Custodian by the MNRF or a member of the College of Veterinarians of Ontario
- Where project works will impact confirmed Insect SOCC, the following mitigation measures are recommended:
    - Avoid the use of insecticides within monarch and west Virginia white SWH
    - Vegetation removal will be limited to the extent feasible within monarch and west Virginia white SWH
    - It is recommended that any vegetation removal within monarch SWH occur outside the window when the species may be present as eggs or larvae on milkweeds (May 25 – August 15)
- Where project works will impact confirmed amphibian SWH, the following mitigation measures are recommended:
    - Avoid driving within construction zones in proximity to amphibian breeding habitats at night between April 1 and June 30, and any rainy nights from spring to early autumn, wherever possible
    - Conduct construction activities during daylight hours for increased visibility as well as to avoid light pollution effects during the night, wherever possible
- Provide training to all onsite personnel and ensure that they are familiar with wildlife that may be present onsite as well as their responsibility to report wildlife and potential SAR observations to the qualified biologist or environmental monitor

- Obtain any necessary permits / approvals in a timely manner and undertake such activities (i.e., handling of wildlife encounters). Permits and approvals which may be required include the Wildlife Scientific Collector's Authorization from MNRF and the Wildlife Animal Care Committee Authorization. Consultation with the respective regulating agencies will be required to determine the appropriate permits and approvals
- The contractor is responsible for reporting / handling any encounters with injured or deceased SAR; this is to be done in accordance with the Ontario Species at Risk Handling Manual: For Endangered Species Act Authorization Holders as prepared by the MNRF
- To the extent feasible, candidate and confirmed bat maternity colony SWH will be reforested and edge management plantings shall be applied along the newly exposed woodland edges
- To the extent feasible, candidate reptile hibernacula and habitats of SOCC (eastern ribbonsnake) shall be re-seeded and re-vegetated to restore to pre-disturbance conditions, using native species appropriate for the community type disturbed
- To the extent feasible, disturbed avian SWH shall be re-seeded and re-vegetated to restore to pre-disturbance conditions, using native species appropriate for the community type disturbed. For woodland features, edge management plantings will be installed upon the newly exposed edges
- To the extent feasible, disturbed terrestrial crayfish SWH shall be re-seeded and revegetated to restore to pre-disturbance conditions, using native species appropriate for the community type disturbed
- To the extent feasible, disturbed Insect SOCC SWH shall be re-seeded and revegetated to restore to pre-disturbance conditions, using native species appropriate for the community type disturbed that includes and abundance of common milkweed (Asclepias syriaca), swamp milkweed (Asclepias incarnata) and/or two-leaved toothwort (Cardamine diphylla)
- The final highway design should take into consideration potential light impacts on amphibian and amphibian breeding habitats; and, where feasible, any disturbed amphibian SWH shall be re-seeded and re-vegetated to restore to pre-disturbance conditions, using native species appropriate for the community type disturbed. For woodland features, edge management plantings will be installed upon the newly exposed edges

Terrestrial Species at Risk

At the request of MNRF Guelph District, and as identified throughout the Notice of Approval to Proceed with the Undertaking (2009), AECOM completed species specific surveys for the following SAR and SOCC:

- Bat SAR (little brown myotis, northern myotis, eastern small-footed myotis and tri-colored bat)
- Butternut
- Eastern Whip-poor-will
- Bobolink and Eastern Meadowlark
- Henslow's Sparrow
- Jefferson salamander and the unisexual ambystoma (Jefferson salamander dependant population)

AECOM confirmed the following five (5) SAR during their field investigations in 2017, 2018, 2019 and 2021: (bobolink, eastern meadowlark, little brown myotis, eastern small-footed myotis, and tri-colored bat) (AECOM, 2021). AECOM staff also observed Barn swallows foraging within the Study Area; however, it was noted that observations of foraging do not confirm nesting habitat (i.e., that which is protected under the ESA) given that the species may forage widely from its nesting habitat (AECOM, 2021). AECOM confirmed the following SAR were absent during the field investigations conducted from 2018-2021: butternut, eastern whip-poor-will, common nighthawk, Henslow's sparrow, Jefferson salamander and unisexual ambystoma (Jefferson salamander dependant population) (AECOM, 2021).

AECOM confirmed SAR habitat for two (2) grassland bird SAR (bobolink and eastern meadowlark) and three (3) bat SAR (little brown myotis, eastern small-footed myotis and tri-colored bat) were identified within the Study Area. Habitat for bat SAR was confirmed at 18 properties and consisted of deciduous forest, cultural plantation, coniferous swamp, and mixed swamp. Bobolink and eastern meadowlark were both observed calling within suitable habitat (CUM1-1). Bobolink was also observed calling in a mown agricultural field in 2018. While at the time of survey, the meadow was mowed; due to crop rotation and/or changes to mowing frequency, the species may nest in this location in the future (AECOM, 2021).

Henslow's Sparrow

A Notice of Approval to Proceed with the Undertaking was granted on January 22, 2009 (refer to **Section 2.2.1** for further information). The notice included various conditions to be addressed during design and construction as it relates to the potential presence of Henslow's sparrow (AECOM, 2021).

Table 2 lists the specific conditions of approval and how the study addresses them. During AECOM's 2017 and 2018 field investigations, Henslow's Sparrow was not encountered, and it was determined no appropriate habitat areas of sufficient size were observed (AECOM, 2021). Therefore, this species is highly unlikely to be present within the limits of the project. AECOM informed the MNRF Guelph District of the Condition 5 and the confirmation that neither Henslow's Sparrow nor suitable habitat was observed during the field investigations (AECOM, 2021).

Table 2: Status of Requirements under the Notice of Approval to Proceed with the Undertaking for Henslow's Sparrow (AECOM, 2021)

#	Condition of Approval	Status
5.1	The proponent shall update and verify the Henslow's sparrow (Ammodramus henslowii) habitat investigations documented in the Addendum issued November 1997 to confirm that the proposed highway ROW continues to have no potential impacts on the habitat for Henslow's Sparrow.	Completed. No habitat areas of sufficient size were found during the field investigations. Refer to AECOM's Hanlon Expressway / Wellington Road 34 Midblock Interchange (G.W.P. 3059-20-00) Terrestrial Ecosystem Existing Conditions and Impact Assessment Report (2021) for further information.
5.2	The proponent shall update the investigations described in Condition 5.1 by conducting additional investigations within appropriate time periods (i.e., during nesting and breeding season) during the detailed design phase. If the above investigation is undertaken within one year of construction, an additional investigation would not be required immediately prior to construction.	Completed. No habitat areas of sufficient size were found during field investigations. No additional investigations immediately prior to construction for Henslow's sparrow are required given that no habitat was found for this species. Henslow's sparrow is highly unlikely to occur. Refer to AECOM's Hanlon Expressway / Wellington Road 34 Midblock Interchange (G.W.P. 3059-20-00) Terrestrial Ecosystem Existing Conditions and Impact Assessment Report (2021) for further information.

5.3	In the event that the investigations do demonstrate potential impacts, the proponent shall notify the MNRF and Environment Canada and consider all direction provided by the MNRF and Environment Canada.	Completed. MNRF was informed of the condition and that the species and habitat are not present. Refer to AECOM's Hanlon Expressway / Wellington Road 34 Midblock Interchange (G.W.P. 3059-20-00) Terrestrial Ecosystem Existing Conditions and Impact Assessment Report (2021) for further information.

Recommended Mitigation Measures

To address impacts to SAR and SAR Habitat the following provisions are to be applied:

- OC(Environmental) – Wildlife and Wildlife Habitat are recommended
- OC (Environmental) SP ENVR0007: Protection of Species at Risk
- OC (Environmental) – General Environmental Protection
- NSSP Monitoring of Existing Structure for Barn Swallow Nests
- NSSP Operational Constraints (Environmental) - Migratory Bird Protection

Bats

Under the ESA (2007), activities that harm or harass protected species or their habitat are prohibited. In some cases, the MECP can grant different types of permits or other authorizations for activities that would not be allowed. The Overall Benefit Permit authorizes an organization to perform the activity, as long as an overall benefit to the species is provided. An application was filed with MECP for an Overall Benefit Permit under clause 17(2)(c) of the ESA. In December 2022, the Permit (#WC-C-002-21) for SAR Bats was approved by MECP. The Permit authorizes Dufferin Construction to carry out the following activities at the project site and Overall Benefit Lands that would otherwise be prohibited under subsection 9(1) and 10(1) of the ESA for the purpose of carrying out the Project or fulfilling the conditions of the permit:

- Damaging or destroying a specified number of hectares of habitat in the areas identified as "Confirmed SAR Bat Habitat (Bat SAR Confirmed or Assumed Present)" in Schedule C.
- Harming and harassing SAR Bat species, but only as an incidental consequence of carrying out the Project of fulfilling the conditions of the permit,

In addition to a list of Permit conditions, MECP also defined the "Active Season" of SAR Bats as March 15 until November 30 of each year. SAR Bat habitat cannot be damaged or destroyed (i.e., vegetation or rock removal) during the Active Season, as SAR Bats are mobile on the landscape and outside of their hibernaculum.

As outlined in the Permit, MTO will restore and create 10.82 ha of bat SAR habitat on an MTO owned property outside of the project limits, within the same ecoregion. The restoration site is currently composed of agricultural fields, deciduous forests and hedgerows, cultural meadows, a cultural thicket, and a meadow marsh. Native deciduous tree and shrub species will also be planted on the restoration site. Bat boxes will also be installed within the enhanced dry meadow communities to provide interim maternity bat habitat during the maturation process of the created deciduous forest. Rock piles will also be placed throughout the property to provide additional habitat for eastern small-footed myotis bats. Once matured, this site will provide a new maternity roosting and foraging habitat for bat SAR. This roosting and foraging habitat creation enhancement will be undertaken under a separate MTO contract.

The permit (#WC-C-002-21) came into force the day it was issued (December 15, 2022) and will expire when all conditions have been fulfilled.

Recommended Mitigation Measures

To assist in mitigating potential impacts to bat SAR during construction, the following mitigation measures should be applied:

- Adhere to the following conditions identified in approved MECP Bat SAR Permit (#WC-C-002-21):

  General

  - The Proponent shall retain one or more Qualified Professional(s) to: (a) undertake the activities that this permit requires to be undertaken by a Qualified Professional; and (b) supervise and assist with other activities required by this permit that are within the purview of a Qualified Professional.
  - The Proponent shall ensure that a copy of this permit is always accessible at the Site and at the Overall Benefit Lands by any person engaging in an activity that is authorized by, or required by, this permit.
  - The Proponent shall act with due diligence to prevent the killing, harming, or harassing of any SAR Bat individuals while carrying out Project Activities and while fulfilling the conditions of this permit.
  - Where any conflict exists between the conditions of Schedule B of this permit and the contents of the Overall Benefit Plan, the conditions of Schedule B shall prevail.
  - At the request of MECP staff and on reasonable notice, the Proponent shall provide MECP staff and others accompanying them with access to

the Site, Overall Benefit Lands, and any other areas for the purposes of observing the Site and any activities undertaken in relation to this permit. If access is requested to an area not on the Site and not owned or controlled by the Proponent, the Proponent shall make reasonable efforts to obtain the requested access. For greater certainty, this condition does not affect the powers of an enforcement officer under the ESA.

- The Proponent shall notify the Ministry immediately by email at SAROntario@ontario.ca, referencing the number of this permit, if the Proponent's name or address changes or if the Proponent:
  (a) takes or is subject to any other thing which adversely affects the Proponent's ability to satisfy this permit; or (b) is unable to satisfy any of the conditions of this permit.
- If an individual SAR Bat is found live at the Site prior to the destruction of any habitat at the Site, the Proponent shall ensure the following is carried out by a Qualified Professional:
  (a) the individual shall be protected from any harm until the individual leaves the area;
  (b) the location where the individual was found shall be documented;
  (c) if appropriate, the individual shall be removed from the Site;
  (d) if appropriate, the assistance of a Wildlife Custodian shall be sought to transport the individual to the Wildlife Custodian's facility and the individual shall be released back into the wild; and
  (e) the incident shall be reported to MECP by email at SAROntario@ontario.ca, including the information required to be documented under condition 7(b), referencing the number of this permit, before the end of the next business day.
- If an individual SAR Bat is killed or found dead at the Site or the Overall Benefit Lands, the Proponent shall: (a) document the location and circumstances under which the individual was likely killed or found dead; and (b) report the incident to the MECP by email at SAROntario@ontario.ca, including the information required to be documented under condition 8(a), referencing the permit number, before the end of the next business day.

Awareness and Training

- Before any person engages in an activity authorized or required by this permit, the Proponent shall ensure that a Qualified Professional provides education and awareness training to the person that addresses: (a) the existence and identification of the SAR Bats and their habitat at the Site and Overall Benefit Lands; and (b) all requirements of this permit.
- The Proponent shall keep a record of any training conducted under condition 9 for five (5) years following the completion of the Project and provide it immediately upon request by the Ministry. This record shall include: (a) the name of each Qualified Professional who conducted the training; (b) the names of all persons trained, and a declaration signed by each trainee certifying that they have been trained in accordance with the requirements under condition 9; (c) the date(s) of the training; (d) the manner in which training was provided; and (e) a copy of all the training materials.

SAR Bats Observation Reporting

- Within five (5) business days of any observation of a SAR Bat individual at the Site or the Overall Benefit Lands, the Proponent shall provide the following information for each individual SAR Bat observed to the Natural Heritage Information Centre by email at NHICrequests@ontario.ca,
  (a) the name of the species;
  (b) the name and affiliation of the observer;
  (c) the date and time of the observation;
  (d) the location of the observation (UTM coordinate or detailed description); and
  (e) a digital photograph or call recording of the individual and the location in which it was found, if possible.

Timing Mitigation

- The Proponent shall ensure that SAR Bat habitat is not damaged or destroyed during the Active Season.
- With the exception of modifications required to comply with conditions 31 a) or 34 a), the Proponent shall ensure that any repairs to or replacement of Bat Boxes or Rock Piles at the Overall Benefit Lands occur outside of the Active Season

- Construction activities will be limited to the Limits of Work; (Per ENVR0007).
- Limit the number of lights immediately adjacent to woodlands to the extent possible
- Avoid the use of high-pressure sodium and LED lights immediately adjacent to woodlands as these types of lighting affect activity
- If feasible, turn off lighting or reduce the number of active lights immediately adjacent to woodlands during sensitive timing windows

Bobolink and Eastern Meadowlark

A Notice of Activity (NOA) process has been undertaken for the Bobolink and Eastern Meadowlark species, as the sum of habitat to be impacted by the works is 30 ha or less in size. A Habitat Management Plan detailing the existing habitat and creation / enhancement of compensation habitat was prepared by WSP in August 2021. MTO is working with the Upper Thames River Conservation Authority (UTRCA) to create 4 ha of habitat within the UTRCA watershed as compensation lands for Eastern Meadowlark and Bobolink. Following the habitat creation and enhancement, the lands will continue to be managed and maintained for twenty (20) years. Monitoring will include reporting and record keeping. The Bobolink and Eastern Meadowlark Habitat Management Plan (2021) has been developed to satisfy, and is fully compliant with, the specifications outlined in Section 23.6 of O. Reg. 242/08. From the date the NOA registration is completed, MTO will comply with the provisions outlined within this Habitat Management Plan as required by O. Reg. 242/08, including the manner in which the activity is carried out and the manner in which the habitat will be created/enhanced, managed and monitored.

Recommended Mitigation Measures

To assist in mitigating potential impacts to Bobolink and Eastern Meadowlark, the following mitigation measures should be applied:

- The avoidance and mitigation measures prescribed in **Section 5.1.3 Vegetation Communities** also apply to bobolink and eastern meadowlark and their habitats
- The avoidance and mitigation measures prescribed in **Section 5.1.2.2 Breeding Birds** also apply to bobolink and eastern meadowlark and their habitats
- Under the NOA process, the commitments presented within the Bobolink and Eastern Meadowlark Habitat Management Plan (2021) shall be applied by MTO.
- To ensure compliance with the Migratory Birds Convention Act (MBCA) (1994), limit vegetation removal to be outside of the active season for birds (April 1 – August 31)

Red-headed Woodpecker

At the time of AECOM's field investigations and publishing of the Terrestrial Ecosystem Existing Conditions and Impact Assessment Report (G.W.P. 3059-20-00), the Red-Headed Woodpecker (*Melanerpes erythrocephalus*) was listed as a 'Special Concern and Rare Wildlife Species' in Ontario. AECOM documented potential Candidate Red-headed Woodpecker SWH through a comparison of their Ecological Land Classicisation (ELC) site investigations to criterion listed within the Wildlife Habitat Ecoregion Criteria Schedule 6E (MNRF, 2015a).

The Red-headed Woodpecker has since been classified as Endangered in Ontario based on meeting criterion C1 - Small and Declining Number of Mature Individuals, with less than 2,500 mature individuals and an estimated continuing decline in total number of mature individuals of at least 20% within 5 years or two generations, whichever is longer (MECP, 2022). During AECOM's 2017, 2018, 2019, 2021 and 2022 field investigations and breeding bird surveys, the Red-headed woodpecker was not encountered on site and habitat areas of sufficient size were not confirmed (AECOM, 2021). Therefore, the species is highly unlikely to be present within the Remaining Works limits of the project.

Recommended Mitigation Measures

To assist in mitigating potential impacts to Red-headed Woodpecker, the following mitigation measures should be applied:

- The avoidance and mitigation measures prescribed in **Section 5.1.3 Vegetation Communities** also apply to Red-headed Woodpecker and their habitats
- The avoidance and mitigation measures prescribed in **Section 5.1.2.2 Breeding Birds** also apply to Red-headed Woodpecker and their habitats
- To ensure compliance with the Migratory Birds Convention Act (MBCA) (1994), limit vegetation removal to be outside of the active season for birds (April 1 – August 31)

5.1.3 Vegetation Communities

Field investigations undertaken by AECOM in 2020 confirmed the following vegetation communities within the study area:

- Deciduous Forests;
- Deciduous, coniferous, mixed and thicket swamps;
- Cultural plantations, woodlands, thickets and meadows; and,
- Marshes and open water communities (AECOM, 2021).

A total of 321 plant species were observed by AECOM Terrestrial Ecologists throughout the entire study area, of which 68% are considered native. A detailed plant inventory list for the study area can be found under *Appendix C2* of AECOM's *Terrestrial Ecosystem Existing Conditions and Impact Assessment Report for the Hanlon Expressway / Wellington Road 34 Midblock Interchange, G.W.P. 3059-20-00 (2021).*

Of the 321 plant species observed within the study area, no SAR plants were observed during the AECOM field investigations (AECOM, 2021). However, three (3) plant SOCC were recorded by the AECOM Terrestrial Ecologists. These included: honey locust (Gleditsia triacanthos), hispid buttercup (Ranunculus hispidus var. hispidus) and field sedge (Carex conoidea). These species are ranked either as S2 or S3, but are not designated as Special Concern, Threatened or Endangered on the Species at Risk in Ontario (SARO) list. A total of 13 plant species considered regionally rare in Wellington County were also observed in the study area during the AECOM field investigations (AECOM, 2021).

Vegetation Species at Risk

No vegetation SAR were observed within the limits of the Remaining Works during the WSP field investigations. Therefore, no impacts or negative effects are anticipated to vegetation SAR species or their habitat by the proposed works.

Recommended Mitigation Measures

To assist in mitigating potential impacts, the MTO Provisions and operational constraints should be utilized, at a minimum:

- Ontario Provincial Standard Specification (OPSS) 180: General Specification for the Management of Excess Materials
- OPSS 201: Construction Specification for Clearing, Close Cut Clearing, Grubbing and Removal of Surface and Piled Boulders
- OPSS.MUNI.506 Construction Specifications for Dust Suppression
- OPSS. PROV 801 Construction Specification the Protection of Trees

- OPSS. PROV 803 Construction Specification for Vegetative Cover
- OPSS. PROV 804 Construction Specification for Temporary Erosion Control
- OPSS. PROV 805 Construction Specification for Temporary Sediment Control
- OPSS 100 General Conditions of Contract
- Non-Standard Special Provision (NSSP) CMOOC001 – Operational Constraint (OC) (Environmental) – Hazardous Plants Special Provision
- Special Provision No. ENVR0011 – Invasive and Noxious Vegetation Spraying, Invasive and Noxious Vegetation Cutting
- NSSP Invasive Species Prevention
- SP 199F12 Environmentally Sensitive Areas OC (Environmental) Control measures during Removal of Concrete/Structure, Structure Repair/Construction, and Concrete Saw cutting
- NSSP Equipment Refuelling, Maintenance and Washing
- SP 199S56 Control of Emissions During Structural Work SP 110F10 Use of Air Cooled Blast Furnace Slag as Granular Material
- OC Spill Prevention and Response Contingency Plan
- NSSP Operational Constraints (Environmental) - Migratory Bird Protection

The MTO Specifications, Special Provisions and Operational Constraints noted above will, at a minimum, ensure the following mitigation measures are implemented and followed to avoid impacts to Vegetation Communities and Plants:

- Vegetation removal will be limited to within the Limits of Work
- The Limits of Work should be delineated outside the dripline of trees, prior to the initiation of construction activities;(per OPSS.PROV.801).
- Vegetation beyond the Limits of Work should be retained and protected, using ESC measures and/or tree protection fence (installed at or beyond the dripline of trees).
    - The location of ESC measures, tree protection fences should be shown on the ESC design drawings and the Landscape Plan, receptively. These drawings will be submitted to the Contracting Authority.
- Install ESC measures along the Limits of Work prior to the initiation of construction activities, to reduce potential sediment release and reduced the potential of accidental intrusion
- All ESC measures should remain in place until restoration is complete and disturbed areas are stabilized.

- Excess ESC material should be maintained onsite, prior to the commencement of grading operations and throughout the duration of the construction, so it is readily available in the case of an emergency or repair.
- Protect all exposed surfaces and control all runoff during construction.
- Runoffs shall be directed away from Designated Natural Areas and naturalized vegetation communities.
- Watercourse banks disturbed by construction activities should be immediately stabilized by any activity associated with the project to prevent erosion and/or sedimentation, through re-vegetation with native species suitable for the site.
- Vegetation removal shall occur outside of sensitive wildlife timing windows (i.e., breeding bird season April 1 – August 31, SAR Bat “Active Season” as defined in the MECP C-Permit (#WC-C-002-21) (March 15 – November 30)); per NSSP ‘Operational Constraints (Environmental) - Migratory Bird Protection’’, and ;(per Operation Constraint (Environmental) NSSP General Environmental Protection; unless otherwise advised by the MECP.
- Use of heavy equipment be limited to the Limits of Work; (per Operation Constraint (Environmental) NSSP General Environmental Protection.
- Any accidentally damaged trees should be pruned in accordance with accepted arboricultural practices.
- Any trees/shrubs that are felled within areas where active construction is being undertaken shall be mulched as soon as possible, especially during the breeding bird season in order to prevent birds from nesting; (per NSSP ‘Operational Constraints (Environmental) - Migratory Bird Protection’’
- Earth movement immediately adjacent to woodlands should be restricted during periods of high dust generation (i.e., high winds). The Design Build Contractor should apply dust suppressants during dry periods to those areas which generate large amounts of dust.
- To the extent feasible, affected areas shall be re-seeded and re-vegetated and restored to pre-disturbance conditions, using native species appropriate for the community type disturbed:
    - Trees and shrubs should be planted in a naturalized manner, in a random configuration and in groups rather than in rows.
    - Generally, trees should be planted at 5 m on centre and shrubs at 1.0 m on centre. The precise spacing may be adjusted to suit species selected and area available.
    - Seed mixes should be applied using the manufacturers recommended application rate.

- To avoid the spread of invasive species, the Design Build Contractor should follow the Clean Equipment Protocol for Industry (Halloran et.al, 2013).

- In advance of vegetation removals and/or other construction activities, a Tree Protection Plan shall be prepared and implemented. Design Build Contractor shall determine area that can be restored based upon the final highway design.
- Design Build Contractor shall retain a sufficient amount of topsoil onsite for use in in restoration, if possible. If retaining topsoil is not feasible, clean topsoil which is free of invasive species can be used to facilitate planting activities.
- Where possible edge management plantings shall be considered along the newly exposed forest edges:
  - native tree and shrub species shall be used, those selected shall be similar to native species already present in the area
  - clearing shall only be undertaken near areas identified for edge management and incorporate narrow 'no-grubbing' zones (in order to stimulate suckering and edge creation) and edge plantings to help buffer exposed forest interiors from wind, sun and salt spray.
- Undertake pre-construction field investigations (by a Qualified Ecologist / Botanist) to confirm the locations of rare plant species within the study area and determine if protection is feasible. Where the species cannot be protected, the specimens should be relocated to a suitable vegetation community within a restoration area in the study area at the discretion of the Qualified Ecologist / Botanist. Alternatively, seeds or vegetative cuttings, dependent on each specimen's reproductive biology, shall be collected for relocation. Should relocation be unfeasible (i.e., construction activities during the winter season), the Design Build Contractor should make efforts to source the same species from a local nursery to include in a suitable restoration area (refer to **Section 5.1.3.2** below for further information).

Rare Plant Salvage and Relocation

In Summer 2023, during the flowering season and prior to construction, field surveys will be completed by WSP Ecologists to locate rare plant species within the Remaining Works lands. These investigations will be undertaken to inform the need for salvage and transplant of provincially and/or regionally rare plant species. The surveys will include photo documentation, collecting GPS coordinates of rare plant species, as well as flagging any of the identified plants on site. A Rare Plant Salvage and Relocation Plan will be prepared with Dufferin Construction for implementation during construction of the

Remaining Works. Further information on the Early Works Rare Plant Salvage and Relocation Plan can be found in DCR #1 (WSP, 2022), under separate cover.

The Midblock Conceptual Landscape Plan: Restoration Plan (AECOM 2021) was reviewed for suitable restoration areas within which to transplant salvaged rare plants, and the proposed construction schedule has been reviewed with the Design Build team. While there may be suitable restoration areas into which the rare plants could be transplanted in future (i.e., edge management and woodland planting areas for the forest-associated species and the earthen berms for the meadow-associated species), these restoration areas will not be prepared and ready for receiving material for a minimum of 2 years (i.e., Fall 2024). Given that immediate relocation of some plants was not feasible due to Early Works construction commencing in Fall/Winter 2022, the species found on site will be sourced from a native plant nursery. Should these species not be readily available for purchase, there is sufficient time for a nursery to be contracted to grow the three species so that they can be incorporated into these future restoration areas when those areas are ready to receive the material in 2024.

Recommendations from both the Early Works and Remaining Works Rare Plant Salvage and Relocation Plans will be applied to the overall Landscape Plan for the project.

5.1.4 Groundwater

A Hydrogeological Assessment is currently being undertaken by WSP to understand if dewatering is required to manage groundwater and accumulated storm water in excavations during the construction of the Wellington Road 34 structure and the installation / rehabilitation of culverts on Wellington Road 34 and Concession Road 7. As per Ontario Regulation (O. Reg.) 387/04, a Permit-To-Take-Water (PTTW) is required from the Ministry of the Environment, Conservation and Parks (MECP) for water takings in excess of 50,000 litres per day (L/day). Specific types of dewatering activities are monitored under the MECP Environmental Activity and Sector Registry (EASR) process. Under O. Reg. 63/16, an ESAR is an online registry that has replaced the requirement to obtain a PTTW for construction dewatering (and other) purposes if certain criteria are met, including situations where the groundwater dewatering rate is greater than 50,000 L/day and less than 400,000 L/day under normal conditions (i.e., excluding heavy rain events).

As the study area is located in a rural region, some property owners in the area rely on private wells for water supply purposes. WSP completed private well surveys at seven (7) properties in the vicinity of the project. The Hydrogeology Team met each resident in-person and left a well survey form for review. Templates of the Water Well Survey Forms can be found under **Appendix C**. The survey is used to identify properties with

water supply wells that are in close proximity to the work areas and to gather information about the wells. The information is then used to determine if the project may have any effect on private well water systems in the area. The survey was voluntary, and included questions regarding water well location, depth and water levels, locations of septic systems or fuel storage, water well quality, etc. One (1) resident chose to complete the form and return it to the Project Team and One (1) resident reached out to the Project Team to have the survey completed in person. In addition to the surveys, WSP collected monthly manual water levels at the existing monitoring wells on site and also deployed dataloggers in select monitoring wells (recording hourly water levels).

The closest existing monitoring wells to the proposed structure included MW35-617-03A and MW21-02. The depths of all the monitoring wells on site ranged from 5.5 m below ground surface to 34.8 m below ground surface and had water levels ranging from 0.8 m above ground surface to 17.8 m below ground surface, along with select dry readings. The surficial geology of the study area is varied, and contains a number of sediment types, including: stone-poor, carbonate-derived silty to sandy till; ice-contact stratified deposits composed of sand and gravel with minor silt, clay, and till; gravelly deposits; and peat and organic deposits where wetlands are present.

Prior to construction, WSP will work with Dufferin Construction to determine if a water taking Environmental Activity and Sector Registry (EASR) or Category 3 Permit to Take Water is required for the Remaining Works.

Recommended Mitigation Measures

To minimize the potential for groundwater impacts, the following mitigation measures are recommended:

- OPSS 805 – Construction Specification for Temporary Erosion and Sediment Control Measures
- Operational Constraint - Equipment Refueling, Maintenance and Washing
- OPSS 180 – General Specification for the Management of Excess Materials
- OPSS 100 General Conditions of Contract, Section GC 7.13.02 Environmental Incident Management - Requirements for containment, notification, and cleanup.
- OPSS 517 Construction Specification for Dewatering.

5.1.5 Landscaping

The construction of both the Early Works and Remaining Works will result in impacts to the existing landscape composition in the study area. A Landscape Plan has been developed to restore areas that are distributed during the construction activities.

Recommended Mitigation Measures

To the extent feasible, affected areas shall be re-seeded and re-vegetated and restored to pre-disturbance conditions, using native species appropriate for the community type disturbed. Refer to **Section 5.1.3 Vegetation Communities** for further information on proposed mitigation measures for the Remaining Works limits.

Once finalized, the Landscape Plan for the project will be available for viewing under the Reports page on the project website (https://highway6midblock.ca/reports/). The Landscape Plan will include relocation areas for Regionally Rare plants, as advised by WSP Ecologists.

5.1.6 Erosion and Sediment Control

WSP completed an Erosion and Sedimentation Overview Risk Assessment (ESORA) for the Remaining Works portion of the project. The study area includes low-lying wetlands surrounding the intersection of Highway 6 / Hanlon Expressway and Wellington Road 34, with irregular hummocky and undulating topography along Concession Road 7. To complete the ESORA for the site, WSP prepared mapping to illustrate surficial geology, topographic contours, and natural features, The properties were assessed based on the MTO's (2015) Hierarchy of Soil Erodibility, which classifies various soil types (surficial geology mapping) as low, medium or high soil erodibility and MTO's (2015) Erosion Potential Associated with Slope Length, Slope Gradient and Slope Erodibility Rating, which defines the erosion potential associated with the various polygons based on the soil erodibility and the slope gradient and length (approximated based on the topography of the mapping). The results of the assessment determined the site has high erosion potential due to the presence of PSW across the study limits.

Erosion and sediment control practices will focus on minimizing site erosion and keeping any eroded material on site. Effective erosion and sedimentation control will be achieved throughout the project with stringent construction supervision, monitoring of the site, and maintenance of control works throughout their operational life.

Recommended Mitigation Measures

Based on an assessment of the existing conditions at the site and the anticipated work to be completed, WSP recommends as a minimum the following Ontario Provincial Standard Specifications (OPSSs) for erosion and sediment control during construction:

- OPSS Prov. 100: MTO General Conditions of Contract
- OPSS Prov. 180: Management of Excess Materials

- OPSS Prov. 801: Protection of Trees
- OPSS Muni. 802: Topsoil
- OPSS Prov. 803: Vegetative Cover
- OPSS Prov. 804: Temporary Erosion Control
- OPSS Prov. 805: Temporary Sediment Control
- OPSS Prov. 517: Dewatering
- OPSS Muni. 518: Control of Water from Dewatering Operations
- SSP 100S59 Amendment to MTO General Conditions of Contract, November 2016 – Approvals and Permits, and Water Taking
- SSP 101F23 Amendments to OPSS 182, April 2020 – Timing of In-Water Works, Oversight Requirements, and Measures to Avoid Harm to Fish
- OPSD 219.100 Light-Duty Straw Bale Barrier
- OPSD 219.110 Light-Duty, Silt Fence Barrier / MTOD 219.110 Sediment Fence Barrier
- OPSD 219.120 Light Duty, Fibre Roll Barrier / MTOD 219.120 Fibre Roll Barrier
- OPSS 219.130 Heavy Duty Silt Fence Barrier
- OPSS 219.131 Heavy Duty Wire Backed Silt Fence Barrier / MTOD 219.131 Wire-Backed Sediment Fence Barrier
- OPSD 219.150 Sandbag Barrier
- OPSD 219.160 Fibre Roll Grade Breaks
- OPSD 219.180: Straw Bale Flow Check Dam (OPSD 219.191, 219.200, 219.210 and 219.211 are favored options over 219.180)
- OPSD 219.191 Fibre Roll Flow Check Dam
- OPSD 219.200 Sandbag Flow Check
- OPSD 219.210 Temporary Rock Flow Check, V-Ditch / MTOD 219.210 Rock Flow Check Dam V-Ditch
- OPSD 219.211 Temporary Rock Flow Check, Flat Bottom Ditch or Channel / MTOD 219.211 Rock Flow Check Dam Flat Bottom Ditch
- OPSD 219.220 Sediment Trap in Ditch
- OPSD 219.230 Temporary Slope Drain for Sediment Trap / MTOD 219.230 Slope Drain for Sediment Trap
- OPSD 219.231 Temporary Berm Barrier for Slope Drain / MTOD 219.231 Berm Barrier for Slope Drain
- OPSD 219.240 Sediment Trap for Dewatering
- OPSD 221.010 Temporary Water Passage System – Culvert in Watercourse
- OPSD 221.020 Temporary Water Passage System – Pumping and Piping

5.2 Socio-Economic Environment

5.2.1 Land Use

A high-level overview of the land use factors was completed to identify the current land use conditions and the potential impacts of the Remaining Works on the existing and planned/future land uses within the study limits. Similar to the Early Works, the study limits of the Remaining Works are represented by a combination of Rural Employment Area, Secondary Agricultural, Core Greenlands systems, as well as disturbed MTO and county road right-of-way (Schedule A7, Puslinch Official Plan Map, 2021). Rural Employment Area is the primary land use within the Remaining Works limits.

Traffic volumes and associated safety and operational concerns along Highway 6 / Hanlon Expressway are anticipated to grow, given the current population, employment, and traffic projections. MTO has initiated this project to address current and future transportation needs for the Highway 6 / Hanlon Expressway corridor within the study area. Completion of the planned improvements provides opportunity to develop appropriate rehabilitation or replacement strategies to maintain the safe operation of the highway corridor for current and future traffic volumes. Identifying the future interchange configurations will also help to manage adjacent development and highway corridor access.

Recommended Mitigation Measures

The following mitigation measures are recommended to ensure reduced impacts on the existing and planned land use within the study limits:

- Consultation with potentially impacted business owners shall be undertaken throughout construction via notification and website updates to ensure they are informed of the project plans, construction staging, detour routes, access restrictions, etc.
- The Project contract shall include traffic control requirements for protection of public traffic during construction.
- Emergency services, residents, school bus companies and the municipal stakeholders shall be consulted and notified of traffic staging, detours and other temporary impacts to traffic throughout construction.

5.2.2 Noise

A Traffic Noise Assessment was completed by AECOM in 2021 under separate cover (*Hanlon Expressway / Wellington Road 34 Midblock Interchange, GWP 3059-20-00, Traffic Noise Report, AECOM 2021*). The assessment captured the limits of the Remaining Works area. During the assessment, it was determined that the areas surrounding the Remaining Works limits are zoned for agricultural and green land purposes. There are scattered residential buildings with a residential sub-division southeast of the Hanlon Expressway and Wellington Road 34 intersection. A seasonal campground is also located northeast of the Highway 6 / Hanlon Expressway interchange and Highway 401. Since the roadways adjacent to the campground are part of an existing freeway/highway corridor, the site was not considered as a Noise Sensitive Area (NSA) in the assessment (AECOM, 2021).

The results of the assessment indicated that noise increases due to the improvements along Highway 6 / Hanlon Expressway will have a minor to low perceived significance at the majority of noise sensitive receptors (AECOM, 2021). Some locations exceeded the MTO's criteria for requiring noise mitigation investigation. Results of the noise mitigation investigation show that noise mitigation is not feasible to address traffic noise impacts at these locations and are thus not recommended (AECOM, 2021).

Construction Noise

Construction noise impacts are temporary in nature, and largely unavoidable. In addition, the timing of construction activities is such that they will vary by activity and location within the limits of the Remaining Works as construction progresses. Therefore, noise levels from construction activities will vary.

It is not anticipated that noise sensitive areas would be exposed to constant construction noise. Noise producing construction operations will take place within the daytime hours specified in the Township of Puslinch and Centre Wellington's Noise By-Law No. 5001-05, when possible.

Anticipated construction activities for the project include the use of typical construction equipment to facilitate the Remaining Works. The noise impacts associated with transportation projects are assessed based on the policies as documented in the *MTO Environmental Guide for Noise (2022)*.

Potential noise impacts from typical construction equipment may include:

- Temporary construction noise generated as a result of construction operations
- Potential temporary pile driving activities during construction
- Reconstruction and/or repair of pavement, and the removal of infrastructure
- Replacement and/or repair to structures, replacement of approach slabs
- Placement of temporary concrete barriers for protection of work areas, paving operations, etc.

These construction activities may involve the use of the following noise producing machinery:

- Construction vehicles such as dump trucks, concrete trucks, drill rigs, crane trucks, material delivery trucks, etc.
- Front end loader and excavator
- Paving units
- Use of power tools
- Compaction equipment, backhoes and other small excavation equipment.

Recommended Mitigation Measures

To minimize the potential for construction noise impacts, the following mitigation measures will be implemented:

- MTO and MTO agents are not subject to municipal By-laws and are therefore not required to obtain exemption permits from the Township of Puslinch and/or County of Wellington (By Law No. 5001-05). However, MTO recognizes the impact noise can have on a community, and all reasonable attempts will be made to work within local noise By-laws. Where this is not feasible, MTO will work within the spirit of the local By-law and continue to provide clear and consistent communication with the municipality.
- Dufferin Construction will provide a Notice of Construction to all residents within a 500-metre radius of the project limits, prior to construction. The Notice will include contact information for the Project Team, if a resident requires further construction information. Notification will also be provided to local Councillors within the project area.
- Equipment shall be maintained in an operating condition that prevents unnecessary noise, including, but not limited to non-defective muffler systems, properly secured components, and the lubrication of moving parts.
- Duration of construction equipment idling is to be restricted to the minimum time necessary to complete the specified task.

5.2.3 Air Quality

An Air Quality Impact Assessment was completed by AECOM in June 2021 under separate cover (*Air Quality Impact Assessment, Hanlon Expressway / Wellington Road 34 Midblock Interchange, GWP 3059-20-00, June 2021*). The results of the assessment show that the addition of the proposed infrastructure will have a decreased impact on the sensitive receptors identified within the study area, when compared to the existing conditions. However, the infrastructure will have an increased impact on air quality in comparison to future no-build conditions that were assessed (AECOM, 2021). It was noted that most of the criteria air contaminants are anticipated to be below the respective provincial and federal air quality criteria.

Air quality during construction may be affected with dust impacts from construction equipment. These impacts will be limited to the construction period and are not considered a recurring activity. Contract provisions will be implemented to minimize impacts to the adjacent properties during construction. Therefore, impacts from construction on air quality are not considered significant for this Project.

Recommended Mitigation Measures

Provisions to minimize potential air quality impacts during construction include the following best management practices:

- No unnecessary idling of vehicles
- Covering stockpiles of soil, sand, and aggregate
- Regular cleaning of construction sites and access roads to remove debris and dust caused by construction and
- Application of dust suppressants to control dust generated by construction activities (as required).

5.2.4 Waste and Contamination

Based on available information, a Contamination Overview Study (COS) was previously completed by AECOM in June 2021 during the preliminary design review to identify and review properties / areas within the Project Area with actual or potential site contamination that may impact future highway design. The COS was also completed to identify appropriate future environmental work and mitigation measures to be implemented during the detail design and construction phases of the project.

Based on the findings presented in the COS, there was a total of 27 properties identified; with two (2) parcels identified as having a “high” potential for environmental contamination; two (2) parcels were identified as having a “medium” potential for

environmental contamination; 23 parcels were identified as having “low” potential for environmental contamination and ten (10) significant spill locations were also identified within the Project Area.

AECOM also prepared a summary of the soil sampling program completed by AECOM for the excess soil management component of the Midblock Interchange Project (GWP 3059-20-00). The scope included the advancement of ten (10) shallow boreholes in areas previously identified in the COS to be either high or medium risk for environmental contamination. Of the twenty-two (22) soil samples collected and analyzed, one (1) soil sample exceeded the applicable MECP Table 2.1 Excess Soil Quality Standards (ESQS) for industrial/commercial/community (ICC) property uses (Table 2.1) in borehole BH 2-23, advanced along Concession Road 7 between 0.7 and 1.0 metres below ground surface (mbgs).

It should be noted however, that the COS identified a property along Concession Road 7 as a property with a high risk for possible soil contamination due to the use of fertilizers and pesticides. Information reported in the above-mentioned AECOM report suggests that organochlorine pesticides were not analyzed as part of the sampling program in the boreholes surrounding this property. Refer to **Section 5.2.5 Excess Materials** for further information on the excess soil quality assessment for the limits of the Remaining Works.

Recommended Mitigation Measures

The following measures shall be implemented to address **General Waste Management**:

- Surplus and waste materials shall be managed in compliance with the following provisions included in the MTO construction tender documents:
    - OPSS 180, ‘General Specification for Management of Waste Materials’ specifies:
        - Waste classification of key excess materials generated by the work.
        - Conditions for management of each waste classification generated by the work, including management by re-use, as disposable fill, as non-hazardous solid industrial or commercial waste, by stockpiling and by disposal as subject waste.
        - Distance separations from any waterbodies, groundwater water wells and residences for management by re-use, as disposable fill and by stockpiling.

        - Completion and signature of stipulated forms by owners of property that may be used for management of stockpiling for re-use or as disposable fill.
- General environmental protection shall be in compliance with the following provisions included in the MTO construction tender documents:
    - OPSS 100 'General Conditions of Contract', GC 3.03 specifies:
        - Requirement to alter operations per direction of the contract administrator (i.e., Dufferin Construction) is determined to be damaging to the environment
    - OPSS 100 'General Conditions of Contract', GC 7.07 specifies:
        - Requirement to control dust so that it does not affect traffic, enter surface waters, or escape beyond the right-of-way to cause a nuisance to residents, business or utilities.
    - OPSS 100 'General Conditions of Contract', GC 7.13.02 specifies:
        - Requirements for containment, notification and clean-up following an environmental incident.
    - MTO non-standard special provision 'Operational Constraint (Environmental) - General Environmental Protection' specifies:
        - Requirement that environmental protection comply with the conditions of approvals and permits exemptions, agreements, reports and clearances provided by the owner or obtained by the contractor; and,
        - Requirement to control material, equipment and construction operations to avoid and minimize direct physical damage; sediment, noise, vibration, dust, chemical, and other emissions; and interference with local use, access and passage.
- The following protocols shall be implemented to address **Hazardous Materials and Handling and Storage**:
    - All potentially hazardous products shall be stored in a pre-designated, safe and secure product storage location on the Site, set back at least 30 m from all water bodies or watercourses, in accordance with provincial legislation.
    - All products shall be properly labelled according to Workplace Hazardous Materials Information System (WHMIS).
    - Products should only be handled by personnel who are WHMIS trained and qualified in handling the specific product. All personnel shall wear the proper personal protective equipment (PPE) when handling hazardous or flammable materials.

- Greasy or oily rags or materials subject to spontaneous combustion shall be deposited and stored in appropriate receptacles in the material storage pad and staging area. This material shall be removed from the Site on a regular basis (i.e., at least monthly) and shall be collected by an approved subject waste hauler or cleaned for re-use.
- Waste products associated with equipment maintenance will be disposed of off- site in accordance with applicable regulations.
- A written inventory of materials stored onsite by Dufferin shall be maintained and updated weekly to reflect materials used onsite by other contractors, vendors or subcontractors as necessary.
- Any spilled product shall be contained and cleaned up and reported in accordance applicable regulations.
- All material storage shall comply with Technical Standards and Safety Authority (TSSA) regulations and local fire codes.
- The condition of storage sites will be inspected daily by the inspector and
- documented for evaluation of compliance with regulatory requirements. Any deficiencies in material storage will be reported and Dufferin shall complete an Incident Follow-up Form to confirm that the deficiency was addressed.

- The following measures shall be implemented to address **Spill Prevention**:
  - Spill response shall comply with OPSS 100 'General Conditions of Contract', GC 7.13.02 Environmental Incident Management, which specifies the requirements for containment, notification and cleanup.
  - Be prepared to intercept, clean up, and dispose of spills or releases that may occur whether on land or water. Maintain materials and equipment required for cleanup of spills or releases readily accessible on the Site.
  - Provide training to Site personnel in how to prevent, mitigate the impacts, and respond quickly to spills.
  - Maintain as small quantities as possible of any potentially harmful materials to the natural environment.
  - Ensure that there are no direct routes between material storage areas and water bodies or drainage pathways thereto.
  - Provide secondary containment for wastewater collection tanks and liquid material storage areas where appropriate and feasible.
  - Outfit all jerry cans with automatic closures.
  - Ensure all equipment is maintained regularly and that all fluid lines (i.e., brakes, hydraulic, fuel) are in good condition and are not leaking. Inspections, maintenance, and repairs shall be completed by qualified

professionals and documented by the contractor who owns or is leasing the equipment.
    - Provide waste receptacles to prevent the generation of litter on the Site.
    - Include litter-prevention training as part of the overall environmental training provided to Project personnel.
- To reduce the likelihood of an event involving a spill or leak, the following procedures shall be followed:
    - All water control devices and hoses shall be inspected daily and monitored to ensure proper working order.
    - All hoses and connections on equipment will be inspected routinely by truck operators for leaks and drips.
    - All equipment and vehicle leaks must be reported immediately and repaired prior to continued use.
    - All material storage areas shall be inspected daily for signs of spills, general housekeeping, state of spill containment units and features, and availability of appropriate spill control supplies.
    - Fuel storage, vehicles and equipment will be stored at designated areas a minimum of 30 m from a watercourse.
    - Vehicle maintenance will be enhanced and good housekeeping practices will be implemented.
    - Watertight trucks or lined truck beds will be used to transport wet excavated material and debris that may otherwise leak.

5.2.5 Excess Materials

There is the potential for excess materials (i.e., old pavement, concrete, asphalt, and earth) to be generated during the construction of the Remaining Works. In March 2023, WSP prepared and implemented an Excess Soil Quality Assessment Program to support the management of excess soil that is anticipated to be generated during the proposed Remaining Works.

The Remaining Works Excess Soil Quality Assessment Program included a subsurface investigation to assess the subsurface soil conditions at one (1) of the properties with Parcel Identifier 8130414641 and was identified in the COS as a “high” environmental concern for potential environmental impacts (refer to **Section 5.2.4 Waste and Contamination** for further information).

The reported parameters were compared to the Full Depth Background Site Condition Standards (SCS) as presented in Table 1 of the Soil, Groundwater and Sediment Standards for use under Part XV.1 of the Environmental Protection Act, published by the MECP in 2011 for residential/parkland/institutional/industrial/commercial/community (RPIICC) use (Table 1 SCS), and to the Full Depth Excess Soil Quality Standards in a Potable and non-Potable Groundwater Conditions for industrial/commercial/community (ICC) property uses as presented in Table 2.1 and Table 3.1 (referred to as Table 2.1 ESQS and Table 3.1 ESQS, respectively). Table 1 standards under O. Reg. 406/19 are identical to Table 1 standards under O. Reg. 153/04 and represent naturally occurring or "background" parameter concentrations within Ontario soils.

A total of ten (10) test pits were advanced during this sampling program. A total of nineteen (19) bulk soil samples and two (2) duplicate soil samples were collected. The samples were analyzed for metals, including hydride forming metals, salt related parameters such as EC and SAR, PHCs, BTEX and pH.

Within the Remaining Works limits, soil samples submitted for analysis of PHCs and BTEX met the MECP Table 1 SCS, Table 2.1 ICC ESQS, and Table 3.1 ICC ESQS under O. Reg. 406/19. Two (2) soil samples submitted for analysis of EC and SAR exceeded the MECP Table 1 SCS in test pits TP23-29 and TP23-30, advanced along Wellington Road 34 between 0 and 0.5 metres below ground surface (mbgs).

Soil samples submitted for pH analysis had levels inside the acceptable pH range of 5.0 to 9.0 (for surface soil) and 5.0 to 11.0 (for subsurface). Two (2) soil samples submitted for analysis of metals exceeded the MECP Table 1 SCS in test pits TP23-25 and TP23-26, advanced along Concession 7 between 0.5 to 1.5 mbgs. Furthermore, three (3) soil samples submitted for analysis of metals exceeded the MECP Table 1 SCS, Table 2.1 ESQS, and Table 3.1 ESQS under O. Reg. 406/19 in test pits TP23-25 and TP23-26, advanced along Concession 7 between 0 and 2 mbgs. Soil samples submitted for analysis for the Project Area met the MECP Leachate Table 2.1 ICC, and Table 3.1 ICC ESQS under O. Reg. 406/19. It should be noted that the sampling frequency of this program is based on O.Reg.406/19 and summarizes the soil analytical data collected to-date.

Recommended Mitigation Measures

- Disposal/reuse of soils at any receiving facility is subject to acceptance and approval of the materials by the receiver. Excess soil meeting Table 1 SCS and Table 2.1 ESQS may be reused within the Project Area. Excess soil meeting Table 3.1 ESQS may be reused at alternative sites accepting Table 3.1 ESQS soil.

- Excess soil that exceeds Table 3.1 ESQS and extending laterally to adjacent boreholes with no Table 3.1 ESQS exceedances, cannot be reused within the Project Area and will require off-site disposal at a MECP licensed landfill or transfer station that has an ECA valid for acceptance of solid non-hazardous waste. Alternatively, this soil may be reused at another receiving site with an instrument in place allowing them to receive soil quality with concentrations greater than MECP Table 3.1 ICC ESQS
- Excess material will require proper management (removal, storage and disposal). Materials will be managed in accordance with *Ontario Standard Specification (OPSS) 180 – General Specification for the Management of Excess Materials*;
- Where Dufferin Construction manages excess earth as disposable fill, they shall ensure the material is managed responsibly and in an environmentally appropriate manner; and,
- Should any contaminated materials be encountered during the Remaining Works construction, caution will be exercised while handling and disposing of contaminated materials in accordance with provincial regulations and MTO approved practiced (as governed by OPSS 180).

5.3 Cultural Environment

5.3.1 Archaeology

Archaeological Assessments for the *Hanlon Expressway / Wellington Road 34 Mid-Block Interchange Project* (G.W.P. 3059-20-00) were undertaken by AECOM, with participation from Six Nations of the Grand River, Mississaugas of the Credit First Nation, and HDI. Stage 1 and 2 Archaeological Assessments were undertaken from August 22, 2017 to June 04, 2021 (AECOM, 2021). The Assessments confirmed that the study area consisted of paved roads, low lying and wet area, slopes, and agricultural fields. Those areas not deemed to be low lying and wet, sloped, or disturbed were subject to further assessment, through either pedestrian survey or test pit survey.

It was determined that Stage 3 and Stage 4 Archaeological Assessments were required at both the McKenzie Site (AiHb-381) and the Patterson Site (AiHb-382), which fall within the limits of the Remaining Works. In August 2021, a Stage 3 Archaeological Assessment was undertaken at both sites. In October 2021, a Stage 4 Assessment was undertaken at both sites.

The Stage 1-4 Archaeological Assessment Reports were filed with the Ministry of Citizenship and Multiculturalism (MCM) in the Ontario Public Register of Archaeological Reports, referred to in Section 65.1 of the Ontario Heritage Act. The Stage 3 & 4 Reports for the McKenzie Site were accepted by MCM. However, access to the Patterson Site is restricted while MCM completes their review of the Stage 4 Report. MCM will provide confirmation that the lands are clear of archaeological potential.

At the time of this publication, the WSP Design Team was continuing discussions with property owners along Wellington Road 34 and Concession Road 7 regarding the reconstruction of several driveway entrances. The reconstruction is required as part of the Remaining Works design (refer to **Section 4.1.8** for further information). Based on the Stage 1-2 Archaeological Assessment of Hanlon Expressway / Wellington Road 34 Midblock Interchange / G.W.P. 3059-20-00 (AECOM, 2022), the driveway entrances may require additional archaeological assessments. Stage 2 Archaeological Assessments will be undertaken following the review and authorization of the Permission to Enter and Construct letters by the property owners. Construction access to the aforementioned driveway entrance is restricted until MCM provides confirmation that the lands are clear of archaeological potential.

Recommended Mitigation Measures

Given the results of the Archaeological Assessments (Stages 1-4), the following mitigation measures were recommended:

- Areas of deep and extensive disturbance, severe slope, and low-lying permanently wet areas, and where no archaeological resources were found during the Stage 2 assessments are cleared of further archaeological concerns.

The following mitigation measures are also recommended in order to comply with applicable legislation during construction:

- It is an offence under Sections 48 and 69 of the *Ontario Heritage Act* for any party other than a licensed archaeologist to make any alteration to a known archaeological site or to remove any artifact or other physical evidence of past human use or activity from the site, until such a time as a licensed archaeologist has completed archaeological fieldwork on the site, submitted a report to the Minister stating that the site has no further cultural heritage value or interest, and the report has been filed in the Ontario Public Register of Archaeological Reports referred to in Section 65.1 of the *Ontario Heritage Act*.

- 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 archaeological fieldwork, in compliance with Section 48 (1) of the *Ontario Heritage Act*.
- The *Cemeteries Act*, R.S.O. 1990, c.C.4 and the *Funeral, Burial and Cremation Services Act*, 2002, S.O. 2002, c.33 (when proclaimed in force) require that any person discovering human remains must notify the police or coroner and the Registrar of Cemeteries at the Ministry of Consumer Services.

5.3.2 Cultural and Built Heritage

A Cultural Heritage Report was completed by AECOM for the *Hanlon Expressway / Wellington Road 34 Mid-Block Interchange Project (G.W.P. 3059-20-00)* (AECOM, 2021). The background review and site investigations confirmed that no Built Heritage or Cultural Heritage Landscapes exist within or adjacent to the limits of work. Impacts to cultural or built heritage features are therefore not anticipated.

5.4 Summary of Environmental Concerns, Mitigating Measures and Commitments

Table 3 summarizes the identified environmental concerns, proposed mitigation measures and commitments to future works as outlined in this Design-Build project for the Remaining Works.

Legend:

- MTO: Ministry of Transportation of Ontario
- MNRF: Ministry of Natural Resources and Forestry
- MECP: Ministry of the Environment, Conservation and Parks
- MCM: Ministry of Citizenship and Multiculturalism
- DFO: Department of Fisheries and Oceans Canada
- Mun: Municipal (County of Wellington, City of Guelph, Township of Puslinch)
- Public: Residents and / or business owners
- EMS: Emergency Management Services
- GRCA: Grand River Conservation Authority

Table 3: Summary of Environmental Concerns, Mitigating Measures and Commitments

I.D. #	Environmental Element / Concern and Potential Impact	Concerned Agencies / Organizations	I.D. #	Mitigation / Protection / Monitoring / Future Commitments
Natural Environment				
1.0	Fish & Fish Habitat	MTO / MNRF / DFO / GRCA	1.1	Plan in-water works, undertakings and activities to respect timing windows to protect fish, including their eggs, juveniles, spawning adults; • In-water work can occur from July 1 – September 30 (confirmed by DFO in March 2023).
			1.2	Capture, relocate and monitor for fish trapped within isolated, enclosed, or dewatered areas; • Dewater gradually to reduce the potential for stranding fish.
			1.3	Screen intake pipes to prevent entrainment or impingement of fish; • Use the code of practice for water intake screens.
			1.4	Limit impacts on riparian vegetation to those approved for the work, undertaking or activity; • Limit access to banks or areas adjacent to waterbodies • Construct access points and approaches perpendicular to the watercourse or waterbody • Re-vegetate the disturbed area with native species suitable for the site.
			1.5	Restore stream geomorphology (i.e., restore the bed and banks, gradient and contour of the waterbody) to its initial state.
			1.6	Develop and implement an erosion and sediment control plan to avoid or minimize the introduction of sediment into any waterbody during all phases of the work, undertaking or activity; and • Conduct all in-water works, undertakings or activities in isolation of open or flowing water to reduce the introduction of sediment into the watercourse • Monitor the watercourse to observe signs of sedimentation during all phases of the work, undertaking or activity and take corrective action.
			1.7	Develop and implement a response plan to avoid a spill of deleterious substances.
			1.8	A sediment and erosion control plan should be designed and implemented to contain/isolate exposed soils, stockpiled materials and unstable areas in the work zone. Prevent the release of sediment to a waterbody and ensure the work site is stabilized prior to removal following construction.
			1.9	Design and implement a work area containment plan to isolate all above-water work to prevent the release of sediment or other contaminants to a waterbody. The design should include regular inspection, repair, removal, and disposal of isolation measures.
			1.10	Materials used or generated during construction (i.e., organics, soil, woody debris, construction debris) must be stored and managed in a way that will prevent the release of these materials into a waterbody.
			1.11	Dewatering operations should be managed to prevent erosion or the release of sediment-laden water into nearby waterbodies.
			1.12	Ensure a Spills Management Plan including materials, instructions, education and emergency numbers is developed, kept on site at all times, is communicated to work crews and is properly implemented in the event of an accidental spill.

I.D. #	Environmental Element / Concern and Potential Impact	Concerned Agencies / Organizations	I.D. #	Mitigation / Protection / Monitoring / Future Commitments
			1.13	Operate, store and maintain equipment and associated materials in a manner and at a distance that prevents the entry of any deleterious substance from entering nearby waterbodies.
			1.14	Limit riparian vegetation removal and use proper cleaning techniques. Herbicides should not be used on site.
			1.15	Use only specified amount and types of fertilizer in areas that drain into waterbodies.
			1.16	Re-stabilize banks that have been distributed during construction to pre-construction conditions or better. This could include vegetation or stone material.
			1.17	Re-stabilize and re-vegetate soils exposed or disturbed during construction, including new or cleaned-out ditches.
			1.18	Near-water works should be monitored to ensure mitigation measures are properly implemented, functioning, maintained, and repaired, as needed. Measures should also be removed following construction.
2.0	Terrestrial Ecosystems (Designated Natural Areas)	MTO / MNRF / GRCA / Mun	2.1	Ontario Provincial Standard Specification (OPSS) 180: General Specification for the Management of Excess Materials
			2.2	OPSS 201: Construction Specification for Clearing, Close Cut Clearing, Grubbing and Removal of Surface and Piled Boulders
			2.3	OPSS. MUNI.506 Construction Specifications for Dust Suppression
			2.4	OPSS. PROV 801 Construction Specification the Protection of Trees
			2.5	OPSS. PROV 803 Construction Specification for Vegetative Cover
			2.6	OPSS. PROV 804 Construction Specification for Temporary Erosion Control
			2.7	OPSS. PROV 805 Construction Specification for Temporary Sediment Control
			2.8	OPSS. PROV 100 General Conditions of Contract
			2.9	Non-Standard Special Provision (NSSP) CMOOC001 – Operational Constraint (OC) (Environmental) – Hazardous Plants Special Provision
			2.10	Special Provision No. ENVR0011 – Invasive and Noxious Vegetation Spraying, Invasive and Noxious Vegetation Cutting
			2.11	NSSP Invasive Species Prevention
			2.12	SP 199F12 Environmentally Sensitive Areas OC (Environmental) Control measures during Removal of Concrete/Structure, Structure Repair/Construction, and Concrete Saw cutting
			2.13	NSSP Equipment Refuelling, Maintenance and Washing
			2.14	SP 199S56 Control of Emissions During Structural Work SP 110F10 Use of Air Cooled Blast Furnace Slag as Granular Material
			2.15	OC Spill Prevention and Response Contingency Plan
3.0	Terrestrial Ecosystems (Breeding Birds, SWH)	MTO / MNRF / GRCA / MECP	3.1	NSSP Monitoring of Existing Structure for Barn Swallow Nests
			3.2	NSSP Operational Constraints (Environmental) - Migratory Bird Protection

I.D. #	Environmental Element / Concern and Potential Impact	Concerned Agencies / Organizations	I.D. #	Mitigation / Protection / Monitoring / Future Commitments
			3.3	All vegetation removal shall occur outside breeding bird season (April 1 to August 31)
			3.4	If vegetation removal cannot be scheduled outside of the breeding bird season; an Avian Biologist will be deployed to conduct a nest survey in the area to be cleared in 'simple habitats': - If the active nests of migratory birds are located, then the nest will be noted using handheld GPS and vegetation clearing will be delayed allowing for fledging; - To avoid potential nest abandonment and/or predation, nests shall only be physically flagged if they are located close to an active construction zone and are a risk of accidental damage; and, - Consult and follow the MBCA (1994).
			3.5	OC (Environmental) – Wildlife and Wildlife Habitat
			3.6	OC (Environmental) SP ENVR0007: Protection of Species at Risk
			3.7	OC (Environmental) – General Environmental Protection
			3.8	If, during construction, any wildlife are observed within the Limits Work (per NSSP-General Environmental Protection, and NSSP 001A860 Operational Constraint (Environmental)-Prevention of Wildlife Harassment): • Under no circumstances will any wildlife be knowingly harmed, harassed, or otherwise disturbed. If an animal is encountered, it will be permitted to move away on its own. • If wildlife is observed within the work area, a qualified biologist or environmental monitor will determine if there is a concern about the significance of the species observed. • If the species is identified as SAR, do not handle the individual unless it is in immediate danger. A qualified Biologist shall contact the Contracting Authority and MECP immediately. In accordance with the ESA, no threatened or endangered species can be handled or relocated without the proper approvals / permitting and authorization from MNRF. If the species is not identified as SAR, direct the species away from the construction zone into the nearest natural area (i.e., woodland, wetland, etc.). If unsure of where to move the species, contact a Qualified Biologist for guidance.
			3.9	Should an injured or orphaned animal be encountered, a Qualified Biologist will transport the animal to a wildlife rehabilitation centre that is considered to be an approved Wildlife Custodian by the MNRF or a member of the College of Veterinarians of Ontario
			3.10	Should any snakes be disturbed during winter hibernation, or found injured at any time of the year, a Qualified Biologist or Environmental Monitor will transport the animal to a wildlife a rehabilitation centre that is considered to be an approved Wildlife Custodian by the MNRF or a member of the College of Veterinarians of Ontario
			3.11	Avoid the use of insecticides within monarch and west Virginia white SWH
			3.12	Vegetation removal will be limited to the extent feasible within monarch and west Virginia white SWH
			3.13	It is recommended that any vegetation removal within monarch SWH occur outside the window when the species may be present as eggs or larvae on milkweeds (May 25 – August 15)

I.D. #	Environmental Element / Concern and Potential Impact	Concerned Agencies / Organizations	I.D. #	Mitigation / Protection / Monitoring / Future Commitments
			3.14	Avoid driving within construction zones in proximity to amphibian breeding habitats at night between April 1 and June 30, and any rainy nights from spring to early autumn, wherever possible
			3.15	Conduct construction activities during daylight hours for increased visibility as well as to avoid light pollution effects during the night, wherever possible
			3.16	Provide training to all onsite personnel and ensure that they are familiar with wildlife that may be present onsite as well as their responsibility to report wildlife and potential SAR observations to the qualified biologist or environmental monitor
			3.17	Obtain any necessary permits / approvals in a timely manner and undertake such activities (i.e., handling of wildlife encounters). Permits and approvals which may be required include the Wildlife Scientific Collector's Authorization from MNRF and the Wildlife Animal Care Committee Authorization. Consultation with the respective regulating agencies will be required to determine the appropriate permits and approvals
			3.18	The contractor is responsible for reporting / handling any encounters with injured or deceased SAR; this is to be done in accordance with the Ontario Species at Risk Handling Manual: For Endangered Species Act Authorization Holders as prepared by the MNRF
			3.19	To the extent feasible, candidate and confirmed bat maternity colony SWH will be reforested and edge management plantings shall be applied along the newly exposed woodland edges
			3.20	To the extent feasible, candidate reptile hibernacula and habitats of SOCC (eastern ribbonsnake) shall be re-seeded and re-vegetated to restore to pre-disturbance conditions, using native species appropriate for the community type disturbed
			3.21	To the extent feasible, disturbed avian SWH shall be re-seeded and re-vegetated to restore to pre-disturbance conditions, using native species appropriate for the community type disturbed. For woodland features, edge management plantings will be installed upon the newly exposed edges
			3.22	To the extent feasible, disturbed terrestrial crayfish SWH shall be re-seeded and revegetated to restore to pre-disturbance conditions, using native species appropriate for the community type disturbed
			3.23	To the extent feasible, disturbed Insect SOCC SWH shall be re-seeded and revegetated to restore to pre-disturbance conditions, using native species appropriate for the community type disturbed that includes and abundance of common milkweed (Asclepias syriaca), swamp milkweed (Asclepias incarnata) and/or two-leaved toothwort (Cardamine diphylla)
			3.24	The final highway design should take into consideration potential light impacts on amphibian and amphibian breeding habitats; and, where feasible, any disturbed amphibian SWH shall be re-seeded and re-vegetated to restore to pre-disturbance conditions, using native species appropriate for the community type disturbed. For woodland features, edge management plantings will be installed upon the newly exposed edges
			3.25	Where feasible, any disturbed bat SAR habitat will be re-forested and edge management plantings shall be applied along the newly exposed woodland edges.

I.D. #	Environmental Element / Concern and Potential Impact	Concerned Agencies / Organizations	I.D. #	Mitigation / Protection / Monitoring / Future Commitments
4.0	Terrestrial Ecosystems (Species at Risk)	MTO / MNRF / GRCA / MECP	4.1	OC(Environmental) – Wildlife and Wildlife Habitat are recommended
			4.2	OC (Environmental) SP ENVR0007: Protection of Species at Risk
			4.3	OC (Environmental) – General Environmental Protection
			4.4	NSSP Monitoring of Existing Structure for Barn Swallow Nests
			4.5	NSSP Operational Constraints (Environmental) - Migratory Bird Protection
			4.7	The Proponent shall retain one or more Qualified Professional(s) to: (a) undertake the activities that this permit requires to be undertaken by a Qualified Professional; and (b) supervise and assist with other activities required by this permit that are within the purview of a Qualified Professional.
			4.8	The Proponent shall ensure that a copy of this permit is always accessible at the Site and at the Overall Benefit Lands by any person engaging in an activity that is authorized by, or required by, this permit.
			4.9	The Proponent shall act with due diligence to prevent the killing, harming, or harassing of any SAR Bat individuals while carrying out Project Activities and while fulfilling the conditions of this permit.
			4.10	Where any conflict exists between the conditions of Schedule B of this permit and the contents of the Overall Benefit Plan, the conditions of Schedule B shall prevail.
			4.11	At the request of MECP staff and on reasonable notice, the Proponent shall provide MECP staff and others accompanying them with access to the Site, Overall Benefit Lands, and any other areas for the purposes of observing the Site and any activities undertaken in relation to this permit. If access is requested to an area not on the Site and not owned or controlled by the Proponent, the Proponent shall make reasonable efforts to obtain the requested access. For greater certainty, this condition does not affect the powers of an enforcement officer under the ESA.
			4.12	The Proponent shall notify the Ministry immediately by email at SAROntario@ontario.ca, referencing the number of this permit, if the Proponent's name or address changes or if the Proponent: (a) takes or is subject to any other thing which adversely affects the Proponent's ability to satisfy this permit; or (b) is unable to satisfy any of the conditions of this permit.
			4.13	If an individual SAR Bat is found live at the Site prior to the destruction of any habitat at the Site, the Proponent shall ensure the following is carried out by a Qualified Professional: (a) the individual shall be protected from any harm until the individual leaves the area; (b) the location where the individual was found shall be documented; (c) if appropriate, the individual shall be removed from the Site; (d) if appropriate, the assistance of a Wildlife Custodian shall be sought to transport the individual to the Wildlife Custodian's facility and the individual shall be released back into the wild; and

I.D. #	Environmental Element / Concern and Potential Impact	Concerned Agencies / Organizations	I.D. #	Mitigation / Protection / Monitoring / Future Commitments
				(e) the incident shall be reported to MECP by email at SAROntario@ontario.ca, including the information required to be documented under condition 7(b), referencing the number of this permit, before the end of the next business day.
			4.14	If an individual SAR Bat is killed or found dead at the Site or the Overall Benefit Lands, the Proponent shall: (a) document the location and circumstances under which the individual was likely killed or found dead; and (b) report the incident to the MECP by email at SAROntario@ontario.ca, including the information required to be documented under condition 8(a), referencing the permit number, before the end of the next business day.
			4.15	Before any person engages in an activity authorized or required by this permit, the Proponent shall ensure that a Qualified Professional provides education and awareness training to the person that addresses: (a) the existence and identification of the SAR Bats and their habitat at the Site and Overall Benefit Lands; and (b) all requirements of this permit.
			4.16	The Proponent shall keep a record of any training conducted under condition 9 for five (5) years following the completion of the Project and provide it immediately upon request by the Ministry. This record shall include: (a) the name of each Qualified Professional who conducted the training; (b) the names of all persons trained, and a declaration signed by each trainee certifying that they have been trained in accordance with the requirements under condition 9; (c) the date(s) of the training; (d) the manner in which training was provided; and (e) a copy of all the training materials.
			4.17	Within five (5) business days of any observation of a SAR Bat individual at the Site or the Overall Benefit Lands, the Proponent shall provide the following information for each individual SAR Bat observed to the Natural Heritage Information Centre by email at NHICrequests@ontario.ca, (a) the name of the species; (b) the name and affiliation of the observer; (c) the date and time of the observation; (d) the location of the observation (UTM coordinate or detailed description); and (e) a digital photograph or call recording of the individual and the location in which it was found, if possible.
			4.18	The Proponent shall ensure that SAR Bat habitat is not damaged or destroyed during the Active Season.
			4.19	With the exception of modifications required to comply with conditions 31 a) or 34 a), the Proponent shall ensure that any repairs to or replacement of Bat Boxes or Rock Piles at the Overall Benefit Lands occur outside of the Active Season.
			4.20	Construction activities will be limited to the Limits of Work; (Per ENVR0007).

I.D. #	Environmental Element / Concern and Potential Impact	Concerned Agencies / Organizations	I.D. #	Mitigation / Protection / Monitoring / Future Commitments
			4.21	•Limit the number of lights immediately adjacent to woodlands to the extent possible
			4.22	Avoid the use of high-pressure sodium and LED lights immediately adjacent to woodlands as these types of lighting affect activity
			4.23	If feasible, turn off lighting or reduce the number of active lights immediately adjacent to woodlands during sensitive timing windows (i.e., April 1 – September 30)
			4.24	The avoidance and mitigation measures prescribed under Vegetation Communities also apply to Bobolink, Eastern Meadowlark and Red-headed Woodpecker and their habitats.
			4.25	The avoidance and mitigation measures prescribed under Breeding Birds also apply to Bobolink, Eastern Meadowlark and Red-headed Woodpecker and their habitats.
			4.26	Legislative Requirement: Vegetation removals can only occur upon MECP's agreement with the Bobolink and Eastern Meadowlark ESA Contravention Avoidance Strategy
			4.27	To ensure compliance with the Migratory Birds Convention Act (MBCA) (1994), limit vegetation removal to be outside of the active season for birds (April 1 – August 31)
5.0	Terrestrial Ecosystems (Vegetation Communities)	MTO / MNRF / GRCA / Mun	5.1	OPSS-180: General Specification for the Management of Excess Materials
			5.2	OPSS-201: Construction Specification for the Clearing, Close Cut Clearing, Grubbing and Removal of Surface and Piled Boulders −Vegetation removal, grading and soil compaction should be kept to a minimum
			5.3	OPSS.MUNI.506 Construction Specifications for Dust Suppression
			5.4	OPSS. PROV 801 Construction Specification the Protection of Trees
			5.5	OPSS. PROV 803 Construction Specification for Vegetative Cover
			5.6	OPSS. PROV 804 Construction Specification for Temporary Erosion Control
			5.7	OPSS. PROV 805 Construction Specification for Temporary Sediment Control
			5.8	OPSS 100 General Conditions of Contract
			5.9	Non-Standard Special Provision (NSSP) CMOOC001 – Operational Constraint (OC) (Environmental) – Hazardous Plants Special Provision
			5.10	Special Provision No. ENVR0011 – Invasive and Noxious Vegetation Spraying, Invasive and Noxious Vegetation Cutting
			5.11	NSSP Invasive Species Prevention
			5.12	SP 199F12 Environmentally Sensitive Areas OC (Environmental) Control measures during Removal of Concrete/Structure, Structure Repair/Construction, and Concrete Saw cutting
			5.13	NSSP Equipment Refuelling, Maintenance and Washing
			5.14	SP 199S56 Control of Emissions During Structural Work SP 110F10 Use of Air Cooled Blast Furnace Slag as Granular Material
			5.15	OC Spill Prevention and Response Contingency Plan

I.D. #	Environmental Element / Concern and Potential Impact	Concerned Agencies / Organizations	I.D. #	Mitigation / Protection / Monitoring / Future Commitments
			5.16	NSSP Operational Constraints (Environmental) - Migratory Bird Protection
			5.17	Implement a Rare Plant Salvage and Relocation Plan prior to the commencement of construction.
			5.18	Environmental inspection will be undertaken during construction to ensure that protection measures are implemented, maintained and repaired and remedial measures are initiated when warranted.
6.0	Groundwater	MTO / MECP	6.1	OPSS 805 – Construction Specification for Temporary Erosion and Sediment Control Measures
			6.2	Operational Constraint - Equipment Refueling, Maintenance and Washing
			6.3	OPSS 180 – General Specification for the Management of Excess Materials
			6.4	OPSS 100 General Conditions of Contract, Section GC 7.13.02 Environmental Incident Management - Requirements for containment, notification and cleanup.
			6.5	OPSS 517 Construction Specification for Dewatering.
7.0	Landscaping	MTO / Public	7.1	A Landscape Plan will be implemented during construction.
8.0	Erosion and Sediment Control	MTO / MECP / MNRF / GRCA	8.1	OPSS Prov. 100: MTO General Conditions of Contract
			8.2	OPSS Prov. 180: Management of Excess Materials
			8.3	OPSS Prov. 801: Protection of Trees
			8.4	OPSS Muni. 802: Topsoil
			8.5	OPSS Prov. 803: Vegetative Cover
			8.6	OPSS Prov. 804: Temporary Erosion Control
			8.7	OPSS Prov. 805: Temporary Sediment Control
			8.8	OPSS Prov. 517: Dewatering
			8.9	OPSS Muni. 518: Control of Water from Dewatering Operations
			8.10	SSP 100S59 Amendment to MTO General Conditions of Contract, November 2016 – Approvals and Permits, and Water Taking
			8.11	SSP 101F23 Amendments to OPSS 182, April 2020 – Timing of In-Water Works, Oversight Requirements, and Measures to Avoid Harm to Fish
			8.12	OPSD 219.100 Light-Duty Straw Bale Barrier
			8.13	OPSD 219.110 Light-Duty, Silt Fence Barrier / MTOD 219.110 Sediment Fence Barrier
			8.14	OPSD 219.120 Light Duty, Fibre Roll Barrier / MTOD 219.120 Fibre Roll Barrier
			8.15	OPSS 219.130 Heavy Duty Silt Fence Barrier
			8.16	OPSS 219.131 Heavy Duty Wire Backed Silt Fence Barrier / MTOD 219.131 Wire-Backed Sediment Fence Barrier

I.D. #	Environmental Element / Concern and Potential Impact	Concerned Agencies / Organizations	I.D. #	Mitigation / Protection / Monitoring / Future Commitments
			8.17	OPSD 219.150 Sandbag Barrier
			8.18	OPSD 219.160 Fibre Roll Grade Breaks
Socio-Economic Environment				
9.0	Noise	MTO / MECP / Mun / Public	9.1	Equipment shall be maintained in an operating condition that prevents unnecessary noise, including but not limited to non-defective muffler systems, properly secured components, and the lubrication of moving parts.
			9.2	Duration of construction equipment idling is to be restricted to the minimum time necessary to complete the specified task.
			9.3	The Contract Administrator will provide a Notice of Construction to all residents within a 500-metre radius of the contract limits, prior to construction. The Notice will include contact information for the Contract Administrator if you require further construction information. Notification will also be provided to the local Councillors within the project area.
			9.4	The Contract Administrator will be required to address any concerns that may arise with respect to noise during construction.
10.0	Air Quality	MTO / MECP	10.1	No unnecessary idling of vehicles.
			10.2	Covering stockpiles of soil, sand, and aggregate.
			10.3	Regular cleaning of construction sites and access roads to remove debris and dust caused by construction.
			10.4	Application of dust suppressants to control dust generated by construction activities (as required).
11.0	Waste and Contamination	MTO / MECP / Public	11.1	OPSS 180, 'General Specification for Management of Waste Materials' specifies: • Waste classification of key excess materials generated by the work. • Conditions for management of each waste classification generated by the work, including management by re-use, as disposable fill, as non-hazardous solid industrial or commercial waste, by stockpiling and by disposal as subject waste. • Distance separations from any waterbodies, groundwater water wells and residences for management by re-use, as disposable fill and by stockpiling. • Completion and signature of stipulated forms by owners of property that may be used for management of stockpiling for re-use or as disposable fill.

			11.2	General environmental protection shall be in compliance with the following provisions included in the MTO construction tender documents:
				• OPSS 100 'General Conditions of Contract', GC 3.03 specifies:
				  ○ Requirement to alter operations per direction of the contract administrator (i.e., Dufferin Construction) is determined to be damaging to the environment
				• OPSS 100 'General Conditions of Contract', GC 7.07 specifies:
				  ○ Requirement to control dust so that it does not affect traffic, enter surface waters, or escape beyond the right-of-way to cause a nuisance to residents, business or utilities.

I.D. #	Environmental Element / Concern and Potential Impact	Concerned Agencies / Organizations	I.D. #	Mitigation / Protection / Monitoring / Future Commitments

				• OPSS 100 'General Conditions of Contract', GC 7.13.02 specifies:
				  ○ Requirements for containment, notification and clean-up following an environmental incident.
				• MTO non-standard special provision 'Operational Constraint (Environmental) - General Environmental Protection' specifies:
				  ○ Requirement that environmental protection comply with the conditions of approvals and permits exemptions, agreements, reports and clearances provided by the owner or obtained by the contractor; and,
				  ○ Requirement to control material, equipment and construction operations to avoid and minimize direct physical damage; sediment, noise, vibration, dust, chemical, and other emissions; and interference with local use, access and passage.

			11.3	The following protocols shall be implemented to address **Hazardous Materials and Handling and Storage**: • All potentially hazardous products shall be stored in a pre-designated, safe and secure product storage location on the Site, set back at least 30 m from all water bodies or watercourses, in accordance with provincial legislation. • All products shall be properly labelled according to Workplace Hazardous Materials Information System (WHMIS). • Products should only be handled by personnel who are WHMIS trained and qualified in handling the specific product. All personnel shall wear the proper personal protective equipment (PPE) when handling hazardous or flammable materials. • Greasy or oily rags or materials subject to spontaneous combustion shall be deposited and stored in appropriate receptacles in the material storage pad and staging area. This material shall be removed from the Site on a regular basis (i.e., at least monthly) and shall be collected by an approved subject waste hauler or cleaned for re-use. • Waste products associated with equipment maintenance will be disposed of off- site in accordance with applicable regulations. • A written inventory of materials stored onsite by Dufferin shall be maintained and updated weekly to reflect materials used onsite by other contractors, vendors or subcontractors as necessary. • Any spilled product shall be contained and cleaned up and reported in accordance applicable regulations. • All material storage shall comply with Technical Standards and Safety Authority (TSSA) regulations and local fire codes. • The condition of storage sites will be inspected daily by the inspector and • documented for evaluation of compliance with regulatory requirements. Any deficiencies in material storage will be reported and Dufferin shall complete an Incident Follow-up Form to confirm that the deficiency was addressed.
			11.4	The following measures shall be implemented to address **Spill Prevention**: • Spill response shall comply with OPSS 100 'General Conditions of Contract', GC 7.13.02 Environmental Incident Management, which specifies the requirements for containment, notification and cleanup. • Be prepared to intercept, clean up, and dispose of spills or releases that may occur whether on land or water. Maintain materials and equipment required for cleanup of spills or releases readily accessible on the Site. • Provide training to Site personnel in how to prevent, mitigate the impacts, and respond quickly to spills.

I.D. #	Environmental Element / Concern and Potential Impact	Concerned Agencies / Organizations	I.D. #	Mitigation / Protection / Monitoring / Future Commitments
				• Maintain as small quantities as possible of any potentially harmful materials to the natural environment. • Ensure that there are no direct routes between material storage areas and water bodies or drainage pathways thereto. • Provide secondary containment for wastewater collection tanks and liquid material storage areas where appropriate and feasible. • Outfit all jerry cans with automatic closures. • Ensure all equipment is maintained regularly and that all fluid lines (i.e., brakes, hydraulic, fuel) are in good condition and are not leaking. Inspections, maintenance, and repairs shall be completed by qualified professionals and documented by the contractor who owns or is leasing the equipment. • Provide waste receptacles to prevent the generation of litter on the Site. • Include litter-prevention training as part of the overall environmental training provided to Project personnel.
			11.5	To reduce the likelihood of an event involving a spill or leak, the following procedures shall be followed: • All water control devices and hoses shall be inspected daily and monitored to ensure proper working order. • All hoses and connections on equipment will be inspected routinely by truck operators for leaks and drips. • All equipment and vehicle leaks must be reported immediately and repaired prior to continued use. • All material storage areas shall be inspected daily for signs of spills, general housekeeping, state of spill containment units and features, and availability of appropriate spill control supplies. • Fuel storage, vehicles and equipment will be stored at designated areas a minimum of 30 m from a watercourse. • Vehicle maintenance will be enhanced and good housekeeping practices will be implemented. • Watertight trucks or lined truck beds will be used to transport wet excavated material and debris that may otherwise leak.
12.0	Excess Materials	MTO / MECP	12.1	Excess material will require proper management (removal, storage and disposal). Materials will be managed in accordance with Ontario Standard Specification (OPSS) 180 – General Specification for the Management of Excess Materials
			12.2	Where the Contractor manages excess earth as disposable fill, the Contractor shall ensure the material is managed responsibly and in an environmentally appropriate manner.
			12.3	Should any contaminated materials be encountered during the Remaining Works construction, caution will be exercised while handling and disposing of contaminated materials in accordance with provincial regulations and MTO approved practiced (as governed by OPSS 180).
			12.4	Disposal/reuse of soils at any receiving facility is subject to acceptance and approval of the materials by the receiver. Excess soil meeting Table 1 SCS and Table 2.1 ESQS may be reused within the Project Area. Excess soil meeting Table 3.1 ESQS may be reused at alternative sites accepting Table 3.1 ESQS soil.

I.D. #	Environmental Element / Concern and Potential Impact	Concerned Agencies / Organizations	I.D. #	Mitigation / Protection / Monitoring / Future Commitments
			12.5	Excess soil that exceeds Table 3.1 ESQS and extending laterally to adjacent boreholes with no Table 3.1 ESQS exceedances, cannot be reused within the Project Area and will require off-site disposal at a MECP licensed landfill or transfer station that has an ECA valid for acceptance of solid non-hazardous waste. Alternatively, this soil may be reused at another receiving site with an instrument in place allowing them to receive soil quality with concentrations greater than MECP Table 3.1 ICC ESQS
13.0	Land Use	MTO	13.1	Consultation with potentially impacted business owners shall be undertaken throughout construction via notification and website updates to ensure they are informed of the project plans, construction staging, detour routes, access restrictions, etc.
			13.2	The Project contract shall include traffic control requirements for protection of public traffic during construction.
			13.3	Emergency services, residents, school bus companies and the municipal stakeholders shall be consulted and notified of traffic staging, detours and other temporary impacts to traffic throughout construction.
Cultural Heritage Environment				
14.0	Archaeology	MTO / MCM	14.1	It is an offence under Sections 48 and 69 of the Ontario Heritage Act for any party other than a licensed archaeologist to make any alteration to a known archaeological site or to remove any artifact or other physical evidence of past human use or activity from the site, until such a time as a licensed archaeologist has completed archaeological fieldwork on the site, submitted a report to the Minister stating that the site has no further cultural heritage value or interest, and the report has been filed in the Ontario Public Register of Archaeological Reports referred to in Section 65.1 of the Ontario Heritage Act.
			14.2	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 archaeological fieldwork, in compliance with Section 48 (1) of the Ontario Heritage Act.
			14.3	The Cemeteries Act, R.S.O. 1990, c.C.4 and the Funeral, Burial and Cremation Services Act, 2002, S.O. 2002, c.33 (when proclaimed in force) require that any person discovering human remains must notify the police or coroner and the Registrar of Cemeteries at the Ministry of Consumer Services.
15.0	Built Heritage Resources	MTO / MCM	15.1	As there are no cultural heritage resources within the Remaining Works limits, no mitigation is required.

6.0 MONITORING

6.1 Project Specific Technical Monitoring

During the completion of Detail Design, the contract drawings and specifications were developed to allow the project to be issued for construction. There is the chance that minor design modifications or refinements might be required due to the recommendations made by Dufferin Construction, that could result in environmental benefits or impacts that may not have been anticipated or identified in this document. If this occurs, the modifications are not anticipated to change the primary intent of the undertaking. Relevant changes resulting from major design modifications/refinements will be discussed with appropriate external agencies prior to construction and deemed necessary. During construction, Dufferin Construction will see that the implementation of mitigation measures and key design features are consistent with the contract, external commitments, and permit requirements. Additionally, the effectiveness of the environmental mitigation measures will be assessed to ensure that:

1. Individual mitigation measures are providing the expected control and/or protection;
2. Composite control and/or protection provided by the mitigation measures is adequate;
3. Mitigation measures are maintained, and any necessary repairs will be completed quickly; and,
4. Extra mitigation measure is provided, as needed, for any unanticipated environmental issues that may develop during construction.

An Environmental Inspector will ensure that the environmental protection measures outlined in this report and in the following contract document/specifications are carried out. If problems develop, appropriate MTO and external agency representatives will be contacted to provide additional input and to address specific notification requirements as may be required under specific legislation.

The Environmental Inspector will operate under the direction of Dufferin Construction, in compliance with the MTO Construction Administration and Inspection Task Manual (Mau, 2010) (CAIT Manual). The CAIT Manual task descriptions provide guidance to those involved in inspection on MTO construction contracts, to ensure that the quality and quantity of the work is in accordance with Ministry specifications, standards, drawings, policies, and procedures. If the impacts of construction are different from those anticipated, or the method of construction is such that there are greater and

anticipated impacts, Dufferin Construction's methods of operation will be changed or modified to reduce those impacts.

6.2 Project Specific Class EA Monitoring

During construction, it will be ensured that external notification and consultations are consistent with any commitments that may have been made earlier. Following construction, monitoring will be carried out to ensure that follow-up information is distributed to external agencies following any outstanding environmental commitments.

6.3 Contract Monitoring

Effective translation of measures to protect environmental sensitivities will be prepared for this project. It is noted that environmental effects can be mitigated through implementation of Best Construction Management Practices, as provided in the OPSSs, and SSPs and NSSPs contained in the Contract Package, and implementation of the prescribed Construction Monitoring Program.

6.4 Project Monitoring

6.4.1 Inspection by Construction Staff

Construction is subject to daily general on-site inspection to ensure the execution of the environmental component of the work and to deal with environmental problems that may develop during construction. This is the primary method for compliance monitoring.

6.4.2 Site Visits by Environmental Staff

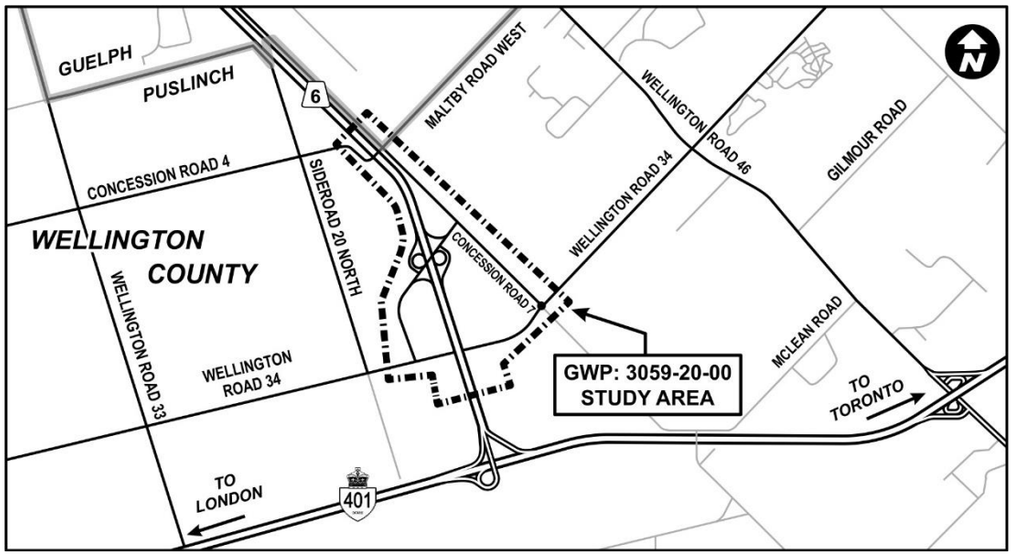
Construction projects with significant mitigating measures/concerns are subject to periodic site visits by Construction Administration environmental staff. The timing and frequency of such visits are determined by the schedule of construction operations, the sensitivity of environmental concerns and the development of any unanticipated environmental problems during construction. Staff will use the inspection tasks in the *Construction Administration and Inspection Task Manual,* Contract Special Provisions and Ontario Provincial Standard Specifications as a guide for the monitoring of all aspects of the work. MTO staff will be available should difficulties arise.

APPENDIX A – NOTIFICATION MATERIALS

NOTICE OF PROJECT UPDATE
HIGHWAY 6 / HANLON EXPRESSWAY MIDBLOCK INTERCHANGE
(Contract 2021-3004)
DETAIL DESIGN AND CLASS ENVIRONMENTAL ASSESSMENT

The Ontario **Ministry of Transportation (MTO)** has awarded Phase 2 of the Highways 6 and 401 Improvements between Hamilton and Guelph (G.W.P. 3042-14-00) to **Dufferin Construction** and **WSP Canada Inc.** to complete the Class Environmental Assessment, Detail Design and Construction of the new interchange on Highway 6 (Hanlon Expressway), north of Highway 401 (the Project, G.W.P. 3059-20-00), as shown in the key plan below**.**

Subject to approvals, utility relocations are anticipated to begin in 2022, followed by construction of the Project after the Detail Design is complete. It is expected that construction will be finished by late 2025. Additional information can be found on the new Project website at: **highway6midblock.ca**.



The Project includes:

- A new interchange on the Hanlon Expressway north of Wellington Road 34, including a new road to connect the new interchange to Concession Road 7 and to Wellington Road 34;
- Removal of the signalized intersection on the Hanlon Expressway at Wellington Road 34 and the addition of a new bridge over the Hanlon Expressway for Wellington Road 34 traffic;
- Reconstruction of Concession Road 7 between Wellington Road 34 and Maltby Road;
- Closure of the Maltby Road / Concession Road 4 intersection with the Hanlon Expressway;
- A new roundabout at the Wellington Road 34 and Concession Road 7 intersection;
- Installation of new overhead sign structures, traffic signals and partial illumination;
- Emergency and maintenance vehicle turnarounds along the Hanlon Expressway (one north of MaltbyRoad and one south of Wellington Road 34);
- Drainage improvements such as infiltration ponds for stormwater management; and
- Relocation of utilities.

THE PROCESS

Building on the approved Individual Environmental Assessment, this study is being completed in accordance with the requirements of a Group 'A' project under the MTO *Class Environmental Assessment for Provincial Transportation Facilities* (2000). It is anticipated that two Design and Construction Reports (DCRs) will be prepared and made available for 30-day comment periods, with public notices advising of the start of the comment periods.

COMMENTS

We are interested in hearing your comments regarding the Project. If you would like to have your name added to the mailing list or to provide comments, please contact the Construction Project Team below, or by emailing **ProjectTeam@Highway6midblock.ca**.

Olga Khuskivadze, P.Eng.
MTO Project Engineer
Ministry of Transportation - West Region
659 Exeter Road
London, ON N6E 1L3

Peter Bamforth, P.Eng., C.Eng., MICE
Consultant Senior Project Manager
Dufferin / WSP Canada Group Limited
610 Chartwell Road,
Oakville, ON L6J 4A5

If you have accessibility requirements to participate in this study, please contact the Construction Project Team. Comments are being collected to assist MTO in meeting the requirements of the Ontario Environmental Assessment Act. Information collected will be used in accordance with the Freedom of Information and Protection of Privacy Act.With the exception of personal information, all comments will become part of the public record.

Ontario

Ministry of Transportation

Engineering Office
Planning and Design
West Region

659 Exeter Road, 3rd Floor
London, ON N6E 1L3
Telephone: 226-219-8042
Email: olga.khuskivadze@ontario.ca

Ministère des Transports

Bureau du génie
Planification et conception
Région Ouest

659, chemin Exeter, 3e étage
London (Ontario) N6E 1L3
Téléphone: 226-219-8042
Courriel: olga.khuskivadze@ontario.ca

April 19, 2022

«Company»«Branch»
«Address_1»
«Address_2»
«City», «Province» «Postal_Code»

Attention: «Title»«Last_Name»

RE: Highway 6 / Hanlon Expressway Midblock Interchange
Detail Design, Class Environmental Assessment Study and Construction
Notice of Project Update (G.W.P. 3059-20-00) (Indigenous Community Letter)

The Ontario Ministry of Transportation (MTO) has awarded Phase 2 of the Highways 6 and 401 Improvements between Hamilton and Guelph (G.W.P. 3042-14-00) to Dufferin Construction and WSP Canada Inc. Phase 2 of the improvements includes the Class Environmental Assessment, Detail Design and Construction of a new interchange on Highway 6 (Hanlon Expressway) in Wellington County (the Project, G.W.P. 3059-20-00). The location of the work to be completed is shown on the attached key plan.

The Project includes:

- A new interchange on the Hanlon Expressway north of Wellington Road 34, including a new road to connect the new interchange to Concession Road 7 and to Wellington Road 34;
- Removal of the signalized intersection on the Hanlon Expressway at Wellington Road 34 and the addition of a new bridge over the Hanlon Expressway for Wellington Road 34 traffic;
- Reconstruction of Concession Road 7 between Wellington Road 34 and Maltby Road;
- Closure of the Maltby Road / Concession Road 4 intersection with the Hanlon Expressway;
- A new roundabout at the Wellington Road 34 and Concession Road 7 intersection;
- Installation of new overhead sign structures, traffic signals and partial illumination;
- Emergency and maintenance vehicle turnarounds along the Hanlon Expressway (one north of Maltby Road and one south of Wellington Road 34);
- Drainage improvements such as infiltration ponds for stormwater management; and relocation of utilities.

The project will be proceeding as a Group 'A' project under the MTO's *Class Environmental Assessment for Provincial Transportation Facilities (2000)*. The Individual Environmental Assessment and Preliminary Design One Stage Submission (*Highway 6 from Freelton northerly 16.9 km to Guelph, W.P. 65-76-05, September 1995*) was approved with Conditions by Order in Council on January 22, 2009.

It is anticipated that two Design and Construction Reports (DCRs) will be prepared to accelerate the approval and construction of certain project elements. The DCRs will fully document the consultation undertaken, potential environmental impacts of the proposed works, proposed mitigation measures, and will identify the necessary permits, approvals and clearances that have been / will be obtained prior to construction. The DCRs will be made available for a 30-day comment period with a public notice advising of the start of the comment period.

Comments and information will be collected to assist the MTO in meeting the requirements of the Ontario *Environmental Assessment Act*. With the exception of personal information, all comments will become part of the public record in accordance with the *Freedom of Information and Protection of Privacy Act*.

If you would like to provide comments, or if you require further information regarding this project, please feel free to contact me via telephone at 226-219-8042 or by email at olga.khuskivadze@ontario.ca. In addition, if you are interested in meeting after having received this letter, please contact me to arrange a meeting at your earliest convenience.

Sincerely,

Olga Khuskivadze, P.Eng.
Project Engineer, Ministry of Transportation, West Region

cc: Susan Wagter, Senior Environmental Planner, MTO
Leslie Currie, Indigenous Community Liaison Specialist, MTO
Peter Bamforth, P.Eng., CEng, MICE, Consultant Senior Project Manager
Catherine Gentile, Senior Environmental Planner WSP

Attachments: Ontario Government Notice

April 19, 2022

«Company»«Branch»
«Address_1»
«City», «Province» «Postal_Code»

Attention: «Title»«Last_Name»

RE: Highway 6 / Hanlon Expressway Midblock Interchange
Detail Design, Class Environmental Assessment Study and Construction
Notice of Project Update (G.W.P. 3059-20-00) (MP/MPP Letter)

The Ontario Ministry of Transportation (MTO) has awarded Phase 2 of the Highways 6 and 401 Improvements between Hamilton and Guelph (G.W.P. 3042-14-00) to Dufferin Construction and WSP Canada Inc. Phase 2 of the improvements includes the Class Environmental Assessment, Detail Design and Construction of a new interchange on Highway 6 (Hanlon Expressway) in Wellington County (the Project, G.W.P. 3059-20-00). The location of the work to be completed is shown on the attached key plan.

The Project includes:

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- Emergency and maintenance vehicle turnarounds along the Hanlon Expressway (one north of Maltby Road and one south of Wellington Road 34);
- Drainage improvements such as infiltration ponds for stormwater management; and
- Relocation of utilities.

100 Commerce Valley Dr. W
Thornhil, ON, Canada L3T 0A1
wsp.com

The project will be proceeding as a Group 'A' project under the MTO's *Class Environmental Assessment for Provincial Transportation Facilities (2000)*. The Individual Environmental Assessment and Preliminary Design One Stage Submission (*Highway 6 from Freelton northerly 16.9 km to Guelph, W.P. 65-76-05, September 1995*) was approved with Conditions by Order in Council on January 22, 2009.

It is anticipated that two Design and Construction Reports (DCRs) will be prepared to accelerate the approval and construction of certain project elements. The DCRs will fully document the consultation undertaken, potential environmental impacts of the proposed works, proposed mitigation measures, and will identify the necessary permits, approvals and clearances that have been / will be obtained prior to construction. The DCRs will be made available for a 30-day comment period with a public notice advising of the start of the comment period.

Comments and information will be collected to assist the MTO in meeting the requirements of the Ontario *Environmental Assessment Act*. With the exception of personal information, all comments will become part of the public record in accordance with the *Freedom of Information and Protection of Privacy Act*.

The start of construction is subject to the completion of the study, environmental approvals, and availability of funding. Subject to approvals, utility relocations are anticipated to begin in 2022, followed by construction of the Project after the detail design is complete. Construction is anticipated to be finished by late 2025.

Please be advised that the attached Ontario Government Notice (OGN) advertising the Project Update will be published in the Turtle Island News and Two Row Times on Wednesday, April 27, 2022, and The Guelph Mercy Tribune and The Wellington Advertiser on Thursday, April 28, 2022. A notice will also be delivered to potentially affected residents and businesses within the study area to inform them directly of the project update.

If you have information that may assist us in the completion of the project or would like to discuss the project, please contact me via telephone at 416 388-9452 or by email at Peter.Bamforth@wsp.com.

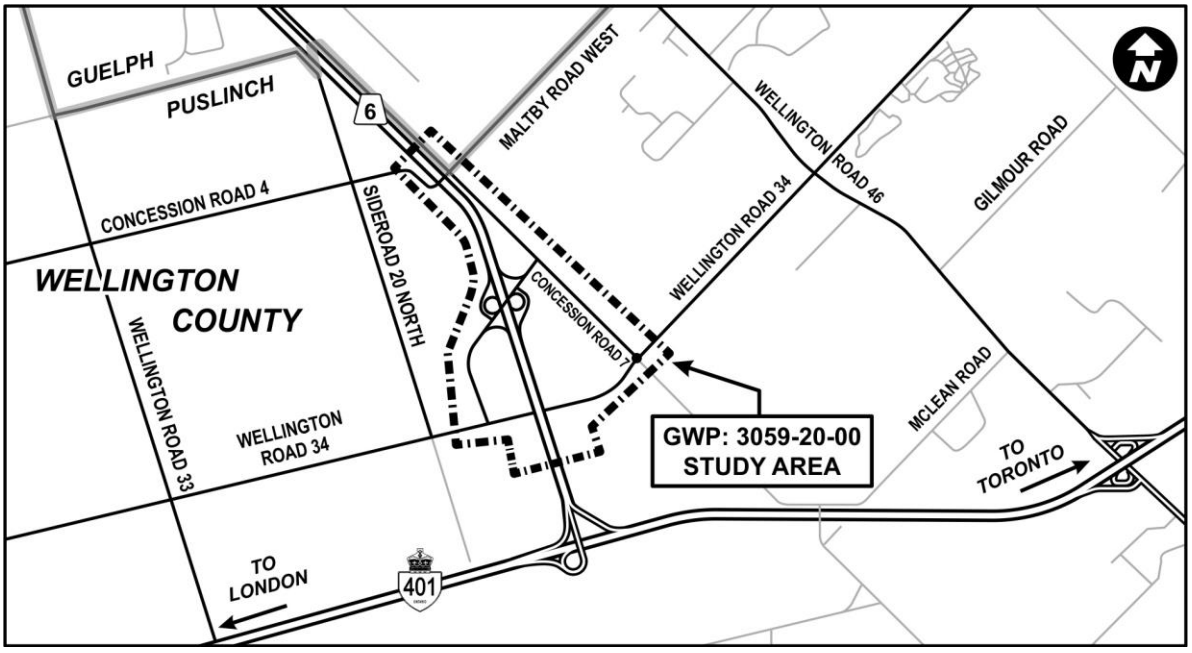
Sincerely,

Peter Bamforth, P.Eng., CEng, MICE
Consultant Project Manager, WSP

cc: Olga Khuskivadze, Project Engineer, MTO
Susan Wagter, Senior Environmental Planner, MTO
Catherine Gentile, Senior Environmental Planner WSP

Attachments: Key Plan, Ontario Government Notice

Key Plan: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PUSLINCH
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MALTBY ROAD WEST
WELLINGTON ROAD 46
GILMOUR ROAD
CONCESSION ROAD 4
SIDEROAD 20 NORTH
WELLINGTON ROAD 34
CONCESSION ROAD 7
WELLINGTON COUNTY
WELLINGTON ROAD 33
WELLINGTON ROAD 34
GWP: 3059-20-00
STUDY AREA
MCLEAN ROAD
TO TORONTO
TO LONDON
401
N

610 Chartwell Road,
Oakville, ON L6J 4A5
wsp.com

April 25, 2022

«Title» «FirstName» «LastName»
«JobTitle»
«Address1»
«Address2»
«City», «Province» «PostalCode»

Re: Highway 6 / Hanlon Expressway Midblock Interchange
Detail Design, Class Environmental Assessment Study and Construction
Notice of Project Update (G.W.P. 3059-20-00) (Agency Letter)

Dear «Title» «LastName»:

The Ontario Ministry of Transportation (MTO) has awarded Phase 2 of the Highways 6 and 401 Improvements between Hamilton and Guelph (G.W.P. 3042-14-00) to Dufferin Construction and WSP Canada Inc. Phase 2 of the improvements includes the Class Environmental Assessment, Detail Design and Construction of a new interchange on Highway 6 (Hanlon Expressway) in Wellington County (the Project, G.W.P. 3059-20-00). The location of the work to be completed is shown on the attached key plan.

The Project includes:

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- Removal of the signalized intersection on the Hanlon Expressway at Wellington Road 34 and the addition of a new bridge over the Hanlon Expressway for Wellington Road 34 traffic;
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- Emergency and maintenance vehicle turnarounds along the Hanlon Expressway (one north of Maltby Road and one south of Wellington Road 34);
- Drainage improvements such as infiltration ponds for stormwater management;
- And relocation of utilities.

The project will be proceeding as a Group 'A' project under the MTO's *Class Environmental Assessment for Provincial Transportation Facilities (2000)*. The Individual Environmental Assessment and Preliminary Design One Stage Submission (*Highway 6 from Freelton northerly 16.9 km to Guelph, W.P. 65-76-05, September 1995*) was approved with Conditions by Order in Council on January 22, 2009.

It is anticipated that two (2) Design and Construction Reports (DCRs) will be prepared to accelerate the approval and construction of certain project elements. The DCRs will fully document the consultation undertaken, potential environmental impacts of the proposed works, proposed mitigation measures, and will identify the necessary permits, approvals and clearances that have been / will be obtained prior to construction. The DCRs will be made available for a 30-day comment period with a public notice advising of the start of the comment period.

The start of construction is subject to the completion of the study, environmental approvals, and availability of funding. Subject to approvals, utility relocations are anticipated to begin in 2022, followed by construction of the Project after the detail design is complete. Construction is anticipated to be finished by late 2025.

The purpose of this letter is to notify you of the project update and provide an opportunity for your input. Please assist us in identifying issues and available background information by providing initial comments using the attached comment form or in a separate letter or email. We would appreciate receiving your comments by May 23, 2022.

If you have any accessibility requirements to participate in this project, please contact one of the individuals listed below or via the Project Team email at ProjectTeam@Highway6Midblock.ca. Comments and information will be collected to assist the MTO in meeting the requirements of the Ontario *Environmental Assessment Act*. With the exception of personal information, all comments will become part of the public record in accordance with the *Freedom of Information and Protection of Privacy Act*.

Should you require further information regarding this study or to provide input at any point during the study, please contact one of the individuals noted below. *Des renseignements sont disponibles en français en composant (905) 829-6262 (Jad Murtada).*

Olga Khuskivadze, P.Eng.
MTO Project Engineer
Ministry of Transportation - West Region
659 Exeter Road
London, ON N6E 1L3
Telephone: 226-219-8042
olga.khuskivadze@ontario.ca

Peter Bamforth, P.Eng., CEng, MICE
Consultant Senior Project Manager
Dufferin / WSP Canada Group Limited
610 Chartwell Road,
Oakville, ON L6J 4A5
Telephone: 289 835-2435
Peter.Bamforth@wsp.com

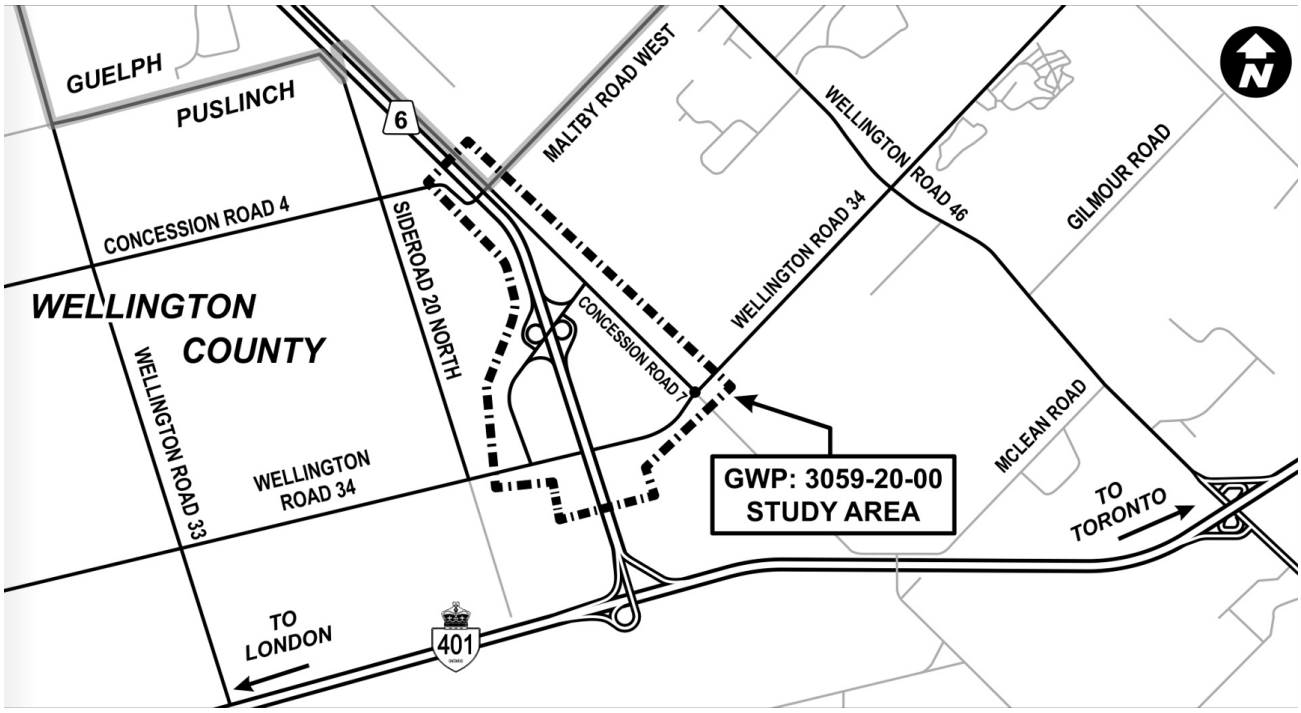
Sincerely,
WSP

Peter Bamforth, P.Eng., C.Eng., MICE
Consultant Project Manager

cc: Olga Khuskivadze, Project Engineer, MTO
Susan Wagter, Senior Environmental Planner, MTO
Catherine Gentile, Senior Environmental Planner WSP

Attachments: Key Plan, Comment Form

Key Plan:


GUELPH
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WELLINGTON ROAD 46
GILMOUR ROAD
CONCESSION ROAD 4
SIDEROAD 20 NORTH
WELLINGTON ROAD 34
WELLINGTON COUNTY
CONCESSION ROAD 7
WELLINGTON ROAD 33
WELLINGTON ROAD 34
GWP: 3059-20-00
STUDY AREA
MCLEAN ROAD
TO TORONTO
TO LONDON
401

Highway 6 / Hanlon Expressway Midblock Interchange
Detailed Design, Class Environmental Assessment Study and Construction
G.W.P. 3059-20-00

AGENCY COMMENT FORM

Type of Project: Detailed Design, Class Environmental Assessment Study and Construction

Environmental Assessment Type: Group 'A', Class EA for Provincial Transportation Facilities.

Project Location: Hanlon Expressway, just north of Wellington Road 34, Wellington County (see enclosed Key Map)

Agency Name & Division/Branch:	

COMMENTS:

1. Does your organization wish to participate in this project? ☐ YES ☐ NO

2. If yes to the above, please provide the contact's name, telephone #, address and e-mail for future correspondence:

Contact Name:	
Telephone #:	
Address:	
E-mail:	

3. Please identify any concerns/comments your agency may have at this time.

For further information regarding this project, please contact the WSP Consultant Project Manager, Peter Bamforth, by phone at (289) 835-2435 or by e-mail at Peter.Bamforth@wsp.com.

PLEASE MAIL, FAX OR EMAIL THIS FORM BACK BY MAY 23, 2022.

ATTN: Catherine Gentile
Senior Environmental Planner
WSP Canada Inc.
610 Chartwell Road, Suite 300
Oakville, ON L6J 4A5
Email: Catherine.Gentile@wsp.com
Fax: (905) 823-8503

610 Chartwell Road,
Oakville, ON L6J 4A5
wsp.com

April 25, 2022

«Title» «FirstName» «LastName»
«JobTitle»
«Address1»
«Address2»
«City», «Province» «PostalCode»

Re: Highway 6 / Hanlon Expressway Midblock Interchange
Detail Design, Class Environmental Assessment Study and Construction
Notice of Project Update (G.W.P. 3059-20-00) (Public Letter)

Dear «Title» «LastName»:

The Ontario Ministry of Transportation (MTO) has awarded Phase 2 of the Highways 6 and 401 Improvements between Hamilton and Guelph (G.W.P. 3042-14-00) to Dufferin Construction and WSP Canada Inc. Phase 2 of the improvements includes the Class Environmental Assessment, Detail Design and Construction of a new interchange on Highway 6 (Hanlon Expressway) in Wellington County (the Project, G.W.P. 3059-20-00). The location of the work to be completed is shown on the attached key plan.

The Project includes:

- A new interchange on the Hanlon Expressway north of Wellington Road 34, including a new road to connect the new interchange to Concession Road 7 and to Wellington Road 34;
- Removal of the signalized intersection on the Hanlon Expressway at Wellington Road 34 and the addition of a new bridge over the Hanlon Expressway for Wellington Road 34 traffic;
- Reconstruction of Concession Road 7 between Wellington Road 34 and Maltby Road;
- Closure of the Maltby Road / Concession Road 4 intersection with the Hanlon Expressway;
- A new roundabout at the Wellington Road 34 and Concession Road 7 intersection;
- Installation of new overhead sign structures, traffic signals and partial illumination;
- Emergency and maintenance vehicle turnarounds along the Hanlon Expressway (one north of Maltby Road and one south of Wellington Road 34);
- Drainage improvements such as infiltration ponds for stormwater management;
- and relocation of utilities.

The project will be proceeding as a Group 'A' project under the MTO's *Class Environmental Assessment (Class EA) for Provincial Transportation Facilities (2000)*. The Individual Environmental Assessment and Preliminary Design One Stage Submission (*Highway 6 from Freelton northerly 16.9 km to Guelph, W.P. 65-76-05, September 1995*) was approved with Conditions by Order in Council on January 22, 2009.

It is anticipated that two (2) Design and Construction Reports (DCRs) will be prepared to accelerate the approval and construction of certain project elements. The DCRs will fully document the consultation undertaken, potential environmental impacts of the proposed works, proposed mitigation measures, and will identify the necessary permits, approvals and clearances that have been / will be obtained prior to construction. The DCRs will be made available for a 30-day comment period with a public notice advising of the start of the comment period.

The start of construction is subject to the completion of the study, environmental approvals, and availability of funding. Subject to approvals, utility relocations are anticipated to begin in 2022, followed by construction of the Project after the detail design is complete. Construction is anticipated to be finished by late 2025

The purpose of this letter is to notify you of the project update and provide an opportunity for your input.

If you have any accessibility requirements to participate in this project, please contact one of the individuals listed below or email the Project Team at ProjectTeam@Highway6midblock.ca. Comments and information will be collected to assist the MTO in meeting the requirements of the Ontario *Environmental Assessment Act*. With the exception of personal information, all comments will become part of the public record in accordance with the *Freedom of Information and Protection of Privacy Act*.

Should you require further information regarding this study or to provide input at any point during the study, please contact one of the individuals noted below. *Des renseignements sont disponibles en français en composant (905) 829-6262 (Jad Murtada).*

Olga Khuskivadze, P.Eng.
MTO Project Engineer
Ministry of Transportation - West Region
659 Exeter Road
London, ON N6E 1L3
Olga.Khuskivadze@ontario.ca

Peter Bamforth, P.Eng., C. Eng., MICE
Consultant Senior Project Manager
Dufferin / WSP Canada Group Limited
610 Chartwell Road,
Oakville, ON L6J 4A5
Peter.Bamforth@wsp.com

Sincerely,

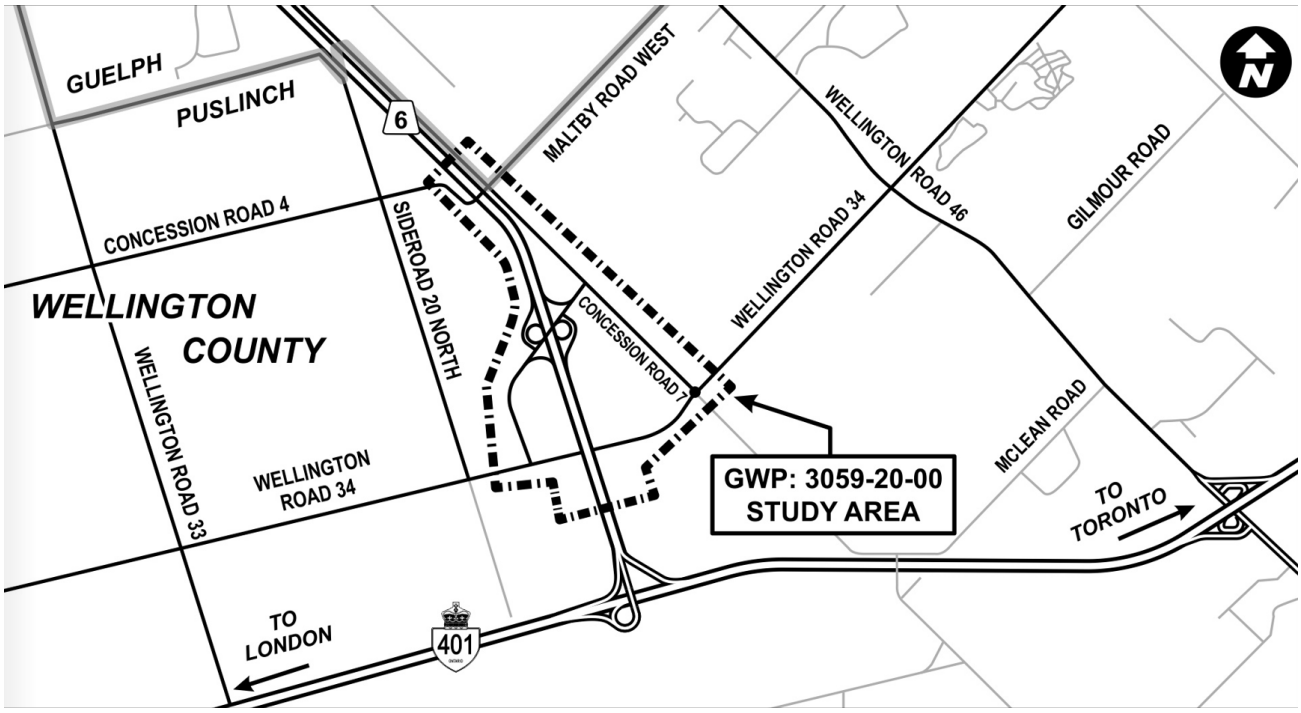
WSP

Peter Bamforth, P.Eng., CEng, MICE
Consultant Project Manager

cc: Olga Khuskivadze, Project Engineer, MTO
Susan Wagter, Senior Environmental Planner, MTO
Catherine Gentile, Senior Environmental Planner WSP

Attachments: Key Plan

Key Plan: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GILMOUR ROAD
CONCESSION ROAD 4
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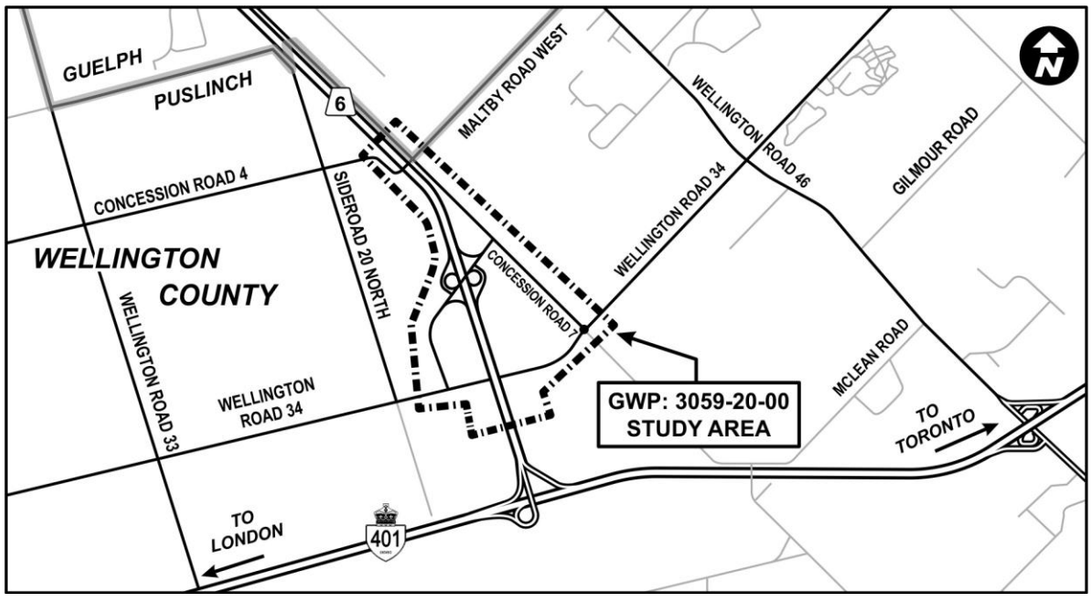
WELLINGTON COUNTY
WELLINGTON ROAD 33
WELLINGTON ROAD 34
GWP: 3059-20-00
STUDY AREA
MCLEAN ROAD
TO TORONTO
TO LONDON
401
N

Notice of Completion – Design and Construction Report #1
HIGHWAY 6 / HANLON EXPRESSWAY MIDBLOCK INTERCHANGE
(Contract 2021-3004)
DETAIL DESIGN AND CLASS ENVIRONMENTAL ASSESSMENT

The Project

The Ontario Ministry of Transportation (MTO) is moving forward with Phase 2 of the Highways 6 and 401 Improvements Project (G.W.P 3042-14-00). Phase 2 includes the new Highway 6 / Hanlon Expressway Midblock Interchange (G.W.P. 3059-20-00), north of Wellington Road 34, as shown on the key plan below. Construction of the early works is planned to begin in Fall 2022, subject to approvals.



The early work includes:

- Constructing the Midblock Connection Road Bridge abutments and piers;
- Widening along Highway 6 for the speed change lanes and staging; and
- Implementing environmental protection measures (e.g., erosion control, fencing).

Traffic on the Hanlon Expressway will be maintained for the majority of construction, with some temporary lane closures required. It is expected that construction of Phase 2 - Midblock Interchange Remaining Works will be completed by late 2025. Additional details can be found on the project website at www.Highway6Midblock.ca.

The Process

Building on the approved Individual Environmental Assessment, this project followed the *MTO Class Environmental Assessment (EA) for Provincial Transportation Facilities (2000)* for a Group 'A' project. It is anticipated that two (2) Design and Construction Reports (DCR) will be made available for review, documenting the detail design. DCR #1 for the early works will be available on the project website at www.highway6midblock.ca/reports/ for a 30-day comment period from **September 21, 2022** to **October 20, 2022**. A hard copy of DCR #1 will not be provided at public review locations. If you wish to review DCR #1 and require an alternate format, you may email the Project Team to discuss review options.

Comments

Interested persons are encouraged to review the report on the project website and provide comments by **October 20, 2022** to the Project Team by emailing ProjectTeam@Highway6midblock.ca. Additional information can be found at www.Highway6Midblock.ca.

Olga Khuskivadze, P.Eng.
Project Engineer
Ministry of Transportation West Region,
Planning & Design
659 Exeter Road, London, ON N6E 1L3

Peter Bamforth, P.Eng., CEng, MICE
Consultant Senior Project Manager
Dufferin / WSP
610 Chartwell Road
Oakville, ON L6J 4A5

All stakeholders and members of the public who are on the project contact list will receive notification of future consultation opportunities as part of the Highways 6 and 401 Improvements Study. If you are interested in being added to the project contact list, please register on the website or contact the Project Team members at any time. Your comments are always welcome.

This Notice was issued on September 21, 2022.

610 Chartwell Road,
Oakville, ON L6J 4A5
wsp.com

September 14, 2022

«Company»«Branch»
«Address_1»
«Address_2»
«City», «Province» «Postal_Code»

Attention: «Title»«Last_Name»

RE: Highway 6 / Hanlon Expressway Midblock Interchange (G.W.P. 3059-20-00) Detail Design, Class Environmental Assessment Study and Construction Notice of Completion (MPP Letter Template)

The Ontario Ministry of Transportation is moving forward with Phase 2 of the Highways 6 and 401 Improvements Project (G.W.P 3042-14-00). Phase 2 includes the new Highway 6 / Hanlon Expressway Midblock Interchange (G.W.P. 3059-20-00) north of Wellington Road 34, as shown in the attached notice. Construction of the Early Works is planned to begin in Fall 2022, subject to approvals.

The Early Works include:

- Constructing the Midblock Connection Road Bridge abutments and piers;
- Widening along Highway 6 for the speed change lanes and staging; and
- Implementing environmental protection measures (e.g., erosion control, fencing).

Traffic on the Hanlon Expressway will be maintained for the majority of construction with some temporary lane closures required. It is expected that construction of Phase 2 - Midblock Interchange will be completed by late 2025.

Building on the approved Individual Environmental Assessment, this project followed the *MTO Class Environmental Assessment (EA) for Provincial Transportation Facilities (2000)* for a Group 'A' project. It is anticipated that two (2) Design and Construction Reports (DCR) will be made available for review, documenting the detail design. The first DCR for the Early Works will be available on the project website at www.highway6midblock.ca/reports/ for a 30-day comment period from **September 21, 2022** to **October 20, 2022.** A hard copy of DCR #1 will not be provided at public review locations. If an individual wishes to review DCR #1 and/or requires an alternate format, they may email the Project Team to discuss review options.

A Notice of Completion of DCR #1 will be placed in area newspapers as follows:

- The *Turtle Island News* on September 21, 2022
- The *Two Row Times* on September 21, 2022
- The *Guelph Tribune* on September 22, 2022
- The *Wellington Advertiser* on September 22, 2022

610 Chartwell Road,
Oakville, ON L6J 4A5
wsp.com

The Project Team welcomes your input. If you have any comments, questions, or concerns, please contact the undersigned at Peter.Bamforth@wsp.com or by phone at 289-835-2435.

Yours truly,
Peter Bamforth, P.Eng., C.Eng., MICE
Consultant Senior Project Manager, WSP

Cc: Olga Khuskivadze, P.Eng., Project Engineer, MTO
Kelly Jansen, Senior Environmental Planner, MTO
Catherine Gentile, Senior Environmental Planner, WSP

Attachments: Ontario Government Notice

Ministry of Transportation

Engineering Office
Planning and Design
West Region

659 Exeter Road, 3rd Floor
London, ON N6E 1L3
Telephone: 226-219-8042
Email: olga.khuskivadze@ontario.ca

Ministère des Transports

Bureau du génie
Planification et conception
Région Ouest

659, chemin Exeter, 3e étage
London (Ontario) N6E 1L3
Téléphone: 226-219-8042
Courriel: olga.khuskivadze@ontario.ca

Ontario

September 21, 2022

«Company»«Branch»
«Address_1»
«Address_2»
«City», «Province» «Postal_Code»

Attention: «Title»«Last_Name»

RE: Highway 6 / Hanlon Expressway Midblock Interchange (G.W.P. 3059-20-00) Detail Design, Class Environmental Assessment Study and Construction Notice of Completion (Indigenous Community Letter Template)

The Ontario Ministry of Transportation is moving forward with Phase 2 of the Highways 6 and 401 Improvements Project (G.W.P 3042-14-00). Phase 2 includes the new Highway 6 / Hanlon Expressway Midblock Interchange (G.W.P. 3059-20-00) north of Wellington Road 34, as shown in the attached notice. Construction of the Early Works is planned to begin in Fall 2022, subject to approvals.

The Early Works include:

- Constructing the Midblock Connection Road Bridge abutments and piers;
- Widening along Highway 6 for the speed change lanes and staging; and
- Implementing environmental protection measures (e.g., erosion control, fencing).

Traffic on the Hanlon Expressway will be maintained for the majority of construction with some temporary lane closures required. It is expected that construction of Phase 2 - Midblock Interchange will be completed by late 2025.

Building on the approved Individual Environmental Assessment, this study is being completed in accordance with the requirements of a Group 'A' project under the *MTO Class Environmental Assessment for Provincial Transportation Facilities (2000)*. Additional details can be found on the project website at www.Highway6Midblock.ca.

The first Design and Construction Report (DCR) has been prepared to document the process completed and is being made available for a 30-day public review period starting on **September 21, 2022**. Interested persons are invited to review the report and provide comment by **October 20, 2022**. The DCR is available for review on the project website at www.highway6midblock.ca/reports/.

Comments and information will be collected to assist the MTO in meeting the requirements of the Ontario *Environmental Assessment Act*. With the exception of personal information, all comments will become part of the public record in accordance with the *Freedom of Information and Protection of Privacy Act*.

If you would like to provide comments, or if you require further information regarding this project, please feel free to contact me via telephone at 226-219-8042 or by email at olga.khuskivadze@ontario.ca. In addition, if you are interested in meeting after having received this letter, please contact me to arrange a meeting at your earliest convenience.

Sincerely,

Olga Khuskivadze, P.Eng.
Project Engineer, Ministry of Transportation, West Region

cc: Kelly Jansen, Senior Environmental Planner, MTO
Leslie Currie, Indigenous Community Liaison Specialist, MTO
Peter Bamforth, P.Eng., CEng, MICE, Consultant Senior Project Manager
Catherine Gentile, Senior Environmental Planner WSP

Attachments: Ontario Government Notice

610 Chartwell Road,
Oakville, ON L6J 4A5
wsp.com

September 21, 2022

«Title» «FirstName» «LastName»
«JobTitle»
«Address1»
«Address2»
«City», «Province» «PostalCode»

Re: Highway 6 / Hanlon Expressway Midblock Interchange (G.W.P. 3059-20-00) Detail Design, Class Environmental Assessment Study and Construction Notice of Completion (Municipal Letter Template)

Dear «Title» «LastName»:

The Ontario Ministry of Transportation is moving forward with Phase 2 of the Highways 6 and 401 Improvements Project (G.W.P 3042-14-00). Phase 2 includes the new Highway 6 / Hanlon Expressway Midblock Interchange (G.W.P. 3059-20-00) north of Wellington Road 34, as shown in the attached notice. Construction of the Early Works is planned to begin in Fall 2022, subject to approvals.

The Early Works include:

- Constructing the Midblock Connection Road Bridge abutments and piers;
- Widening along Highway 6 for the speed change lanes and staging; and
- Implementing environmental protection measures (e.g., erosion control, fencing).

Traffic on the Hanlon Expressway will be maintained for the majority of construction with some temporary lane closures required. It is expected that construction of Phase 2 - Midblock Interchange will be completed by late 2025.

Building on the approved Individual Environmental Assessment, this study is being completed in accordance with the requirements of a Group 'A' project under the *MTO Class Environmental Assessment for Provincial Transportation Facilities (2000)*. Additional details can be found on the project website at www.Highway6Midblock.ca.

The first Design and Construction Report (DCR #1) has been prepared to document the process completed and is being made available for a 30-day public review period starting on **September 21, 2022**. Interested persons are invited to review the report and provide comment by **October 20, 2022**. The DCR #1 is available for public review on the project website at www.highway6midblock.ca/reports/. Per Section 3.4 of the Conditions of Approval, a PDF copy of the DCR #1 has been attached to this email for your review.

If you have any accessibility requirements to participate in this project, please contact one of the individuals listed below or email the Project Team at ProjectTeam@Highway6midblock.ca. Comments and information will be collected to assist the MTO in meeting the requirements of the Ontario *Environmental Assessment Act*. With the exception of personal information, all comments will become part of the public record in accordance with the *Freedom of Information and Protection of Privacy Act*.

Des renseignements sont disponibles en français en composant (905) 829-6262 (Jad Murtada).

Olga Khuskivadze, P.Eng.
MTO Project Engineer
Ministry of Transportation - West Region
659 Exeter Road
London, ON N6E 1L3

Peter Bamforth, P.Eng., C. Eng., MICE
Consultant Senior Project Manager
Dufferin / WSP Canada Group Limited
610 Chartwell Road,
Oakville, ON L6J 4A5

Sincerely,

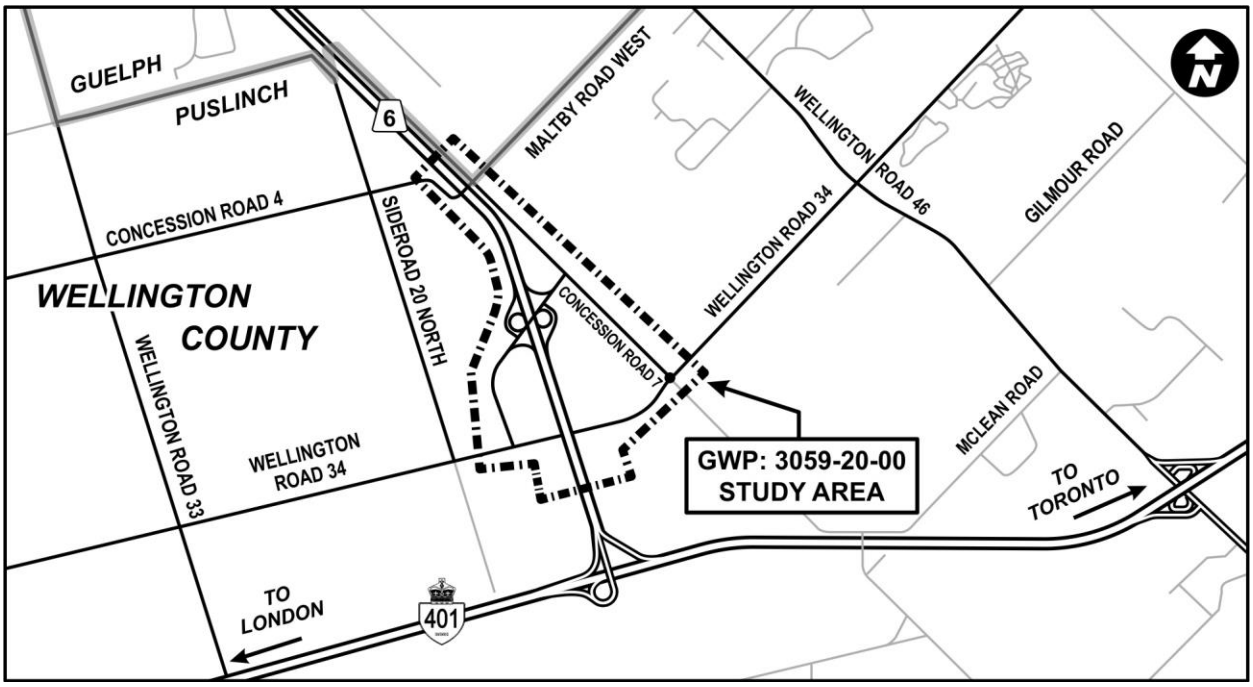
WSP

Peter Bamforth, P.Eng., CEng, MICE
Consultant Project Manager

cc: Olga Khuskivadze, Project Engineer, MTO
Kelly Jansen, Senior Environmental Planner, MTO
Catherine Gentile, Senior Environmental Planner WSP

Attachments: Key Plan, Design and Construction Report #1

Key Plan: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610 Chartwell Road,
Oakville, ON L6J 4A5
wsp.com

September 21, 2022

«Title» «FirstName» «LastName»
«JobTitle»
«Address1»
«Address2»
«City», «Province» «PostalCode»

Re: Highway 6 / Hanlon Expressway Midblock Interchange (G.W.P. 3059-20-00) Detail Design, Class Environmental Assessment Study and Construction Notice of Completion (External Agencies / Public Letter Template)

Dear «Title» «LastName»:

The Ontario Ministry of Transportation is moving forward with Phase 2 of the Highways 6 and 401 Improvements Project (G.W.P 3042-14-00). Phase 2 includes the new Highway 6 / Hanlon Expressway Midblock Interchange (G.W.P. 3059-20-00) north of Wellington Road 34, as shown in the attached notice. Construction of the Early Works is planned to begin in Fall 2022, subject to approvals.

The Early Works include:

- Constructing the Midblock Connection Road Bridge abutments and piers;
- Widening along Highway 6 for the speed change lanes and staging; and
- Implementing environmental protection measures (e.g., erosion control, fencing).

Traffic on the Hanlon Expressway will be maintained for the majority of construction with some temporary lane closures required. It is expected that construction of Phase 2 - Midblock Interchange will be completed by late 2025.

Building on the approved Individual Environmental Assessment, this study is being completed in accordance with the requirements of a Group 'A' project under the *MTO Class Environmental Assessment for Provincial Transportation Facilities (2000)*. Additional details can be found on the project website at www.Highway6Midblock.ca.

The first Design and Construction Report (DCR #1) has been prepared to document the process completed and is being made available for a 30-day public review period starting on **September 21, 2022**. Interested persons are invited to review the report and provide comment by **October 20, 2022**. The DCR #1 is available for review on the project website at www.highway6midblock.ca/reports/.

If you have any accessibility requirements to participate in this project, please contact one of the individuals listed below or email the Project Team at ProjectTeam@Highway6midblock.ca. Comments and information will be collected to assist the MTO in meeting the requirements of the Ontario *Environmental Assessment Act*. With the exception of personal information, all comments will become part of the public record in accordance with the *Freedom of Information and Protection of Privacy Act*.

Des renseignements sont disponibles en français en composant (905) 829-6262 (Jad Murtada).

Olga Khuskivadze, P.Eng.
MTO Project Engineer
Ministry of Transportation - West Region
659 Exeter Road
London, ON N6E 1L3

Peter Bamforth, P.Eng., C. Eng., MICE
Consultant Senior Project Manager
Dufferin / WSP Canada Group Limited
610 Chartwell Road,
Oakville, ON L6J 4A5

Sincerely,

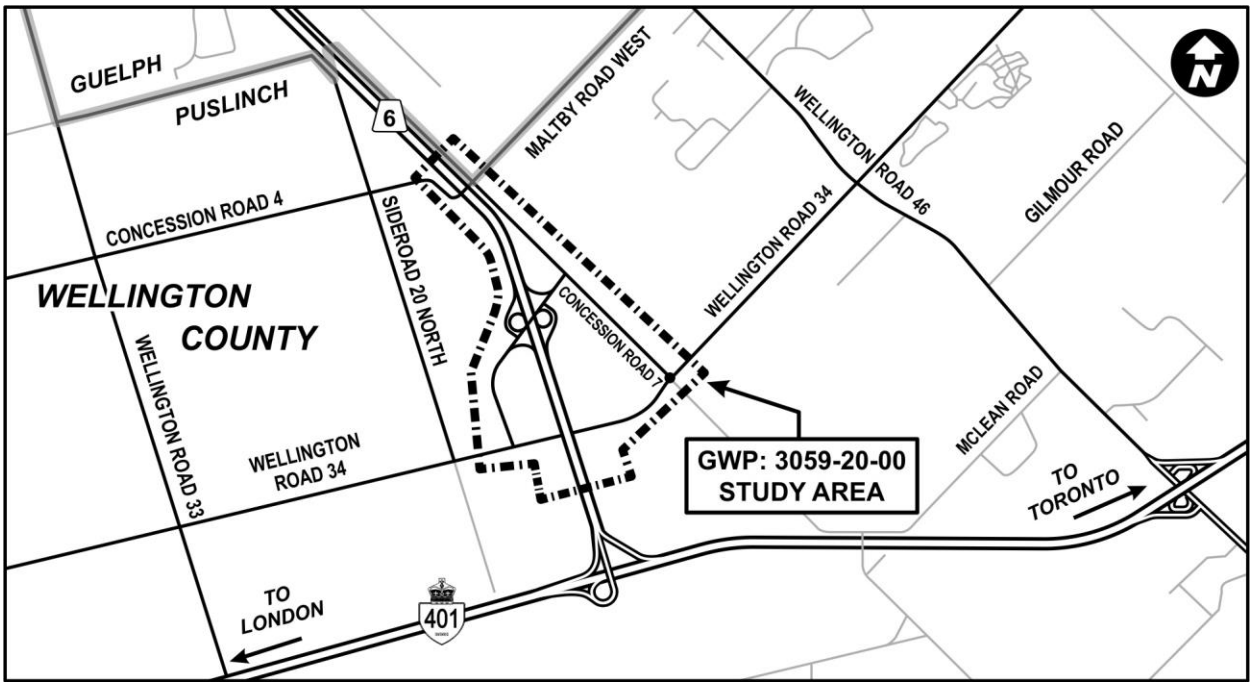
WSP

Peter Bamforth, P.Eng., CEng, MICE
Consultant Project Manager

cc: Olga Khuskivadze, Project Engineer, MTO
Kelly Jansen, Senior Environmental Planner, MTO
Catherine Gentile, Senior Environmental Planner WSP

Attachments: Key Plan

Key Plan: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WELLINGTON ROAD 34
GWP: 3059-20-00
STUDY AREA
MCLEAN ROAD
TO TORONTO
TO LONDON
401
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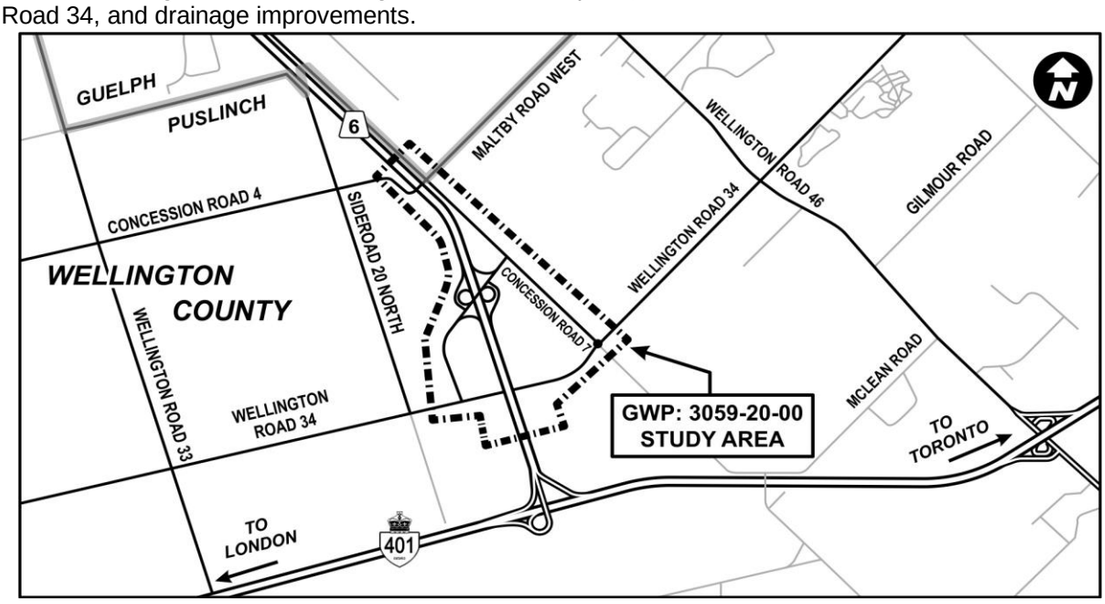
Notice of Completion – Design and Construction Report #2
HIGHWAY 6 / HANLON EXPRESSWAY MIDBLOCK INTERCHANGE (CONTRACT 2021-3004)
DETAIL DESIGN AND CLASS ENVIRONMENTAL ASSESSMENT

The Project

The Ontario Ministry of Transportation (MTO) is continuing works on Phase 2 of the Highways 6 and 401 Improvements Project (G.W.P 3042-14-00). Phase 2 includes the new Highway 6 / Hanlon Expressway Midblock Interchange (G.W.P. 3059-20-00), as shown on the map below. Following the completion of Design and Construction Report #1 (DCR #1) in 2022, construction has begun on the new bridge abutments and piers, a new connector road to Concession 7 and Wellington Road 34, and drainage improvements.



This Notice is regarding the Remaining Works, which includes:

- Removal of the signalized intersection on the Highway 6 / Hanlon Expressway at Wellington Road 34 and the addition of a new bridge over the Hanlon Expressway;
- Reconstruction of Concession Road 7, between Wellington Road 34 and Maltby Road;
- Closure of the Maltby Road / Concession Road 4 intersection at Highway 6 / Hanlon Expressway;
- A new roundabout at the Wellington Road 34 / Concession Road 7 intersection;
- Installation of new overhead sign structures, traffic signals and partial illumination; and,
- Emergency and maintenance vehicle turnarounds along the Hanlon Expressway (one north of Maltby Road and one south of Wellington Road 34).

Traffic on the Hanlon Expressway will be maintained for the majority of construction, with some temporary lane closures required. It is expected that construction will be completed by late 2025. Additional details can be found on the project website at www.Highway6Midblock.ca.

The Process

Building on the approved Individual Environmental Assessment, this project followed the *MTO Class Environmental Assessment (EA) for Provincial Transportation Facilities (2000)* for a Group 'A' project. The DCR for the Remaining Works (DCR #2) is now available on the project website at www.highway6midblock.ca/reports/ for a 30-day comment period from **June 22, 2023** to **July 21, 2023**. A hard copy of DCR #2 will not be provided at public review locations. If you wish to review DCR #2 and require an alternate format, please email the Project Team to discuss review options.

Comments

Interested persons are encouraged to review the report on the project website and provide comments by **July 21, 2023** to the Project Team by emailing ProjectTeam@Highway6midblock.ca.

Olga Khuskivadze, P.Eng.
Project Engineer
Ministry of Transportation West Region,
Planning & Design
659 Exeter Road, London, ON N6E 1L3

Peter Bamforth, P.Eng., CEng, MICE
Consultant Senior Project Manager
Dufferin / WSP
610 Chartwell Road
Oakville, ON L6J 4A5

All stakeholders and members of the public who are on the project contact list will receive notification of future consultation opportunities as part of the Highways 6 and 401 Improvements Study. If you are interested in being added to the project contact list, please register on the website, or contact the Project Team members at any time. Your comments are always welcome.

We are committed to providing accessible government information and services for all Ontarians. For communication support or to request project material in an alternate format, please contact one of the project team members listed above. Comments and information will be collected to assist MTO in meeting the requirements of the *Ontario Environmental Assessment Act*. With the exception of personal information, all comments will become part of the public record in accordance with the *Freedom of Information and Protection of Privacy Act.*

Section 16 Order (Aboriginal and Treaty Rights)

Outstanding concerns are to be directed to the proponents listed above for a response, unless the outstanding concerns are regarding potential adverse impacts to constitutionally protected Aboriginal and treaty rights, in which case Section 16 Order requests on these matters should be addressed in writing or by email to the following contacts, and copied to the project team members listed above, no later than **July 21, 2023**.

Minister of the Environment, Conservation and Parks
Ministry of Environment, Conservation and Parks
777 Bay Street, 5th Floor
Toronto, Ontario, 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, Ontario, M4V 1P5
Email: EABDirector@ontario.ca

Further information on requests for orders under Section 16 of the EA Act is available on the MECP website at: https://www.ontario.ca/page/class-environmental-assessments-section-16-order.

This Notice was issued on June 21, 2023.

Ontario

WSP Canada Inc.
25 York Street, Suite 700
Toronto, Ontario
wsp.com

MPP Letter Template

June 16, 2023

RE: Highway 6 / Hanlon Expressway Midblock Interchange (G.W.P. 3059-20-00) Detail Design, Class Environmental Assessment Study and Construction Notice of Completion – Design and Construction Report #2

The Ontario Ministry of Transportation is continuing works on Phase 2 of the Highways 6 and 401 Improvements Project (G.W.P 3042-14-00). Phase 2 includes the new Highway 6 / Hanlon Expressway Midblock Interchange (G.W.P. 3059-20-00), as shown in the attached notice. Following the completion of Design and Construction Report #1 (DCR #1) in 2022, construction has begun on the new bridge abutments and piers, a new connector road to Concession 7 and Wellington Road 34, and drainage improvements.

This letter is regarding the Remaining Works, which includes:

- Removal of the signalized intersection on the Highway 6 / Hanlon Expressway at Wellington Road 34 and the addition of a new bridge over the Hanlon Expressway;
- Reconstruction of Concession Road 7, between Wellington Road 34 and Maltby Road;
- Closure of the Maltby Road / Concession Road 4 intersection at Highway 6 / Hanlon Expressway;
- A new roundabout at the Wellington Road 34 / Concession Road 7 intersection;
- Installation of new overhead sign structures, traffic signals and partial illumination; and,
- Emergency and maintenance vehicle turnarounds along the Hanlon Expressway (one north of Maltby Road and one south of Wellington Road 34).

Traffic on the Hanlon Expressway will be maintained for the majority of construction, with some temporary lane closures required. It is expected that construction will be completed by late 2025. Additional details can be found on the project website at www.Highway6Midblock.ca.

WSP Canada Inc.
25 York Street, Suite 700
Toronto, Ontario
wsp.com

Building on the approved Individual Environmental Assessment, this project followed the *MTO Class Environmental Assessment (EA) for Provincial Transportation Facilities (2000)* for a Group 'A' project. The DCR for the Remaining Works (DCR #2) will be available on the project website at www.Highway6Midblock.ca/reports/ for a 30-day comment period from **June 22, 2023** to **July 21, 2023.** A hard copy of DCR #2 will not be provided at public review locations. If an individual wishes to review DCR #2 and/or requires an alternate format, they may email the Project Team to discuss review options.

A Notice of Completion of DCR #2 will be placed in area newspapers as follows:

- The *Turtle Island News* on June 21, 2023
- The *Two Row Times* on June 21, 2023
- The *Guelph Tribune* on June 22, 2023
- The *Wellington Advertiser* on June 22, 2023

The Project Team welcomes your input. If you have any comments, questions, or concerns, please contact the undersigned at Peter.Bamforth@wsp.com or by phone at 289-835-2435.

Yours truly,

Peter Bamforth, P.Eng., C.Eng., MICE
Consultant Senior Project Manager, WSP

Cc: Olga Khuskivadze, P.Eng., Project Engineer, MTO
Kelly Jansen, Environmental Planner, MTO
Christine Green, Environmental Planner, WSP

Attachments: Ontario Government Notice

Ministry of Transportation

Engineering Office
Planning and Design
West Region

659 Exeter Road, 3rd Floor
London, ON N6E 1L3
Telephone: 226-980-9751
Email: Emily.Roadhouse@ontario.ca

Ministère des Transports

Bureau du génie
Planification et conception
Région Ouest

659, chemin Exeter, 3e étage
London (Ontario) N6E 1L3
Téléphone: 226-980-9751
Courriel: Emily.Roadhouse@ontario.ca

Ontario

June 21, 2023

«Address_1»
«City», «Province»
«Postal_Code»

Attention: «Title»«Last_Name»

Indigenous Community Letter Template

RE: Highway 6 / Hanlon Expressway Midblock Interchange (G.W.P. 3059-20-00) Detail Design, Class Environmental Assessment Study and Construction Notice of Completion – Design and Construction Report #2

The Ontario Ministry of Transportation (MTO) is continuing works on Phase 2 of the Highways 6 and 401 Improvements Project (G.W.P 3042-14-00). Phase 2 includes the new Highway 6 / Hanlon Expressway Midblock Interchange (G.W.P. 3059-20-00), as shown in the attached notice. Following the completion of Design and Construction Report #1 (DCR #1) in 2022, construction has begun on the new bridge abutments and piers, a new connector road to Concession 7 and Wellington Road 34, and drainage improvements.

This letter is regarding the Remaining Works, which includes:

- Removal of the signalized intersection on the Highway 6 / Hanlon Expressway at Wellington Road 34 and the addition of a new bridge over the Hanlon Expressway;
- Reconstruction of Concession Road 7, between Wellington Road 34 and Maltby Road;
- Closure of the Maltby Road / Concession Road 4 intersection at Highway 6 / Hanlon Expressway;
- A new roundabout at the Wellington Road 34 / Concession Road 7 intersection;
- Installation of new overhead sign structures, traffic signals and partial illumination; and,
- Emergency and maintenance vehicle turnarounds along the Hanlon Expressway (one north of Maltby Road and one south of Wellington Road 34).

Traffic on the Hanlon Expressway will be maintained for the majority of construction, with some temporary lane closures required. It is expected that construction will be completed by late 2025. Additional details can be found on the project website at www.Highway6Midblock.ca.

Building on the approved Individual Environmental Assessment, this project followed the *MTO Class Environmental Assessment (EA) for Provincial Transportation Facilities (2000)* for a Group 'A' project. The DCR for the Remaining Works (DCR #2) will be available on the project website at www.Highway6Midblock.ca/reports/ for a 30-day comment period from June 22, 2023 to July 21, 2023.

Comments and information will be collected to assist the MTO in meeting the requirements of the Ontario *Environmental Assessment Act*. With the exception of personal information, all comments will become part of the public record in accordance with the *Freedom of Information and Protection of Privacy Act*.

If you would like to provide comments, or if you require further information regarding this project, please feel free to contact me via telephone at 226-980-9751 or by email at Emily.Roadhouse@ontario.ca. In addition, if you are interested in meeting after having received this letter, please contact me to arrange a meeting at your earliest convenience.

Sincerely,

Emily Roadhouse
Head, Environmental Delivery, Ministry of Transportation, West Region

Cc: Kelly Jansen, Environmental Planner, MTO
Liane Fisher Bloxam, Indigenous Liaison Specialist, MTO
Sarah Jewell, Senior Project Engineer, MTO
Olga Khuskivadze, Project Engineer, MTO
Peter Bamforth, Consultant Senior Project Manager, WSP
Christine Green, Environmental Planner, WSP

Attachment: Ontario Government Notice

WSP Canada Inc.
25 York Street, Suite 700
Toronto, Ontario
wsp.com

External Agencies / Municipal / Public Letter Template

June 21, 2023

**RE: Highway 6 / Hanlon Expressway Midblock Interchange (G.W.P. 3059-20-00)
Detail Design, Class Environmental Assessment Study and Construction
Notice of Completion – Design and Construction Report #2**

The Ontario Ministry of Transportation is continuing works on Phase 2 of the Highways 6 and 401 Improvements Project (G.W.P 3042-14-00). Phase 2 includes the new Highway 6 / Hanlon Expressway Midblock Interchange (G.W.P. 3059-20-00), as shown in the attached notice. Following the completion of Design and Construction Report #1 (DCR #1) in 2022, construction has begun on the new bridge abutments and piers, a new connector road to Concession 7 and Wellington Road 34, and drainage improvements.

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Toronto, Ontario
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Building on the approved Individual Environmental Assessment, this project followed the *MTO Class Environmental Assessment (EA) for Provincial Transportation Facilities (2000)* for a Group 'A' project. The DCR for the Remaining Works (DCR #2) will be available on the project website at www.Highway6Midblock.ca/reports/ for a 30-day public review period from **June 22, 2023** to **July 21, 2023.**

If you have any accessibility requirements to participate in this project, please contact one of the individuals listed below or email the Project Team at ProjectTeam@Highway6midblock.ca. Comments and information will be collected to assist the MTO in meeting the requirements of the Ontario *Environmental Assessment Act*. With the exception of personal information, all comments will become part of the public record in accordance with the *Freedom of Information and Protection of Privacy Act*.

Olga Khuskivadze, P.Eng.
MTO Project Engineer
Ministry of Transportation - West Region
659 Exeter Road
London, ON N6E 1L3

Peter Bamforth, P.Eng., C. Eng., MICE
Consultant Senior Project Manager
Dufferin / WSP Canada Group Limited
610 Chartwell Road,
Oakville, ON L6J 4A5

Des *renseignements sont disponibles en français en composant (905) 829-6262 (Jad Murtada).*

Sincerely,

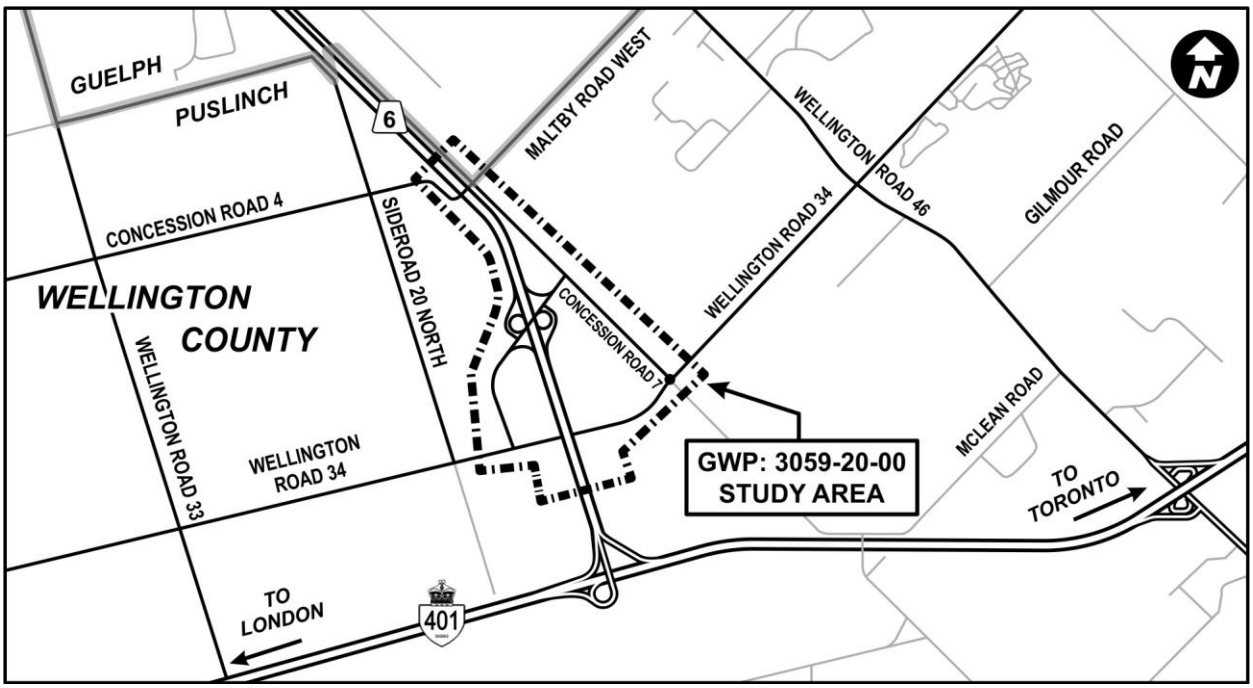
Peter Bamforth, P.Eng., C.Eng., MICE
Consultant Senior Project Manager, WSP

Cc: Olga Khuskivadze, P.Eng., Project Engineer, MTO
Kelly Jansen, Environmental Planner, MTO
Christine Green, Environmental Planner, WSP

Attachment: Key Plan

WSP Canada Inc.
25 York Street, Suite 700
Toronto, Ontario
wsp.com

Key Plan:



APPENDIX B – RELEVANT CORRESPONDENCE

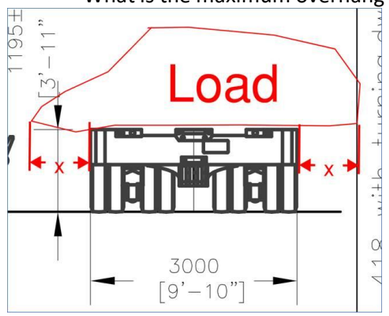
Ref. #	Date	To	From	Subject	Comment	Response
Comments Received During Design and Construction Report #1 30-Day Public Review Period (September 21, 2022 – October 20, 2022)						
CT33	Sept. 21, 2022	Projectteam@highway6midblock.ca	[redacted]	Re: Highway 6 / Hanlon Expressway Midblock Interchange Design-Build, Class EA Study - Notice of Completion (DCR #1)	When do you expect the next project at the Hanlon and Stone Road, as I have a question about the western part of Stone Road. Thanks	Good morning [redacted] Thank you for your email. The intersection of Stone Road and the Hanlon Expressway falls outside of our study limits. Please see attached map which shows the limits of our study. For further information on the Hanlon Expressway at the Stone Road location, please contact Tim Sorochinsky, the Consultant Senior Project Manager. His contact information is located at https://highway6-hanloncityofguelph.ca/contact-us/project-team-contacts/. If you are referencing a municipal project on Stone Road, please contact the City of Guelph's Infrastructure, Development and Enterprise Services at engineering@guelph.ca for further information. Thank you, Christine G. (*Sent on behalf of the Highway 6/Hanlon Expressway - Midblock Interchange Project Team)* **Contact Us:** ProjectTeam@Highway6Midblock.ca *You are receiving this notification because you are on the project contact list. To unsubscribe, please contact the Project Team at* ProjectTeam@Highway6Midblock.ca. **Christine Green,** *she / her*
CT34	Sept 22, 2022	Projectteam@highway6midblock.ca	Michael.Korn@opp.ca	RE: Highway 6 / Hanlon Expressway Midblock Interchange Design-Build, Class EA Study - Notice of Completion (DCR #1)	Good morning Our detachment has had some staffing changes. Could you please remove Keegan Wilcox from this working group / email distribution list please? Moving forward please add my name. Regards, M.D. (Dean) Korn | Staff Sergeant | Detachment Operations Manager | Wellington County OPP | Office (519) 846-5930 | Cell (416) 557-4078	*Contact list revised accordingly.*
CT35	Sept 23, 2022	Chrinstine.Green@wsp.com	Jana Burns <janab@wellington.ca>	RE: Highway 6 / Hanlon Expressway Midblock Interchange Design-Build, Class EA Study - Notice of	Thank you, Christine. Please note that Crystal is no longer with the County. Please update to my information below. May I ask where in the schedule the Morriston by-pass sits? Thank you in advance, Jana Jana Burns BA, MSc Wellington Place Administrator	**From:** Green, Christine **To:** Jana Burns <janab@wellington.ca> **Subject:** RE: Highway 6 / Hanlon Expressway Midblock Interchange Design-Build, Class EA Study - Notice of Completion (DCR #1) Good morning Jana, Our contact list was revised accordingly. The community of Morriston falls outside of our study limits for this project. For further information on the

Ref. #	Date	To	From	Subject	Comment	Response
				Completion (DCR #1)	Museum, Archives and Economic Development County of Wellington 0536 Wellington County Rd 18 Fergus, ON N1M 2W3 T 1.519.846.0916 x5222 C 1.519.830.9969	larger Highway 6 and 401 Improvements between Hamilton and Guelph, please visit https://highways6and401hamiltontoguelph.ca/ or contact the following Project Team members listed on the project website: **Sarah Jewell, P.Eng., M.Eng.** MTO Senior Project Engineer Ministry of Transportation, West Region 659 Exeter Road London, ON N6E 1L3 sarah.jewell@ontario.ca **Tim Sorochinsky, P.Eng.** Consultant Senior Project Manager AECOM Canada Ltd. 4th Floor, 30 Leek Crescent Richmond Hill, ON L4B 4N4 Telephone: 905-418-1475 Thank you, Christine Green, she / her Environmental Planner
CT36	Sept 20, 2022	Projectteam@highway6midblock.ca	[redacted]	RE: Highway 6 / Hanlon Expressway Midblock Interchange Design-Build, Class EA Study - Notice of Completion (DCR #1)	**Regarding Early Works Closures and Detours.** I live on [redacted] with entrance/exit on Brock Road North, between Maltby and Wellington 34 which is along the detour route. 1. What accommodations will be made to ensure traffic flow along the detour route which is already significant even without use as a detour route. i.e., flag people at entrances along the detour route especially at the Maltby/Brock Road Intersection. 2. What do you consider to be off-peak hours? Overnight? 3. Please don't underestimate how disruptive this 2-day closure will be; traffic in the proposed closure areas is ridiculous and unrelenting. **Regarding Remaining Works** 4. The timing and duration of construction for the Remaining Works (refer to Figure 2 for the delineation of work areas) will be presented in DCR #2. When will DCR #2 be available? 5. When do you anticipate the closure of Maltby Road and Hanlon?	Hello [redacted], Thank you for your questions and comments on the Design and Construction Report #1 (DCR #1) for the Highway 6 / Hanlon Expressway Midblock Interchange Design-Build, Class Environmental Assessment Study. Please see below for responses to your questions: 1. The following accommodations will be made to ensure traffic flow along the detour routes: Advance Notification signs will be in place prior to the closure, warning notification signs will be in place during the closure, police officers may also be hired to ensure traffic flow through the Maltby / Brock Road intersection. 2. Closure of the highway will happen overnight on weekdays from 8 pm to 6 am (i.e., not during rush hour, which is considered “peak travel time”). Closures may also occur from Friday to Saturday between 8 pm and 10 am, from Saturday to Sunday from 8 pm to noon and from Sunday to Monday between 3 pm and 6 am. 3. Noted, thank you for the comment. Our Team would like to clarify that there will be no daytime full closures, only two nighttime full closures. The off-peak hours will be implemented to undertake the required works in a way that will be as least disruptive to traffic in the area as possible. Regarding the Remaining Works:

Ref. #	Date	To	From	Subject	Comment	Response
					6. Why is this a relevant question? People on the east side of the Hanlon need to have access to the Puslinch Dump which is on the west side of Concession Road 4. **Finally…are there public forums planned to respond to DCR #2?** Thanks in advance. [redacted] --- **From:** [redacted] Sent: December 2, 2022 8:58 AM **To:** Green, Christine <Christine.Green@wsp.com> **Cc:** projectteam@highway6midblock.ca **Subject:** Re: Maltby Road & Hanlon Thanks for the clarifications Christine. Best, Don	4. DCR #2 will be available for public review and comment in Spring 2023. A Notice of Completion will be emailed and/or mailed to those on the project contact list and will be published in the following newspapers: The Guelph Mercury Tribune, The Wellington Advertiser, Turtle Island News and Two Row Times. 5. Construction is anticipated to begin this Winter 2022 and end in 2025. The existing intersections between Highway 6 / Maltby Road and Highway 6 / Concession 4 are not scheduled to be closed until the Midblock Interchange and Concession 7 are open to traffic. This is expected in the final year of construction in 2025. This schedule may change based on the timing of environmental clearances and permits. Road closure notification signage will be placed 1 to 2 weeks in advance of any road closures to inform the travelling public. 6. Noted. Thank you for your comment regarding access to the Puslinch Dump. Access to the dump will be provided via the new Midblock Connection Road. 7. Our Project Team welcomes comments or questions at any time. As noted above, a Notice of Completion will be posted when DCR #2 is available for public review and comment. You are on our project contact list and will be notified during project updates or milestones. Thank you, Christine G. *(Sent on behalf of the Highway 6/Hanlon Expressway - Midblock Interchange Project Team)* **Contact Us:** ProjectTeam@Highway6Midblock.ca *You are receiving this notification because you are on the project contact list. To unsubscribe, please contact the Project Team at ProjectTeam@Highway6Midblock.ca.*
CT37	Sept 29, 2022	ProjectTeam@highway6midblock.ca	[redacted]	Comment Form	Why is this portion of the project going to take so long? **Would you like to receive project updates?** Yes, by regular mail	Hello, Thank you for your email regarding the Highway 6 / Hanlon Expressway Midblock Interchange Design-Build, Class Environmental Assessment Study. In order to advance work at the Midblock Bridge and Interchange, the project has been split into two (2) separate design and construction packages. This will permit construction to start on the Midblock Interchange as early as this winter. This work will be followed by the

Ref. #	Date	To	From	Subject	Comment	Response
						construction at Wellington Road 34, Concession Road 7, Maltby Road West, as well as the illumination, and ATMS. The Project Team would like to note that construction timing may change based on environmental clearance and other scheduling factors that may arise as we move through the Environmental Assessment process. As we move further along in our project, the 'Construction Progress Updates' page on the project website will be updated frequently with proposed traffic restrictions and detour routes, as well as photographs of the site. The webpage can be accessed by clicking the following link: Highway 6 / Hanlon Expressway Midblock Interchange » Construction Progress Updates (highway6midblock.ca). The 'Schedule' page (https://highway6midblock.ca/schedule/) will also be undergoing revisions shortly as we finalize our construction scheduling. You are on our project contact list and will be notified during project updates or milestones. Thank you
CT38	Oct 4, 2022	projectteam@highway6midblock.ca	Dave.Binkley@mammoet.com	Round About Radius	Good Afternoon We are reviewing the letter received from WSP in regards to the Midblock Rebuild that will be completed close to our facility To access HWY 401 W we utilize McLean, CR 34 W, HWY 6 S, HWY 401 W with our 18 axle modular trailers as McLean, CR 46 S, HWY 401 W is difficult to negotiate the onramp with our overall length Does the project team have any specifics on the roundabout design along with the new ramp onto HWY 6 S? Any questions please let me know Thanks! **Dave Binkley** Tendering Estimator Mammoet Canada Eastern Ltd. 7504 McLean Road East Puslinch ON N0B 2J0 Canada Mobile 226-750-9304 E-mail dave.binkley@mammoet.com	**From:** Green, Christine **Sent:** October 20, 2022 2:20 PM **To:** dave.binkley@mammoet.com **Subject:** RE: Round About Radius Good afternoon Dave, Thank you for your email regarding Design and Construction Report #1 for the Highway 6 / Hanlon Expressway Midblock Interchange Design-Build, Class Environmental Assessment Study. Your email has been circulated to the Project Team for consideration and a response on the roundabout design specifics will be provided. **Can you please confirm the total length of the trucks and 18 axle modular trailers being hauled?** Thank you, Christine Green, she / her Environmental Planner Environmental Planning, Earth & Environment --- **From:** Green, Christine **Sent:** October 25, 2022 4:28 PM **To:** Dave Binkley <Dave.Binkley@mammoet.com> **Subject:** RE: Round About Radius

Ref. #	Date	To	From	Subject	Comment	Response
					Web www.mammoet.com --- **From:** Dave Binkley <Dave.Binkley@mammoet.com> **Sent:** October 25, 2022 2:23 PM **To:** Green, Christine <Christine.Green@wsp.com> **Subject:** RE: Round About Radius Thank you for the response Christine Please see attached drawing, overall length of this combination is 133'L Thanks! **Dave Binkley** Tendering Estimator Mammoet Canada Eastern Ltd. 7504 McLean Road East Puslinch ON N0B 2J0 Canada Mobile 226-750-9304 E-mail dave.binkley@mammoet.com Web www.mammoet.com --- **From:** Dave Binkley <Dave.Binkley@mammoet.com> **Sent:** October 31, 2022 11:24 AM **To:** Green, Christine <Christine.Green@wsp.com> **Subject:** RE: Round About Radius Good Morning Christine Sorry for the delayed response. Please see answers below provided by our Engineering Manager, along with a revised transport drawing to include the turn radius I have attached a drawing that includes the turning radius. To answer the comments below, • Yes the wheel sets do pivot independently of each other but they are all linked to steer around a single turning point.	Hello Dave, Thank you for that information. Our Project Team is currently checking the turning movement on our roundabout design. Can you please confirm the following: - Does each wheel pivot independently from each other when navigating through tight curves? - Can the flatbed also pivot? If yes, where is the pivot point? Thank you, Christine Green, she / her Environmental Planner --- From: Green, Christine Sent: November 30, 2022 11:09 AM To: Dave Binkley <Dave.Binkley@mammoet.com> Subject: RE: Round About Radius Good morning Dave, Our Design Team noted their AutoTurn Software does not include a vehicle the same size as the Mammoet trucks. Using the information you provided in October, and working with an existing vehicle template, the team drafted the attached vehicle dimensions for their software. Can you please review and ensure the parameters circled in red are correct? Thank you, Christine Environmental Planner Environmental Planning, Earth & Environment --- **From:** Green, Christine **Sent:** January 3, 2023 11:29 AM **To:** 'Dave Binkley' <Dave.Binkley@mammoet.com> **Subject:** RE: Round About Radius Good morning & Happy New Year, I am just following up on my email from late November regarding the Highway 6 / Hanlon Expressway Midblock Interchange Design-Build, Class Environmental Assessment Study.

Ref. #	Date	To	From	Subject	Comment	Response
					• No the trailer does not pivot/articulate along it's length. It is a continuous unit. Thanks Dave Binkley From: Dave Binkley <Dave.Binkley@mammoet.com> Sent: November 30, 2022 11:14 AM To: Green, Christine <Christine.Green@wsp.com> Subject: RE: Round About Radius Thanks Christine I have passed the drawing to our engineering manager to review and comment Stay tuned! Dave Binkley, Tendering Estimator **From:** Dave Binkley <Dave.Binkley@mammoet.com> **Sent:** February 6, 2023 12:19 PM **To:** Green, Christine <Christine.Green@wsp.com> **Subject:** RE: Round About Radius Good Afternoon Christine Sorry for the delay on this one, I just got off the phone with Peter Bamforth in regards to this inquiry. Tracked down our engineering manager and was able to get a couple of the answers • Very low possibility of the trailer being loaded while travelling through the round about so we will proceed forward with the 9'10"W travel path of the trailer • The trailer will require the inside of the circle to have the rolled curb to use the concrete apron to assist in the trailer radius • Please see the animation video from YouTube on the operations of the Goldhofer trailer https://www.youtube.com/watch?v=7EsMNd4tL6I, around 2:10 shows how the trailer turns the axle with the tie rod connections and from this it is very difficult to put on	Following a discussion with the Ministry of Transportation, our design team is requesting the following additional information: • What is the maximum overhang 'x', see screenshot below:  • We have received the overall vehicle weights, see screenshot below, but this is without the load. What is the over gross weight of trailer + load?  OVERALL WEIGHTS: TRACTOR TARE WEIGHT: 13 680 KGS 30,162 LBS TRACTOR BALLAST WEIGHT: 17 740 KGS 39,110 LBS TRAILER TARE WEIGHT: 61 350 KGS 135,250 LBS TOTAL WEIGHT: 92 770 KGS 204,522 LBS Thank you, Christine **From:** Green, Christine <Christine.Green@wsp.com> **Sent:** Friday, January 20, 2023 1:58 PM **To:** Dave Binkley <Dave.Binkley@mammoet.com> **Subject:** RE: Round About Radius Good afternoon Dave, I'm just following up regarding the Highway 6 / Hanlon Expressway Midblock Interchange Design-Build, Class Environmental Assessment Study. Our team generated the attached Mammoet turning movement checks using the information that has been provided to us. These drawings show truck encroachment onto the curb & gutter and sidewalk. In order to meet our project schedule, the design team is asking for a response to the correspondence below by the end of next week. If a call is easier for your team, a Microsoft Teams meeting can be scheduled instead. Thank you,

Ref. #	Date	To	From	Subject	Comment	Response
					paper how the trailer can steer through a corner Any other questions please let me know and will try and track down the info as quick as I can Thanks! **Dave Binkley** Tendering Estimator	Christine Green Environmental Planner She / Her --- All I spoke with Dave, he had no problems with making the turn provided they could utilise the inner apron (which is what it is intended for). He also added that they had passed through the existing roundabouts on WR34 when they had been working in Guelph. Peter Bamforth P.Eng, Manager of Engineering Senior Project Manager Transportation – Alternative Delivery --- From: Green, Christine Sent: February 14, 2023 11:39 AM To: Dave Binkley <Dave.Binkley@mammoet.com> Subject: RE: Round About Radius Good morning Dave, No problem – thank you for the information below and for taking time to speak with Peter Bamforth over the phone last week. Based on the below correspondence and the discussions with Peter, it is my understanding that there are no further concerns with the roundabout design. Should you have any further questions or comments, please reach out and I can connect you with our design team. Thank you, Christine Green Environmental Planner She / Her
CT39	Oct. 19, 2022	**To:** "Khuskivadze, Olga (MTO)" <olga.khuskivadze@ontario.ca>, "Bamforth, Peter" <Peter.Bamforth@wsp.com>	**From:** Jenn Simons <jsimons@grandriver.ca>	Highway 6 Midblock Interchange EA	Good afternoon, Please find attached GRCA comments. Kind regards, **Jenn Simons** Resource Planner Grand River Conservation Authority 400 Clyde Road, PO Box 729 Cambridge, ON N1R 5W6	Hello Jenn, We appreciate the Grand River Conservation Authority (GRCA) taking the time to review and provide comments on the Design and Construction Report #1 (DCR #1) for the Highway 6 / Hanlon Expressway Midblock Interchange Design-Build, Class Environmental Assessment Study. Please see below for responses to your questions:

Ref. #	Date	To	From	Subject	Comment	Response
					Office: 519-621-2763 ext. 2238 Email: jsimons@grandriver.ca www.grandriver.ca | Connect with us on social media **Attachment:** October 19, 2022 Olga Khuskivadze, P.Eng Peter Bamforth, P.Eng., Ceng, MICE MTO Project Engineer Senior Project Manager Ministry of Transportation – West Re gion Dufferin / WSP Canada Group Limited 659 Exeter Road 610 Chartwell Road London, ON, N6E 1L3 Oakville, ON, L6J 4A5 olga.khuskivadze@ontario.ca peter.bamforth@wsp.com **Re: Highway 6 / Hanlon Expressway Midblock Interchange (G.W.P. 3059-20-00) Detail Design, Class Environmental Assessment Study and Construction Notice of Completion** Grand River Conservation Authority (GRCA) staff has reviewed the following document: □ Design and Construction Report #1. Highway 6/ Hanlon Expressway Midblock Interchange- Early Works, dated September 21, 2022, prepared by WSP Designers. Based on our review of this document, the GRCA offers the following comments for your review and consideration: EA Process: We understand the above noted material was provided to support the "Early Works" of the Highway 6/Hanlon Expressed Midblock Interchange Class Environmental Assessment (Class EA) document. The early works include: □ Construction of a new Midblock Interchange on Highway 6 / Hanlon Expressway, north of Wellington Road 34 □ Construction of a new road to connect the Midblock Interchange to Concession Road 7 and to Wellington Road 34; and,	It is our understanding that development activities within regulated areas on lands owned by, and/or conducted by, the Ministry of Transportation of Ontario (MTO) are exempt from the regulatory approval process under Section 28 of the Conservation Authorities Act and under Ontario Regulation 150/06: Grand River Conservation Authority Regulation of Development, Interference with Wetlands and Alterations to Shorelines and Watercourses. Given the above, it is our understanding that a formal permit and approval will not be required from the Grand River Conservation Authority for this undertaking. However, our Project Team has reviewed and considered your comments in the final design package of the Early Works, as necessary. The Project Team would also like to clarify that this is a Design-Build project under the MTO's Class Environmental Assessment; therefore, we are currently at the Detail Design stage now, preparing for the commencement of construction this winter. 1. Impact is minor at the regional floodplain, it will be included in the Remaining Works package. In order to fully assess the impacts to the regulatory floodplain elevation, the design of Wellington Road 34 (part of the Remaining Works) will need to be considered. The design of Wellington Road 34 includes an overpass, which will raise the road profile. During the Remaining Works, the Regulatory Flood Elevation will be assessed under proposed conditions with the adjacent watercourse culverts. *2.* Removal drawings have been prepared for the Early Works package, please see attached. As this is a provincial undertaking, the DCR #1 and/or design submission will not be revised in accordance with GRCA policies, as it is outside the scope of this undertaking (see above). Adverse impacts on regulated wetlands and watercourses will be avoided or minimized using mitigation measures outlined in the project environmental specifications, such as Standard Special Provision No. 199F12 for Environmentally Sensitive Areas, ENVR0012 for Selective Clearing and Deferred Grubbing, ENVR0013 for Advanced Placement of Permanent Cover, ENVR0007 for the Protection of Species at Risk, etc. 3. Special Provision No. 199F12 will be applied to ensure the contractor avoids the disturbance of wetland areas and watercourses that will not be directly impacted by the work. The areas will be protected through the installation of fencing along the right-of-way, prior to construction. The design is not influenced by wetland setbacks at this stage of the project. The contractor (Dufferin Construction) will protect retained wetlands during construction and there will be a restoration planting plan completed and implemented following construction. 4. The provincial PSW mapping layers have been delineated on the removal and new construction design drawings as Environmentally

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					□ Drainage improvements, such as infiltration ponds for stormwater management <u>GRCA Approvals and Permitting</u> A permit from the GRCA pursuant to Ontario Regulation 150/06 will be required for the construction of the Interchange and drainage improvements. Therefore, our review of the submission provided will also address permitting requirements. As such, we provide the following comments to be addressed at detailed design. 1. A tributary of Mill Creek and its associated floodplain is located within the study area, northeast of the existing intersection of Hwy. 6 and CR 34. No details have been provided to determine if the proposed road profile will be raised above the Regulatory Flood Elevation. Raising of the road profile is only permitted if it can be demonstrated that there is no adverse hydraulic or fluvial impacts. The Regulatory floodplain elevation of 310.29m CGVD28 at this location should be delineated and demonstrated that the proposed works will not impact the floodplain. Please include the delineated RFE on all drawings. 2. Direct and indirect impacts on wetlands and alterations to watercourse features (e.g., wetland removal, culvert extensions) remain unclear. Additional details are needed to demonstrate how adverse impacts on regulated wetlands and watercourses will be avoided or minimized, in accordance with GRCA policies. 3. Where wetlands and watercourses can be avoided, we request that setbacks from these features be confirmed at the detailed design stage. 4. DCR states that “the Design Build Contractor shall delineate the boundary of any impacted PSWs. Delineation will be completed by an Ontario Wetland Evaluation System (OWES) certified Ecologist and must be completed prior to the	Sensitive Areas (ESA). A site visit with GRCA/MNRF is not a requirement for this undertaking. 5. Noted. The detail design drawings were updated to illustrate the limits, as noted above. The Project Team would like to note that compensation is not a requirement for a provincial project. 6. The requested documents are currently under review and revision as the final design package is prepared. Please see attached New Construction and Removals drawings for the Early Works for reference purposes. **<u>Advisory Comments:</u>** 1. Noted. The tributaries with Brook Trout are located outside the limits of the Early Works. However, access will be limited to any nearby waterbodies and banks to minimize bank disturbance. 2. Noted. The Project Team has recommended mitigation measures that comply with the Fisheries Act. Given the confirmation of fish habitat conditions and results of the field investigations, the conclusion from the Existing Conditions and Impact Assessment Report (AECOM, 2021) that “no harm to fish or HADD will occur” is upheld, assuming application of all specified mitigation measures. Thank you again for your feedback on DCR #1 for the Highway 6 / Hanlon Expressway Midblock Interchange Design-Build, Class Environmental Assessment Study. The Project Team appreciates GRCA’s comments and will consider them as we move into the next phase of the Remaining Works and preparation of DCR #2. Sincerely,

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					initiation of vegetation removal (per OPSS.PROV 801).” We request that a site visit be scheduled with GRCA or MNRF staff to verify wetland boundaries. We also request that the wetland boundary be surveyed and clearly illustrated on engineering plans. 5. We would recommend that the total amount of wetland directly impacted be quantified (in square meters) and that any wetland areas that are expected to undergo temporary/permanent disturbance be clearly illustrated on a detailed plan. 6. Please provide the following: a. Detailed Site and Grading plan with delineated wetland boundaries and floodplain clearly labelled. b. Engineering design drawings c. Stormwater Management Report that addresses: i. Design details ii. Outlet location for the SWM facilities. iii. Supporting stormwater management calculation iv. Design criteria v. Water quantity and quality within receiving wetlands and/or watercourses d. Erosion and Sediment Control plan with limits of disturbance clearly shown e. Temporary works, Dewatering plan and Contingency Plan. f. Construction monitoring plan g. Restoration and revegetation plan. The landscaping drawings provided are missing a legend/key as well as a key plan identifying the location of the stationing. <u>Advisory Comments</u> 1. Two tributaries of Mill Creek, a cold-water system, are located within the study area. Both tributaries are known to support Brook Trout. Spawning areas are located upstream and downstream of County Road 34 and on both sides of the Hanlon Expressway. Work in and around water is not recommended between October 1 and July 15	

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					2. We recommend thermal mitigation measures be employed where appropriate. This may consist of a combination of increased setbacks, buffer enhancement, cooling trenches and native landscaping to increase shading. Conclusion: The GRCA is interested in continuing our involvement with this project. We trust these comments are of assistance. Should you have any questions or require additional information, please feel free to contact Jenn Simons at 519-621-2763 ext. 2238 or jsimons@grandriver.ca. Sincerely, _____ Laura Warner Supervisor Assistant of Resource Planning Grand River Conservation Authority ----- **From:** Jenn Simons <jsimons@grandriver.ca> Sent: December 1, 2022 3:17 PM **To:** Green, Christine <Christine.Green@wsp.com> **Subject:** RE: Highway 6 Midblock Interchange EA (CT39) Good afternoon Christine, My sincerest apologies. I somehow missed this was an MTO EA so I thank you for your kind response. We look forward to providing advisory comments on the project as you move onto the next phase. Sincerely, Jenn	
CT40	Oct. 14, 2022	To:ProjectTeam@Highway6Midblock.ca <ProjectTeam@Highway6Midblock.ca> Cc: Steve Anderson <Steve.Anderson@guelph.ca>, Gwen Zhang <Gwen.Zhang@guelph.ca>, Daniel Di Pietro <Daniel.DiPietro@guelph.	From: Jennifer Juste <Jennifer.Juste@guelph.ca>	City of Guelph Comments - notice of completion DCR #1	Good afternoon Ms. Green, Thank you for the opportunity to review the Notice of Completion documents. Please find our comments from City of Guelph attached. Sincerely, **Jennifer Juste (she/her)** Manager, Transportation Planning City of Guelph 519-822-1260 extension 2791 Jennifer.juste@guelph.ca	Hello Jennifer, We appreciate the City of Guelph taking the time to review and provide comments on the Design and Construction Report #1 (DCR #1) for the Highway 6 / Hanlon Expressway Midblock Interchange Design-Build, Class Environmental Assessment Study. The comments have been circulated to the Project Team for review. Please see below for responses to your questions: • The comment from Guelph's Transportation Services has been noted. The project consultation tracking table will be updated to

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		ca>, "Leah Lefler" <Leah.Lefler@guelph.ca>			Guelph.ca **Attachment:** **Sent via email** Christine Green Environmental Planner WSP Golder projectteam@highway6midblock.ca Dear Ms. Green RE: Highway 6 / Hanlon Expressway Midblock Interchange Design-Build, Class EA Study - Notice of Completion (DCR #1) Thank you for circulating the first Design and Construction Report (DCR #1) for the 30-day review period to the City of Guelph. Our staff have reviewed the available documentation and include the following comments for your consideration and attention. Transportation Services would like the following comment to be removed: "It was noted that if the City of Guelph is interested in installing illumination at their cost, a cost-sharing agreement could be explored." In follow-up consultation with MTO project staff, an illumination study was provided, and City of Guelph staff agree that illumination is not warranted. Environmental planning staff have included some considerations for the report, enclosed separately as Highway 6 Midblock Interchange_07.10.2022.pdf. Sincerely, **Jennifer Juste,** Manager Transportation Planning Engineering and Transportation Services, **Infrastructure Design and Enterprise Services** Location: City Hall T **519-822-1260 x 2791** E **Jennifer.juste@guelph.ca**	note that an illumination study was provided, and the City of Guelph staff agree that illumination is not warranted. To meet the Endangered Species Act (ESA) requirements, a compensation habitat site was selected to meet the size and location requirements of the ESA as described in O. Reg. 242/08 Section 23.6, paragraph 6 and 7. The compensation site is located within the same or adjacent ecoregion as the area impacted The Grand River Conservation Authority has been engaged throughout the preliminary design and detail design phases of the Highways 6 and 401 Improvements. 1. Noted. To the extent feasible, affected areas shall be re-seeded and re-vegetated and restored to pre-disturbance conditions, using native species appropriate for the community type disturbed. 2. Noted. To avoid the spread of invasive species, Dufferin Construction shall follow the environmental specifications listed in the design package, including NSSP Invasive Species Prevention and SP No. ENVR0011 Invasive and Noxious Vegetation Spraying, Invasive and Noxious Vegetation Cutting. 3. Noted; however, no tree removals are taking place within the City of Guelph limits, therefore no Tree Protection Plan was required for these works. Vegetation beyond the limits of work shall be retained and protected, using erosion and sediment control measures and/or tree protection fence (installed at or beyond the dripline of trees). Where vegetation removal is required, it will be kept within the limits of work. To the extent feasible, affected areas shall be re-seeded and re-vegetated and restored to pre-disturbance conditions, using native species appropriate for the community type disturbed. 4. Thank you for providing the design plans and mapping for the wildlife culverts and funnel fencing located on Maltby Road. The culverts and fencing are located outside the limits of the MTO's Remaining Works study area; therefore, will not be included under the scope of this project. Thank you again for your feedback on DCR #1 for the Highway 6 / Hanlon Expressway Midblock Interchange Design-Build, Class Environmental Assessment Study. The Project Team appreciates the City of Guelph's comments and will consider them as we move into the next phase of the work. Sincerely, Christine G. *(Sent on behalf of the Highway 6/Hanlon Expressway - Midblock Interchange Project Team)*

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					C Terry Gayman, Gwen Zhang, Steve Anderson Environmental planning staff reviewed the document titled Design and Construction Report #1 Highway 6/Hanlon Expressway Midblock Interchange – Early Works prepared by WSP, dated September 2022. Guelph's municipal boundary does not overlap with the Early Works area illustrated on Figure 2: Limits of the Early Works. The following comments are offered on the abovementioned document: 1. Section 5.1.2.2 Breeding Birds notes that an agreement was entered into with the Upper Thames Conservation Authority to create 4 ha of habitat for grassland birds. The Study Area is in the Grand River Watershed. Was Grand River Conservation Authority engaged in this project? Ideally, replacement habitat would be provided within the same watershed. 2. Plans should note that only native seed mixes and planting stock should be used to revegetate disturbed or exposed soils. 3. Plans should outline methods to direct treatment of highly invasive plant species, such as Common Reed, Common Buckthorn and Glossy Buckthorn, if encountered during construction. 4. Consideration should be given to completing a Tree Inventory and Preservation Plan to document tree removals and tree-related impacts. Consideration should also be given to completing a Vegetation Compensation Plan to provide compensation for lost tree canopy and direct restoration of areas impacted during construction. The following recommendations should be considered in the detail design of Remaining Works: 5. Implementation of the Highway 6/Hanlon Expressway Midblock Interchange project, which includes the closure of the Maltby Road/Highway 6 intersection, will change traffic patterns on Maltby Road and Crawley Road within Guelph's municipal boundary. In 2014, the City of Guelph installed four wildlife culverts on Maltby Road to facilitate wildlife movement. The funnel fencing associated with the existing wildlife tunnels requires replacement. Funnel fencing should be replaced, and tunnels should be cleaned out prior to the construction of Remaining Works. This work is	**Contact Us:** ProjectTeam@Highway6Midblock.ca. *You are receiving this notification because you are on the project contact list. To unsubscribe, please contact the Project Team at ProjectTeam@Highway6Midblock.ca.*

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					necessary to prevent impacts to local reptile and amphibian populations. Approximate locations of the wildlife tunnels are illustrated on the map below. Detail design drawings are attached for reference.	
CT41	October 20, 2022	To: projectteam@highway6midblock.ca	From: "Capelle, Pauline (MNRF)" <Pauline.Capelle@ontario.ca> Cc: "Denyes, David (MNRF)" <David.Denyes@ontario.ca>	RE: Highway 6 / Hanlon Expressway Midblock Interchange Design-Build, Class EA Study - Notice of Completion (DCR #1)	Hello, Please find attached MNRF comments on this notice. Feel free to reach out to me with any questions. All the best, Pauline Pauline Capelle (she/her), Regional Planner Land Use Planning and Strategic Issues Section | Southern Region Ministry of Natural Resources and Forestry Pauline.Capelle@Ontario.ca | 705-761-5633 **<u>Attachment:</u>** October 20, 2022 Dear Peter Bamforth, **SUBJECT: Highway 6 / Hanlon Expressway Midblock Interchange (G.W.P. 3059-20-00) Detail Design, Class Environmental Assessment Study and Construction** **Notice of Completion** The Ministry of Natural Resources and Forestry (MNRF) has had an opportunity to review the first Design and Construction Report (DCR #1) that was referenced in the Notice of Completion received on September 21, 2022. Our understanding is that this report is the first of two DCR reports issued to fulfill the requirements of a Group 'A' project under the MTO Class Environmental Assessment for Provincial Transportation Facilities (2000). We have also reviewed the supporting Fish and Fish Habitat and Terrestrial Ecosystems Existing Conditions and Impact Assessment Reports. We offer the following comments at this time based on our mandated interest in natural heritage and permitting under the *Fish and Wildlife Conservation Act*. **<u>High Level Comments</u>**	Good morning Pauline, We appreciate the Ministry of Natural Resources and Forestry (MNRF) taking the time to review and provide comments on the Design and Construction Report #1 (DCR #1) for the Highway 6 / Hanlon Expressway Midblock Interchange Design-Build, Class Environmental Assessment Study. The comments have been circulated to the Project Team for review and consideration. Please see below for responses to your questions: Design and Construction Report #1: The Provincially Significant Wetland (PSW) mapping layers have been delineated on the removal and new construction design drawings as Environmentally Sensitive Areas (ESA). Noted. Any applications for a licence issued under the Fish and Wildlife Conservation Act will be sent to the Guelph Scientific Collectors Permit email account, as required. Design and Construction Report #2: Noted. The Project Team will consider incorporating designs to maintain groundwater upwellings and fish passage for Brook Trout. Noted. Maintaining habitat connectivity through designs and landscape treatments that enhance linkages to forests, wetland and natural habitats are important for the preservation of local wildlife. Specific culvert design and placements will be considered to mitigate these potential risks, where feasible. Noted. Thank you for the information. The appropriate mitigation and avoidance measures will be applied during the preparation of the Remaining Works design and Design and Construction Report #2. Thank you again for your feedback on DCR #1 for the Highway 6 / Hanlon Expressway Midblock Interchange Design-Build, Class Environmental Assessment Study. The Project Team appreciates MNRF's comments and will consider them as we move into the next phase of the work. Sincerely, Christine G. (Sent on behalf of the Highway 6/Hanlon Expressway - Midblock Interchange Project Team) Christine Green, she / her Environmental Planner Environmental Planning, Earth & Environment

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					The proposed Early and Remaining Works for the Highway 6 / Hanlon Expressway Midblock Interchange intersect the Natural Heritage System for the Growth Plan, Mill Creek Puslinch Provincially Significant Wetland (PSW), Significant Wildlife Habitat and fish habitat. Our comments are based on the following policy in A Place to Grow: Growth Plan for the Greater Golden Horseshoe (2020): 3.2.5 Infrastructure Corridors 1. In planning for the development, optimization, or expansion of existing and *planned corridors* and supporting facilities, the province, other public agencies and upper-and single-tier municipalities will: d) where applicable, demonstrate through an environmental assessment, that any impacts on *key natural heritage features* in the *Natural Heritage System for the Growth Plan*, *key hydrologic features* and *key hydrologic areas* have been avoided or, if avoidance is not possible, minimized and to the extent feasible mitigated **<u>Specific Technical Comments on the Reports</u>** <u>Design and Construction Report #1</u> Section 5.1.2.1 Designated Natural Areas (page 39) lists Mill Creek Puslinch PSW as within the Early Works limits and discusses boundary delineation of any impacted PSW as a mitigation measure. MNRF supports having an Ontario Wetland Evaluation System (OWES) qualified professional delineate the wetland boundaries in the field. Any proposed changes to wetland boundaries should be submitted to David Denyes, Management Biologist (<u>David.denyes@ontario.ca</u>) at the local MNRF office for review/approval. Section 5.1.2.4 Significant Wildlife Habitat (page 43) references that a Wildlife Scientific Collector's License may be required. Any applications for a licence issued under the *Fish and Wildlife Conservation Act* (e.g., Licence to Collect Fish for Scientific Purposes, Wildlife Collector's Authorization) can be sent to the Guelph Scientific	

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					Collectors Permit email account at scp.guelph@ontario.ca *Please note that we are also providing comments on the field investigation reports below to inform the Remaining Works (DCR #2).* Fish and Fish Habitat Existing Conditions and Impact Assessment Report Table 4: Design Considerations (page 13). MNRF is supportive of incorporating designs to maintain groundwater upwellings for Brook Trout spawning into water crossings. MNRF spawning records and the results of the report suggest the presence of groundwater upwellings within the vicinity of several of these crossings. MNRF encourages the considerations of designs maintain fish passage. Terrestrial Ecosystems Existing Conditions and Impact Assessment Report Section 4.3 Wildlife and Wildlife Passage (page 57). MNRF supports incorporating designs and landscape treatments to enhance wildlife linkages to larger forests, wetlands, and other natural habitats within the broader landscape, wherever feasible. Section 5 Impact Assessment, Mitigation Measures and Future Commitments (page 65). This section discusses the installation of a stormwater management pond in the area southwest of Highway 6 and Wellington Road 34 (P028). This area supports several known natural heritage features that have been noted in this report (White-tailed Deer Wintering Area-Stratum 2, Mill Creek Puslinch Provincially Significant Wetland Complex). Our records also identify Brook and Brown Trout spawning areas within the adjacent watercourse at this location. Any alternative options and impact assessments should take into consideration the sensitivity of these features and likelihood of groundwater contribution in this area. MNRF records of Brook Trout Spawning Areas and the presence of suitable spawning habitat, groundwater upwellings and watercress noted at	

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					stations 401-6-25 and 401-6-31 highlight the sensitivity of this area. It will be important to avoid/ mitigate where possible any thermal impacts or impacts from sedimentation on the adjacent watercourse when completing the detailed designs of this stormwater management pond. Thank you very much for the opportunity to comment. If you have any questions or concerns, please feel free to contact me. Best Regards, *Pauline Capelle* *Regional Planner* *Ministry of Natural Resources and Forestry (705) 761-5633* *pauline.capelle@ontario.ca*	
CT42	October 25, 2022	Khuskivadze, Olga (MTO) <Olga.Khuskivadze@ontario.ca>	[redacted]	Highway 6 / Hanlon DCR #1 Comments	Hi Thank you for the information, but there is a lot of information missing in the report. 1. No mention of the artesian/aquifer monitoring well on the corner of 34 and 6 that was struck and overflowed and had to be capped and removed. 2. Hanlon approach to the Cloverleaf during the previous construction artesian/aquifer struck road disappeared et. Our well ceased flowing etc. 3. Cloverleaf to be constructed right on the Paris/Galt moraine that supplies water to the surrounding area- wells (subdivision) ours, springs to the cold-water creek, wetlands, trees etc. 4. There is fractured bedrock, fin, sink holes {Cloverleaf} in the area. Where is this information? 5. Heritage Lake property artesian/aquifer struck flowed for 15 days, could not cap the well so 2 wells had to be drilled to cap the first one. 6. Where is this information? 7. Cloverleaf on our walk about a few years back, C.Organ, J. Corcaron, S. Mkay it was pointed out regarding the rail fence that divides the two fields, was to be removed, stones, trees, brush etc. land to be levelled and added back to our	Hello [redacted] We appreciate your review of the Design and Construction Report #1 (DCR #1) for the Highway 6 / Hanlon Expressway Midblock Interchange Design-Build, Class Environmental Assessment Study. The Project Team would like to clarify that the Midblock Interchange is being constructed in a phased approach (referred to as the “Early Works” and the “Remaining Works”). This split is being undertaken to clear and commence the construction of the Midblock Bridge and Interchange (i.e., the Early Works), prior to the commencement of construction along Wellington Road 34, Concession Road 7 and Maltby Road West (i.e., the Remaining Works). Therefore, 2 Design and Construction Reports (DCRs) will be produced for this project. The Design and Construction Report #1, which you reviewed, only captures information related to the Early Works. The next Design and Construction Report (DCR #2) will capture information on the Remaining Works, including most of your requests for information below. Please see below for responses to your questions: **Wells & Groundwater (Questions #1-6)** The Project Team is aware of the monitoring well that was impacted during construction of the residential community on Wellington Road 34. The corner of Wellington Road 34 and Highway 6 / Hanlon Expressway will be captured under the Remaining Works and Design and Construction Report #2. All excavations for the Midblock Connection Road underpass foundations, cuts and ramps associated with the Early Works will be maintained above the regional groundwater level at the site.

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					property. Rail fencing delivered to the house. Where is this information? 8. How is MTO going to access to construct the Cloverleaf. Is it going to be from the Hanlon? 9. Consult with public. There should be a public meeting for people to a tend to be shown what MTO is doing. A website is not good enough. This is a major construction project in the area, bridge, Cloverleaf, new roads to access the Hanlon, Guelph etc., roads going everyway and which way. You have to see big maps to show what is going on and have it explained. 10. No mention of the deer yard. 11. Drainage- ultimately discharge into adjacent watercourse. Explain. 12. Cloverleaf will have stop lights so are we further ahead to what we have now. Just more damage done to the properties. 13. No mention regarding the traffic when there is an accident on 401 that lasts for hours. 14. Ct20 Rogers no response, want a copy of there response ~3rd party relocation - explain. 15. Ct23 so Enbridge will relocate the gasline where it is now and go across Con. 7 when widened. Explain. 16. No mention of fibre optics. 17. Aecom want to have a meeting with them to discuss the tree replanting — with the removal of the trees there will no wind blow down in the bush. We have only to look at what has happened in the bush regarding the Westerly winds, salt, slurry etc., that has killed the trees. The other side Lot 22 Con 3 is fine. 18. Aecom to discuss the berms want more information. 19. Aecom why infiltration ponds, have never seen them on cloverleafs to be discussed 2020. 20. How much land has mto taken from original easement Hydro Towers onto our property? I want you to show me. 21. Noise is not addressed. 22. Have in the future to have to look at the bridge on 34 - we were to have a discussion about this but it never happened.	WSP undertook private well surveys at properties within the vicinity of the Early Works. The survey is used to identify properties with water supply wells that are in close proximity to the work areas and to gather information about the wells. The information is then used to determine if the project may have any effect on private well water systems in the area. The survey was voluntary, and included questions regarding water well location, depth and water levels, locations of septic systems or fuel storage, water well quality, etc. In addition to the survey, WSP collected manual water levels at the existing monitoring wells on site and also deployed dataloggers in four of the monitoring wells. To minimize the potential for groundwater impacts, mitigation measures have been recommended for implementation by the contractor: Construction Specification for Temporary Erosion and Sediment Control Measures; Equipment Refueling, Maintenance and Washing, General Specification for the Management of Excess Materials, Environmental Incident Management – Requirements for contaminant, notification, and cleanup. The design and construction for the Wellington Road 34 bridge and associated embankments and culverts will be further detailed in our next stage of design early in 2023 (Remaining Works). However, we are aware of and familiar with the soil, bedrock and groundwater conditions in the wetland surrounding the Wellington Road 34 area based on numerous test holes (both boreholes and test pits or excavations) that have already been advanced within the project limits. This includes the presence of softer peat/organic soils at surface and artesian groundwater conditions, which can contribute to the conditions that you have noted. We are developing our approach to minimize excavation below the embankments in area, depth and duration. **7.** Please bring this matter to your lawyer for discussion with MTO's Property Representatives. **8.** To access the Midblock Interchange construction zone, the contractors will either enter from the Highway 6 / Hanlon Expressway and/or along the New Connector Road which will be constructed for the interchange. **9.** An Online Public Information Centre 1 (PIC 1) for the Highway 6 and 401 Improvements from Hamilton North Limits to Guelph South Limits ran virtually from February 24 to March 10 2021. The PIC materials can be viewed on AECOM's project website at: www.highways6and401hamiltontoguelph.ca/public-information-centre-1/. A second PIC for Phase 2 - Highway 6 / Hanlon Expressway Midblock Interchange Project ran virtually from December 6 to December 12, 2021, with an extended comment period through to December 19, 2021. The PIC #2 materials can be viewed at: www.highways6and401hamiltontoguelph.ca/public-information-centre-phase2/. Consultation with stakeholders and members of the public has taken place throughout the Early Works portion of this project. Stakeholders

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						and members of the public were notified of the Study Update on April 25, 2022, as well as the Notice of Completion for the Design and Construction Report #1 on September 21, 2022. Stakeholders and members of the public have been encouraged to visit the Project Website to view project details and have been encouraged to submit comments to the Project Team via email, telephone, mail, or website comment form at any time. All comments are tracked in a consultation tracking log and circulated to the broader Project Team for review and consideration. **10.** The deer wintering area was fully documented under the '*Terrestrial Ecosystem Existing Conditions and Impact Assessment Report*' for the project, which can be viewed online at www.highways6and401hamiltontoguelph.ca/wp-content/uploads/2021/11/Terrestrial-IA_Report-only_Part5.pdf. This information will be fully documented under Design and Construction Report #2 for the Remaining Works. The deer wintering yard does not fall within the limits of impact for the Early Works. **11.** Drainage will be treated on site via grassed swales, rock check dams and infiltration basins within the proposed interchange ramps, prior to discharge. **12.** Traffic signals will be installed at the ramp terminals on Midblock Connection Road. Traffic lights are used for traffic control and safety for vehicles travelling on and off the Highway 6 / Hanlon Expressway ramps. Highway 6 will now be free flowing. **13.** Our Project Team has considered the increase of traffic during accidents on Highway 401 and surrounding roads. The traffic may divert and will be accommodated within the construction staging plans. **14.** The utility companies will determine their relocation plans, details of which will be included under Design and Construction Report #2 for the Remaining Works. You will receive a Notice of Completion once the report is ready for review and comment. **15.** On Concession Road 7, Enbridge is relocating their line to the east side, adjacent to the right-of-way. **16.** There are no fibre optics within the limits of the Early Works. Utility relocation plans will be included under Design and Construction Report #2 for the Remaining Works. **17.** During the construction of the Early Works, vegetation removal will be kept within the limits of work. Temporarily disturbed areas will be restored as soon as possible following construction and fencing will be using to protect trees and vegetation, where feasible. **18.** Permanent berms will be constructed reusing soils that are excavated from elsewhere on the project site. The soils will be tested for various environmental parameters to confirm that they are environmentally suitable to remain on site, and then the soil will be placed and compacted in layers with the side slopes formed at appropriate angles to allow vegetation (grasses) to be planted to minimize erosion on the slope

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						faces. The berms will not negatively affect surface water drainage patterns. **19.** As industry standards are being updated, Stormwater Infiltration Basins are now the typical infiltration facilities being used in Ministry of Transportation interchange designs. **20.** Please bring this matter to your lawyer for discussion with MTO's Property Representatives. **21.** Noise was addressed in DCR#1 under Section 5.2.2. Also, a Noise Impact Assessment was completed by AECOM and can be accessed on their project website at: www.highways6and401hamiltontoguelph.ca/wp-content/uploads/2021/12/Traffic-Noise-Report.pdf. **22.** At the site meeting on August 16 2022, we discussed deferring this matter until after construction.
CT43	Nov. 9, 2022	Township of Puslinch Council Presentation	**From:** Bamforth, Peter <Peter.Bamforth@wsp.com>	H6 Hanlon Township of Puslinch Follow Up	Following the presentation to the Township of Puslinch, these are the questions raised that require responses: 1) The use of laird Road as an alternative to Maltby Road during the nighttime closures. 2) Provisions for the control of noise and vibration during construction 3) Process for advance notice of closures including local residents 4) Advance notice to traffic on H401. For MTO response & continued discussion with the Township: 1) VMS messages 2) Access to lands adjacent to connection road when developed 3) Potential to leave southbound access from Concession 4 to Highway 6	Good afternoon Glenn & happy new year. We wanted to reach out and thank you for the opportunity to present to the Township of Puslinch Council last year on the Highway 6 / Hanlon Expressway Midblock Interchange Design-Build, Class Environmental Assessment Study. Several questions arose at the council presentation and the Project Team has provided responses and clarifications below: 1. The use of Laird Road as an alternative detour route is not an ideal option when compared to Maltby Road. Southbound traffic would be diverted off Highway 6 at Laird Road and proceed east to Clair Road, in which it would turn south along Gordon Street (becoming Brock Road) to County Road 34. Northbound traffic would take a similar route. As Laird Road travels through a residential area, and the closures are limited to nighttime hours, it may create more of a disruption to the residential community. MTO's policy is to direct traffic along the shortest "suitable" route back to the highway, which is the Maltby Road option. 2. Construction noise impacts are temporary in nature, and largely unavoidable. In addition, the timing of construction activities is such that they will vary by activity and location within the limits of the Early Works as construction progresses. Therefore, noise levels from construction activities will vary. It is not anticipated that noise sensitive areas would be exposed to constant construction noise. The Noise Impact Assessment was completed by AECOM and can be accessed on their project website at: www.highways6and401hamiltontoguelph.ca/wp-content/uploads/2021/12/Traffic-Noise-Report.pdf. To minimize the potential for construction noise impacts, the following mitigation measures are to be implemented during construction: • Equipment shall be maintained in an operating condition that prevents unnecessary noise, including, but not

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						limited to non-defective muffler systems, properly secured components, and the lubrication of moving parts. • Duration of construction equipment idling is to be restricted to the minimum time necessary to complete the specified task. • MTO and MTO agents are not subject to municipal By-laws and are therefore not required to obtain exemption permits from the Township of Puslinch and/or County of Wellington (By Law No. 5001-05). However, MTO recognizes the impact noise can have on a community, and all reasonable attempts will be made to work within local noise By-laws. Where this is not feasible, MTO will work within the spirit of the local By-law and continue to provide clear and consistent communication with the municipality. • Any complaints received regarding construction noise will be investigated according to the provisions of MTO's Environmental Guide for Noise (2022). 3. A Notice of Construction will be circulated within a radius of the contract limits, prior to construction. The Notice will include contact information for the Contract Administrator. Notification will also be provided to the local Councillors within the project area. Road closure notification signage will also be placed 1 to 2 weeks in advance of any road closures to inform the travelling public. 4. Advance notification signage will be posted along Highway 401 prior to any road closures to inform the travelling public. Please let us know if you have any further questions. Thank you, Christine
CT44	Nov. 15, 2022	To: Glenn Schwendinger <gschwendinger@puslinch.ca> Cc: Bamforth, Peter <Peter.Bamforth@wsp.com>; Mach, Minh <Minh.Mach@wsp.com>; Karki, Suvash <Suvash.Karki@wsp.com>	From: Green, Christine <Christine.Green@wsp.com>	Hwy 6 / Hanlon Expressway Midblock Interchange Design-Build & Class EA - Puslinch 635.06-7526 review comments (MTO 2021-3004)	Good afternoon Glenn, This email is regarding the Highway 6/Hanlon Expressway Midblock Interchange Project. Please see the email below from Hydro One regarding a request for additional access to their towers on Concession Road 7. Can the Township of Puslinch please review the email below and the attached Utility Composite Plan and provide comment on the request as soon as possible? Thank you,	**Subject:** RE: Hwy 6 / Hanlon Expressway Midblock Interchange Design-Build & Class EA - Puslinch 635.06-7526 review comments (MTO 2021-3004) Can I ask that you please have someone contact Mike Fowler, our Director of Public Works, Parks, and Facilities and go over this with him. I ma just heading out of the office and will be back on Nov 28th. Glenn Schwendinger --- **From:** Mike Fowler <mfowler@puslinch.ca> **Sent:** November 16, 2022 10:28 AM **To:** Green, Christine <Christine.Green@wsp.com>

Ref. #	Date	To	From	Subject	Comment	Response
					Christine Green, she / her Environmental Planner Environmental Planning, Earth & Environment ***Attachment:*** **From:** ZHAO Joan <Joan.Zhao@HydroOne.com> **Sent:** October 27, 2022 2:31 PM **To:** Mach, Minh <Minh.Mach@wsp.com>; Mitchell, Terence (MTO) <Terence.Mitchell@ontario.ca> **Cc:** REYNOLDS Robert <Robert.Reynolds@HydroOne.com>; VEERASINGAM Lavan <Lavan.Veerasingam@hydroone.com>; MATEV Matey <Matey.MATEV@HydroOne.com> **Subject:** RE: Puslinch 635.06-7526 review comments (MTO 2021-3004) Hi Minh, I have got the feedback. Please find the attached updated drawing showing 5 accesses. Each access would need to have at least 6m wide. As you can see from the attached, (in red text box) is inserted for access for south side of tower. The balanced 3 are for north side of tower. In addition, to answer your question of HONI POC for construction, you might as well use my name and contact info. On a related note, the drawing needs an update, as Brent Currie has moved to other position, no longer handling SLU stuff. A friendly reminder…forward us light stand design when ready for HONI final review/signoff. Thanks, **Joan Zhao** SR/WA Sr. Real Estate Coordinator Facilities & Real Estate Hydro One Networks Inc. C: (416) 573-7987||F: (905) 946-6242 P.O. Box 4300 | Markham ON | L3R 5Z5 Courier: 185 Clegg Road | Markham ON | L6G 1B7 *joan.zhao@hydroone.com* ---	**Subject:** RE: Hwy 6 / Hanlon Expressway Midblock Interchange Design-Build & Class EA - Puslinch 635.06-7526 review comments (MTO 2021-3004) Hi Christine, After review, The Township has no comments or concerns with the requests or Utility plan provided. Please let me know if more information is required? Thanks. Mike Fowler Director of Public Works, Parks and Facilities Township of Puslinch 7404 Wellington Rd 34, Puslinch ON N0B 2J0 PUSLINCH P: 519-763-1226 ext. 220 Fax 519-736-5846 www.puslinch.ca

Ref. #	Date	To	From	Subject	Comment	Response
					From: Green, Christine **Sent:** November 15, 2022 3:19 PM **To:** 'Mike Fowler' <mfowler@puslinch.ca> **Cc:** Bamforth, Peter <Peter.Bamforth@wsp.com>; Mach, Minh <Minh.Mach@wsp.com>; Karki, Suvash <Suvash.Karki@wsp.com>; 'Glenn Schwendinger' <gschwendinger@puslinch.ca>; Mitchell, Terence (MTO) <Terence.Mitchell@ontario.ca>; Khuskivadze, Olga (MTO) <olga.khuskivadze@ontario.ca>; Jewell, Sarah (MTO) <Sarah.Jewell@ontario.ca> **Subject:** FW: Hwy 6 / Hanlon Expressway Midblock Interchange Design-Build & Class EA - Puslinch 635.06-7526 review comments (MTO 2021-3004) Good afternoon Mike, Please see Hydro One's email (highlighted below) regarding a request for additional access to their towers on Concession Road 7. Can the Township of Puslinch please review the attached Utility Composite Plan and provide comment on the request as soon as possible? Please let us know if you require any further information or if you'd like to discuss over the phone. Thank you, Christine Green, she / her Environmental Planner Environmental Planning, Earth & Environment	

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Comments Received During Remaining Works Detail Design						
CT45	Jan. 9, 2023	projectteam@highway6midblock.ca	[redacted]	Web Contact	Name (First, Last): [redacted] Email: [redacted] Comment or Message: Looking forward to project updates Would you like to receive project updates? Yes, by email	Good afternoon, Your contact information has been added to the project contact list. You will receive updates related to the Project via email. Thank you Christine G. *(Sent on behalf of the Project Team*
CT46	Jan. 4, 2023	Wellington County	C.Green (WSP)	Highway 6 / Hanlon Expressway Midblock Interchange Design-Build and Class EA (G.W.P. 3059-20-00) - Wellington County Meeting Request	[redacted] Good morning Don & happy new year, The Project Team for the Hanlon Expressway Midblock Interchange Design-Build and Class EA (G.W.P. 3059-20-00) would like to meet with Wellington County to discuss the design (i.e. geometry & lighting) for the future roundabout at Wellington County Road 34 and Concession Road 7. Are you available on the afternoon of **Tuesday, January 10th** for a virtual meeting to discuss? If this date does not work for your schedule, please provide an alternative date & time. In addition, if you could please provide a list of Wellington County staff that should join this discussion, I will ensure they receive the meeting invite. Thank you, Christine	A meeting between Wellington County, WSP, Dufferin Construction, MTO and Triton Engineering was held on January 16, 2023 from 2-3pm. During the meeting WSP presented their Roundabout Design for Wellington Road 34 and Concession Road 7. Following the meeting, WSP provided the presentation and CAD files of the current roundabout design to Wellington County and Triton Engineering for review and comment. Wellington County confirmed they would review and provide comments and questions.

Ref. #	Date	To	From	Subject	Comment	Response
	Jan. 20, 2023	Wellington County & Triton Engineering	WSP		[redacted] Subject: T0092 - Hwy 6 Hanlon - Minutes for Meeting with Wellington County on Jan 16th, 2023 Good day, Please find the submission for the above-referenced. Highway 6 / Hanlon Expressway Midblock Interchange, Design-Build Project Link Attached Document List 2021-3004 Hwy6 Midblock-Wellington County Minutes- Jan 16, 2023.pdf H6-CountyPresentation-Roundabout-001-A.pdf H6D-HWY-SKE-DWG-017 Roundabout Design.dwg Mammoet - Turning Movement Encroach onto Roundabout outside C&G.pdf	F[redacted] **Subject:** RE: T0092 - Hwy 6 Hanlon - Minutes for Meeting with Wellington County on Jan 16th, 2023 Following are our peer review comments on the proposed roundabout design: **Pedestrian Accommodation** – No Pedestrian crosswalks are proposed. It is County policy and best practice to provide for pedestrian crossings at all roundabouts. The design should provide pedestrian crossings on all legs. The minimum required splitter island width at the crosswalk is 2.4m. Tactile plates are required at all pedestrian crossing points. **Splitter Island Lane Width -** 4.2 m lane width proposed at the start of the islands. Recommend this be increased to **5.0m** to accommodate farm vehicles and tracking of the Mammoet vehicle. **Splitter island Length** – 30m proposed. WSP identified that the curbed splitter islands were shortened from the preliminary design "to be consistent with existing roundabout in the area" I assume they are referencing the roundabouts on WR46 in Aberfoyle. The splitter islands varied in length on that project, with the short ones generally being because of entrance conflicts. The proposed 30m long splitters are sufficient in this location provided that the pedestrian crossings can be accommodated in this length. . **Entry width** – 5.5 to 5.6 m proposed. Recommend this be increased to **6.0m** to accommodate farm vehicles and tracking of the Mammoet vehicle. **Exit Width** – 5.5m to 7.6m proposed. Acceptable. **Circulatory Roadway Width** – 6.0m proposed. Recommend this be increased to **6.5m** as has been used on other single lane County roundabouts. This will also better accommodate farm vehicles and tracking of the Mammoet vehicle. **Inscribed Circle Diameter** – 46m proposed. Acceptable. **Truck Apron** – 3.5m proposed. Recommend this be increased to **4.5m – 5.0m** for large vehicle tracking. **Shoulder Width** – 2.5m proposed. Acceptable. **Illumination** – No concerns with the proposed illumination design. **Geometrics** – No further concerns with the overall geometrics, subject to the revisions identified above. The NE approach on WR34 has a vertical curve of K-4 at the roundabout. This is abrupt, but as noted, it is in a low speed area on the approach and is illuminated. To provide a flatter K value, the roundabout would likely have to be re-graded to not be sloped uniformly out at 2.0%. This has been done at some locations due to grading constraints, but the downside is that some drainage is directed

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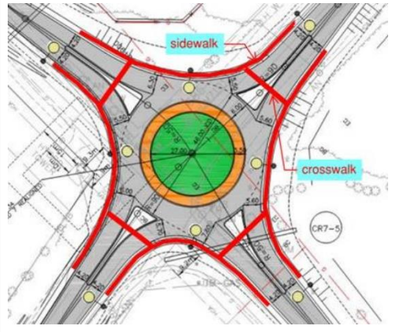
					Mammoet - Turning Movement Encroach onto Roundabout Splitter C&G + Landscape Area.pdf Comments For Wellington County Review Best Regards, Suvash Karki Engineer P.Eng	towards the centre island, necessitating catchbasins. On balance, we consider the proposed vertical alignment to be acceptable. **Truck Turns** – the turning template for the large Mammoet truck will require it to encroach on the outside curb and shoulder. The width adjustments suggested above may be sufficient to avoid this. Revised turning templates to be provided to address the encroachments. **Signing** – A signing plan was not provided. It was asked if the County had any specific signing requirements. We have attached the signing plan from the Teviotdale roundabout as a sample. We trust that this meets your current requirements, and please contact me with any questions. Howard Wray, P. Eng. Triton Engineering Services Limited 229 Broadway, Unit 1 Orangeville, ON L9W 1K4 Tel (519) 941-0330 ext 223 • Fax (519) 941-1830 • www.tritoneng.on.ca
	March 7, 2023	Wellington County	C.Green (WSP)		Good morning, Our Design Team is seeking clarification on the pedestrian accommodation comment referenced below. Can Wellington County please clarify if concrete sidewalks are required in the roundabout design, or if gravel shoulders are acceptable? If concrete sidewalks are required, where should the sidewalk terminate? For example, should it start from the splitter island to the start of the other splitter island? See screenshot below for reference.  	Christine, We have put concrete behind the curbs, but in this situation (and other rurals), I think that asphalt would be sufficient. A concrete pad should be provided at the crossings only, for the tactile plates. Please reach out if there are further questions. Regards Joe de Koning, P.Eng. Manager of Roads County of Wellington

Ref. #	Date	To	From	Subject	Comment	Response
	March 15, 2023	Wellington County & Triton Engineering	C.Green (WSP)		Good afternoon, The Hwy 6 / Hanlon Expressway Midblock Interchange Project Team has prepared the attached Comment and Response Table to address Wellington County & Triton Engineering comments on the Roundabout Design. Please see attached. Thank you, Christine Green Environmental Planner She / Her **Attachment: WSP Responses to the Wellington County Comment/Concerns from February 14, 2023:** 1. As requested, crosswalks and tactile plates will be provided. Per guidance provided by Wellington County, concrete or asphalt will be used behind the curb. This will be like the extent provided on WR34 and WR35. Concrete pads will be utilized for the Tactile Walking Surface Indicator (TWSI) as required. 2. The 4.2m lane accommodates a WB-20 design vehicle per the MTO RFP. We will review whether increasing it to 5.0m is feasible in regard to the impact on utility and ROW. 3. Noted 4. The 5.5m to 5.6m proposed entry width accommodates a WB-20 design vehicle per the MTO RFP. Increasing the entry width will change the fastest paths and increase the entry speed which is not desirable. Also, 6.0m is wide enough for two vehicles entering the roundabout side by side, which may result in driver confusion and a safety issue. Although the swept path of the Mammoet vehicle was modelled this was a representation at most as the software used is not refined enough to represent the rear wheel steering which permit much tighter turns. Mammoet have confirmed that they are content with the geometry of the roundabout in passing through this intersection. However, we will review the opportunity to reduce the splitter island width at the entry and replace with pavement marking per example	Peter, To answer the question about sidewalk. The sidewalk should connect to each crosswalk. The sidewalk is not required to extend to the end of the splitter islands. I hope this provides the required clarification. Regards, Joe de Koning, P.Eng. Manager of Roads County of Wellington [redacted]

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					shown below, without compromising on the crosswalk requirement. 5. Noted. 6. Increasing the circulatory roadway width will change the fastest paths and reduce vehicle entry deflection resulting in higher speed within the roundabout. The request will increase the inscribe circle diameter resulting in a larger roundabout. This is not feasible due to the hydro tower/transmission lines and property constraints. Please see note above re Mammoet vehicle. The 6.0m circulatory roadway width will be maintained. 7. Noted. 8. The request will increase the inscribe circle diameter resulting in a larger roundabout. This is not feasible due to the hydro tower/transmission lines and property constraints. The 3.5m truck apron width will be maintained. 9. Concrete or asphalt will be used behind the curbs (as noted in item 1). Any additional shoulder width will be gravel. 10. Noted. 11. Noted. **12.** An updated turning template for the Mammoet truck will be provided once the design been update per response to Item #4 above. Please note that this will be indicative only as the turning rear wheels cannot be modelled. **13.** The roundabout signage will be based on the provided example at Teviotdale Roundabout.	
	April 13, 2023	**To:** Joe de Koning <joedk@wellington.ca>	Triton Engineering	RE: Mid-Block	**Sent:** Thursday, April 13, 2023 10:47 AM **To:** Joe de Koning <joedk@wellington.ca> **Cc:** Howard Wray <hwray@tritoneng.on.ca> **Subject:** RE: Mid-Block Hi Joe, I think the attached are the latest comments and responses (I apologize as I'm not sure if I've been tagged in all discussions related to this project, but I haven't seen other comments since). We have no further comments on the noted concerns or WSP's responses. Their lane and entry	**From:** Joe de Koning <joedk@wellington.ca> **Sent:** April 13, 2023 10:50 AM **To:** Bamforth, Peter <Peter.Bamforth@wsp.com> **Subject:** FW: Mid-Block Peter, Per the attached from Triton, I believe we are satisfied with the design. Regards, Joe de Koning, P.Eng. Manager of Roads County of Wellington

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					widths are within an acceptable range and we understand they are constrained by property. Regards, Taylor Kramp, P. Eng.	[redacted]
CT47	Feb. 28, 2023	To: Lilia.SchootUiterkamp@dfo-mpo.gc.ca Cc: Kelly.Jansen@ontario.ca; Khuskivadze, Olga (MTO) <olga.khuskivadze@ontario.ca>; Green, Christine <Christine.Green@wsp.com>; Bamforth, Peter <Peter.Bamforth@wsp.com>; Stettler, Alex <Alexander.Stettler@wsp.com>	R. LeCraw <Robin.LeCraw@wsp.com>	21-HCAA-00889 Hwy 6 Hanlon LOA - update to culvert works	**From:** LeCraw, Robin <Robin.LeCraw@wsp.com> **Sent:** February 28, 2023 11:49 AM **To:** Lilia.SchootUiterkamp@dfo-mpo.gc.ca **Cc:** Kelly.Jansen@ontario.ca; Khuskivadze, Olga (MTO) <olga.khuskivadze@ontario.ca>; Green, Christine <Christine.Green@wsp.com>; Bamforth, Peter <Peter.Bamforth@wsp.com>; Stettler, Alex <Alexander.Stettler@wsp.com> **Subject:** 21-HCAA-00889 Hwy 6 Hanlon LOA - update to culvert works Hello Lilia, WSP is carrying out the Design-Build stage of the Highway 6 / Hanlon Expressway Midblock Interchange in Wellington County. We have received correspondence from AECOM, from the preliminary design stage including the Letter of Advice (LOA) issued by DFO for replacement of 7 culverts within the project area. The LOA is attached to this email for reference. I am writing to update DFO on minor design changes to the two culverts on a tributary to McCrimmon's Creek at Concession Road 7, and request confirmation that the attached LOA is still valid for the works. The location is two branches of a tributary, classified as permanent, coldwater direct fish habitat, with silt/muck substrate flowing through wetland (cattail) vegetation at the crossing location. The preliminary design proposed culvert replacements were to remove the existing culverts, and replace them with 22 m long open-bottom culverts. The new proposed culverts will be slightly longer than previously addressed in the LOA: 24.92 m and 29.7 m. New proposed design drawings are attached, and see all dimensions below. **Existing** / **Accepted** / **Proposed**	*See response below.*

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		in LOA	New Design			
Culvert	**Length (m)**	**Width (mm)**	**Length (m)**	**Width (mm)**	**Length (m)**	**Width (mm)**
CR7-1	12.15	1000	22.0	1800	24.92	1800
CR7-2	12.15	450	22.0	1200	29.70	1200

The reasons for the design changes are:

1. The previous design did not provide sufficient overburden, therefore the profile of the road was raised resulting in a longer culvert length
2. The alignment of CR7-2 was altered to skew the culvert to better line up with the existing tributary channel, and reduce the need for realignments and sharp bends in channel tie-ins.

The culverts will be constructed with open bottom culverts, and natural channel design to maintain groundwater connectivity and restore fish habitat in the tributary daylighted from the removal of the existing culverts. All other conditions and mitigation measures specified in the LOA will be adhered to. Can you please confirm if these updated works can be carried out under the existing LOA?

Regarding the permitted in-water work timing window, we have a copy of correspondence from AECOM requesting clarification on the dates when work is permitted in the LOA versus dates that were provided by MNRF (copy of email correspondence attached).

The timing window provided by MNRF at the start of the design process was July 1st to September 30th. These were the dates known to the design team, and the design and staging plan was created with these in mind. However, the LOA states a permitted timing window of July 16th to September 30th. Can DFO please confirm if the timing window of July 1st to September 30th can be applied to this project?

Ref. #	Date	To	From	Subject	Comment	Response
					Thank you Robin LeCraw Senior Ecologist Ph.D. She/Her [redacted]	
	March 21, 2023	To: Lilia.SchootUiterkamp@dfo-mpo.gc.ca Cc: Kelly.Jansen@ontario.ca; Khuskivadze, Olga (MTO) <olga.khuskivadze@ontario.ca>; Green, Christine <Christine.Green@wsp.com>; Bamforth, Peter <Peter.Bamforth@wsp.com>; Stettler, Alex <Alexander.Stettler@wsp.com>	R. LeCraw <Robin.LeCraw@wsp.com>		**From:** LeCraw, Robin <Robin.LeCraw@wsp.com> **Sent:** March 21, 2023 10:32 AM **To:** Lilia.SchootUiterkamp@dfo-mpo.gc.ca; 'FisheriesProtection@dfo-mpo.gc.ca' <FisheriesProtection@dfo-mpo.gc.ca> **Cc:** Kelly.Jansen@ontario.ca; Khuskivadze, Olga (MTO) <olga.khuskivadze@ontario.ca>; Green, Christine <Christine.Green@wsp.com>; Bamforth, Peter <Peter.Bamforth@wsp.com>; Stettler, Alex <Alexander.Stettler@wsp.com>; Mach, Minh <Minh.Mach@wsp.com> **Subject:** RE: 21-HCAA-00889 Hwy 6 Hanlon LOA - update to culvert works Hi Lilia, I am just following up on the email below, and want to confirm that it was received and directed to the correct person. I am also including the general Fisheries Protection inbox just in case this needs to be redirected. Just in case the attachment sizes prevented delivery, I have left off the attachments this time, but please let me know if they need to be re-sent. Thank you very much, Robin	**From:** Coletti, Lucas <Lucas.Coletti@dfo-mpo.gc.ca> **Sent:** Tuesday, March 21, 2023 11:56 AM **To:** LeCraw, Robin <Robin.LeCraw@wsp.com> **Subject:** RE: 21-HCAA-00889 Hwy 6 Hanlon LOA - update to culvert works Hi Robin, Lilia is no longer with the program. Would you mind resending the attachments to either myself or the general inbox? You can do multiple emails or a drop box if you are worried about the emails bouncing back (limit is about 15MBs for attachments) Thanks, **Lucas Coletti** **Biologist | Biologiste** Fisheries and Oceans Canada| Pêches et Océans Canada Fish and Fish Habitat Protection Program | Programme de Protection du Poisson et de Son Habitat Email/Courriel: Lucas.Coletti@dfo-mpo.gc.ca
	March 21, 2023	To: Coletti, Lucas <Lucas.Coletti@dfo-mpo.gc.ca> Cc: Green, Christine <Christine.Green@wsp.com>; Bamforth, Peter <Peter.Bamforth@wsp.com>; Mach, Minh <Minh.Mach@wsp.com>	R. LeCraw <Robin.LeCraw@wsp.com>		From: LeCraw, Robin <Robin.LeCraw@wsp.com> Sent: March 21, 2023 12:06 PM To: Coletti, Lucas <Lucas.Coletti@dfo-mpo.gc.ca> Cc: Green, Christine <Christine.Green@wsp.com>; Bamforth, Peter <Peter.Bamforth@wsp.com>; Mach, Minh <Minh.Mach@wsp.com> Subject: RE: 21-HCAA-00889 Hwy 6 Hanlon LOA - update to culvert works Hi Lucas,	**From:** Coletti, Lucas <Lucas.Coletti@dfo-mpo.gc.ca> **Sent:** Wednesday, March 22, 2023 3:21 PM **To:** LeCraw, Robin <Robin.LeCraw@wsp.com> **Cc:** Green, Christine <Christine.Green@wsp.com>; Bamforth, Peter <Peter.Bamforth@wsp.com>; Mach, Minh <Minh.Mach@wsp.com> **Subject:** RE: 21-HCAA-00889 Hwy 6 Hanlon LOA - update to culvert works Hi Robin, Thank you for notifying DFO about changes in project timing and procedure. After reviewing the updated plans, DFO has no concern with

Ref. #	Date	To	From	Subject	Comment	Response
					Thanks so much for the quick response. I was afraid of that when we realized we hadn't heard anything back from her. I've attached the whole original email including the attachments – I thought it might be easier to keep it together this way. I think I'm *just* under 15 MB, so let me know if there are any issues. Thanks again, Robin Robin LeCraw, *she/her* Senior Ecologist, Ph.D	the project changes as long as all mitigation measures and recommendations made by DFO are followed and implemented. Please accept this email as confirmation of the project and date changes. With regards to the timing window, DFO will allow works to follow the MNRF provided timing window of July 1 – September 30. An amended Letter of Advice is not required. Please notify DFO again, referencing the DFO File number, if project details change. Thank you, **Lucas Coletti** **Biologist | Biologiste** Fisheries and Oceans Canada| Pêches et Océans Canada Fish and Fish Habitat Protection Program | Programme de Protection du Poisson et de Son Habitat 867 Lakeshore Road, Burlington, ON, L7S 1A1 | 867, ch. Lakeshore, Burlington, ON, L7S 1A1 Email/Courriel: Lucas.Coletti@dfo-mpo.gc.ca
CT48	March 6, 2023	To: Glenn Schwendinger <gschwendinger@puslinch.ca>; Mike Fowler <mfowler@puslinch.ca>; donk@wellington.ca; Joe de Koning <joedk@wellington.ca> Cc: d.currie@mcintoshperry.com; Jeff Hayward <j.hayward@mcintoshperry.com>; Bamforth, Peter <Peter.Bamforth@wsp.com>; Karki, Suvash <Suvash.Karki@wsp.com>; Mach, Minh <Minh.Mach@wsp.com>; Jackson, Geoff (CRH Canada Group Inc.) <g.jackson@ca.crh.com>; Mitchell, Terence (MTO) <Terence.Mitchell@ontario.ca>; Khuskivadze, Olga (MTO) <olga.khuskivadze@ontario.ca>;	C.Green (WSP)	Hwy 6 / Hanlon Expressway Midblock Interchange DB & Class EA - Hydro One Distribution Corridor Conc. Rd 7	From: Green, Christine Sent: March 6, 2023 2:18 PM To: Glenn Schwendinger <gschwendinger@puslinch.ca>; Mike Fowler <mfowler@puslinch.ca>; donk@wellington.ca; Joe de Koning <joedk@wellington.ca> Cc: d.currie@mcintoshperry.com; Jeff Hayward <j.hayward@mcintoshperry.com>; Bamforth, Peter <Peter.Bamforth@wsp.com>; Karki, Suvash <Suvash.Karki@wsp.com>; Mach, Minh <Minh.Mach@wsp.com>; Jackson, Geoff (CRH Canada Group Inc.) <g.jackson@ca.crh.com>; Mitchell, Terence (MTO) <Terence.Mitchell@ontario.ca>; Khuskivadze, Olga (MTO) <olga.khuskivadze@ontario.ca>; Kelly.Jansen@ontario.ca; Jewell, Sarah (MTO) <Sarah.Jewell@ontario.ca> Subject: Hwy 6 / Hanlon Expressway Midblock Interchange DB & Class EA - Hydro One Distribution Corridor Conc. Rd 7 Good afternoon, this email is in regard to the utility work for the Highway 6 / Hanlon Expressway Midblock Interchange Design-Build & Class Environmental Assessment (G.W.P. 3059-20-00).	**From:** Philippe Campbell <philippec@wellington.ca> **Sent:** March 15, 2023 2:51 PM **To:** Green, Christine <Christine.Green@wsp.com> **Subject:** RE: Hwy 6 / Hanlon Expressway Midblock Interchange DB & Class EA - Hydro One Distribution Corridor Conc. Rd 7 Hey Christine, We just want to contact you regarding ROPs on County roads. Contractors still have to apply for an ROP to work on our ROW. Because this is an MTO project we will waive any fees or deposits. We noticed that HydroOne was started clearing some trees along WR 34 and they would need and ROP if they would like to continue the work. They can apply at this link Road Occupancy Permit - County of Wellington If you have any questions please let me know. Thanks, Philippe Campbell Engineer Technologist | T 519.837.2601 x 2770 | E philippec@wellington.ca County of Wellington | Engineering Services 74 Woolwich Street | Guelph, ON | N1H 2S7

Ref. #	Date	To	From	Subject	Comment	Response
		Kelly.Jansen@ontario.ca; Jewell, Sarah (MTO) <Sarah.Jewell@ontario.ca>			Please see the attached plan for informational purposes. The plan identifies the proposed Hydro One Distribution Corridor and required clearing for the works. Please contact Hydro One directly for discussions or questions regarding conditions and/or permitting (i.e., Encroachment Permits, etc.). Thank you, Christine Green Environmental Planner She / Her	
		Wellington County	P. Bamforth (WSP)		From: Bamforth, Peter <Peter.Bamforth@wsp.com> Sent: March 15, 2023 3:30 PM To: philippec@wellington.ca Cc: Green, Christine <Christine.Green@wsp.com> Subject: RE: Hwy 6 / Hanlon Expressway Midblock Interchange DB & Class EA - Hydro One Distribution Corridor Conc. Rd 7 Phillippe The clearing work is being undertaken by Dufferin as part of the MTO contact (ie directly contracted to MTO). Is it correct that this would not need the ROP? When Honi start their work I assume they would need to apply. Peter Bamforth P.Eng, Manager of Engineering Senior Project Manager Transportation – Alternative Delivery	Hey Peter, We will still want an ROP from the contractors working on our roads within this contact to ensure that they are following our ROP policies and have valid COI. We do have an ROP from Duffin, but it wasn't filled out properly and I asked them to re-submit a new one which I am still waiting on. Thanks, Philippe Campbell Engineering Technologist 519.837.2601x2770 County of Wellington Engineering Services Guelph
	March 15, 2023	Wellington County	P. Bamforth (WSP)		Thanks for the clarification. It looks like the action now is for Dufferin to correctly fill in the ROP application. I will remind them to do this. Peter Bamforth P.Eng, Manager of Engineering Senior Project Manager Transportation – Alternative Delivery	*No further response required.*

Ref. #	Date	To	From	Subject	Comment	Response
CT49	March 6, 2023	WSP/Dufferin Construction	[redacted]	Lumber Request	On March 6, 2023, myself and Gary Bothelho (DCC Foreman) met up with [redacted] at property reference [redacted] and discussed providing him all lumber that was cleared on his former property. [redacted] requested anything 4" diameter and above to be provided to him and said leaving the limbs on the trees was acceptable. We discussed a spot on his property to place the lumber. Our subcontractor Beaverbrook is currently providing him lumber and should be completed by Friday.	n/a
CT50	March 21, 2023	Wellington County and Township of Puslinch	C.Green (WSP)	Highway 6 / Hanlon Expressway Midblock Interchange Design-Build and Class EA (G.W.P. 3059-20-00) - Illumination Meeting Request	**From:** Green, Christine **Sent:** March 21, 2023 3:58 PM **To:** donk@wellington.ca; Joe de Koning <joedk@wellington.ca>; gschwendinger@puslinch.ca; Mike Fowler <mfowler@puslinch.ca> **Cc:** Bamforth, Peter <Peter.Bamforth@wsp.com>; Karki, Suvash <Suvash.Karki@wsp.com>; Mach, Minh <Minh.Mach@wsp.com>; Avaness, Vacheh <Vacheh.Avaness@wsp.com>; Jackson, Geoff (CRH Canada Group Inc.) <g.jackson@ca.crh.com> **Subject:** Highway 6 / Hanlon Expressway Midblock Interchange Design-Build and Class EA (G.W.P. 3059-20-00) - Illumination Meeting Request Good afternoon, The Project Team for the Hanlon Expressway Midblock Interchange Design-Build and Class Environmental Assessment (G.W.P. 3059-20-00) would like to meet with Wellington County and the Township of Puslinch to discuss the project illumination design. Are you available next week for a virtual meeting to discuss? Our team is available in the afternoons on Monday, Tuesday or Wednesday next week. In addition, if you could please provide a list of staff that should join this discussion, I will ensure they receive the meeting invite. Thank you, Christine	*On April 13, 2023, the Project Team met via Microsoft Teams with Wellington County and the Township of Puslinch to discuss the illumination design.*

Ref. #	Date	To	From	Subject	Comment	Response
CT51	Jan. 29, 2023	projectteam@highway6midblock.ca	[redacted]	Web Contact	I am a resident of ward 6 on Downey Road in Guelph. Interested in keeping abreast of project updates and timelines. There's an excessive amount of traffic on Downey Road and I believe this project can potentially curb volume for this residential sector.	Good afternoon, Your contact information has been added to the project contact list. You will receive updates related to the Project via email. Thank you Christine G. *(Sent on behalf of the Project Team)*
CT52	March 20, 2023	projectteam@highway6midblock.ca	[redacted]	Web Contact	I would like to receive updates via email.	Good afternoon [redacted], Your contact information has been added to the project contact list. You will receive updates related to the Project via email. The next project milestone will be the publishing of Design and Construction Report #2 (DCR #2) for public review and comment. DCR #1 can be viewed on our project website at: https://highway6midblock.ca/reports/ Thank you, Christine G. *(Sent on behalf of the Project Team)*
CT53	March 22, 2023	projectteam@highway6midblock.ca	[redacted]	Web Contact	Hi, First, I had a simple question. What is the plan for all of the trees that have been cut down? Any plan to chip them? If so, can I take a load or two off your hands? I'm very close to the project site. Secondly, I live at [redacted] and work at [redacted]. My current route to work is as follows: I understand that the closure of Concession Road 4 scope is within the "Remaining Works" portion of the work. I'm just curious as to a rough schedule for the remaining works. Following the schedule for the early works with Environmental Clearance being done in fall/winter of 2022, and construction starting in January 2023, will the same happen with the remaining works? Environmental Clearance in Fall of 2023 as per the posted schedule, and then construction starting in January 2024 (if there are no issues)? I assume the early works was done to funnel traffic away from the Hanlon/Wellington Road 34 intersection to allow that scope to proceed uninterrupted. Is the plan to construct the roundabout first at Wellington Road 34/Concession Road 7 to handle the flow of traffic that will then come from the reconstruction of Concession Road	**From:** Green, Christine <Christine.Green@wsp.com> **Sent:** Thursday, March 23, 2023 4:47 PM **To:** [redacted] **Cc:** ProjectTeam@Highway6midblock.ca **Subject:** RE: Highway 6 Mid Block - Rough Schedule Good afternoon [redacted], I just wanted to let you know that we've received your inquiry regarding the Highway 6/Hanlon Expressway Midblock Interchange Project (see below). I have forwarded your request for woodchips along to Dufferin Construction and Beaver Brook Forestry. We will be in contact with further information, once it's received. Regarding the Remaining Works schedule, we are working towards environmental clearance in Summer 2023, followed by construction. This schedule may change as we continue to work through our environmental field investigations and environmental assessment reporting. You are correct, once the Midblock Interchange is complete and open to traffic, the Hanlon Expressway/Wellington Road 34 intersection will be closed. The roundabout proposed for Wellington Road 34 and Concession Road 7, as well as the Concession Road 7 improvements will be constructed at the same time, after the interchange has been completed. All construction is anticipated to be completed in 2025. Your contact information is included on our project contact list. You will receive updates related to the Project via email. The next project milestone will be the publishing of Design and Construction Report #2

Ref. #	Date	To	From	Subject	Comment	Response
					7? How long is the remaining works expected to take (2 years)? Thanks, [redacted] [redacted] **Sent:** Thursday, March 23, 2023 5:03 PM [redacted] **Cc:** ProjectTeam@Highway6midblock.ca **Subject:** RE: Highway 6 Mid Block - Rough Schedule Thanks for all of the information Christine, greatly appreciate it! Michael	(DCR #2) for public review and comment. DCR #1 can be viewed on our project website at: https://highway6midblock.ca/reports/. Thank you, Christine G Environmental Planner She / Her
CT54	April 3, 2023	projectteam@highway6midblock.ca	[redacted]	Web Contact Form	Name (First, Last):[redacted] Email: [redacted] Address: [redacted] Comment or Message: I would like to receive project updates please Would you like to receive project updates? Yes, by email	Hello, Thank you for submitting a Web Form. Your information has been added to the Highway 6/Hanlon Expressway Midblock Interchange project contact list. You will receive notifications via email at key project milestones. Thank you, Christine G. *(Sent on behalf of the Project Team)*
CT55	April 3, 2023	projectteam@highway6midblock.ca	[redacted]	Web Contact Form	Name (First, Last): [redacted] Email: [redacted] Comment or Message: Hi! I'd like to be added to the project mailing list please. Would you like to receive project updates?: Yes, by email	Hello, Thank you for submitting a Web Form. Your information has been added to the Highway 6/Hanlon Expressway Midblock Interchange project contact list. You will receive notifications via email at key project milestones. Thank you, Christine G. *(Sent on behalf of the Project Team)*

Ref. #	Date	To	From	Subject	Comment	Response
CT56	April 17, 2023	J. Juste (Guelph)	C. Green (WSP)	Highway 6 / Hanlon Expressway Midblock Interchange Design-Build, Class EA Study	**From:** Green, Christine **Sent:** Monday, April 17, 2023 2:53 PM **To:** Jennifer.juste@guelph.ca **Cc:** Bamforth, Peter <Peter.Bamforth@wsp.com>; Karki, Suvash <Suvash.Karki@wsp.com> **Subject:** Highway 6 / Hanlon Expressway Midblock Interchange Design-Build, Class EA Study Good afternoon Jennifer, This email is regarding the Highway 6 / Hanlon Expressway Midblock Interchange Design-Build and Class Environmental Assessment Study. Our Design Team is currently working on the Remaining Works, which includes the following scope of work: • Removal of the signalized intersection on the Highway 6 / Hanlon Expressway at Wellington Road 34 and the addition of a new bridge over the Hanlon Expressway; • Reconstruction of Concession Road 7, between Wellington Road 34 and Maltby Road; • Closure of the Maltby Road / Concession Road 4 intersection; • A new roundabout at the Wellington Road 34 / Concession Road 7 intersection; • Installation of new overhead sign structures, traffic signals and partial illumination; and, • Emergency and maintenance vehicle turnarounds along the Hanlon Expressway. Can you please clarify if Maltby Road, between Brock Road/Gordon Street and Highway 6, falls under the City of Guelph jurisdiction? If so, are there any requirements or approvals needed by our Project Team to list Maltby Road as a detour route during two overnight closures of Highway 6? Thank you, **Christine Green** Environmental Planner *She / Her*	***Waiting on response***

APPENDIX C – WATER WELL SURVEY TEMPLATES

PRIVATE WATER WELL SURVEY
TEMPLATE

July 22, 2022

Confidential

Subject: Private Water Well Survey
Ministry of Transportation Highway 6 / Hanlon Expressway Midblock Interchange Project

Dear Resident / Property Owner:

The Ontario Ministry of Transportation (MTO) has awarded Phase 2 of the Highways 6 and 401 Improvements between Hamilton and Guelph (G.W.P. 3042-14-00) to Dufferin Construction and WSP Canada Inc. to complete the Class Environmental Assessment, Detail Design and Construction of a new interchange on Highway 6 (Hanlon Expressway) (the Project, G.W.P. 3059-20-00). The proposed work is anticipated to include the following:

- A new interchange on the Hanlon Expressway north of Wellington Road 34, including a new road to connect the new interchange to Concession Road 7 and to Wellington Road 34;
- Removal of the signalized intersection on the Hanlon Expressway at Wellington Road 34 and the addition of a new bridge over the Hanlon Expressway for Wellington Road 34 traffic;
- Reconstruction of Concession Road 7 between Wellington Road 34 and Maltby Road;
- Closure of the Maltby Road / Concession Road 4 intersection with the Hanlon Expressway;
- A new roundabout at the Wellington Road 34 and Concession Road 7 intersection;
- Installation of new overhead sign structures, traffic signals and partial illumination;
- Emergency and maintenance vehicle turnarounds along the Hanlon Expressway (one north of Maltby Road and one south of Wellington Road 34);
- Drainage improvements such as infiltration ponds for stormwater management; and
- Relocation of utilities.

582 Lancaster Street West
Kitchener, ON
Canada N2K 1M3
T: +1 519 743-8778

T: Wsp.com
wsp.com
WSP Ref. 211-04277

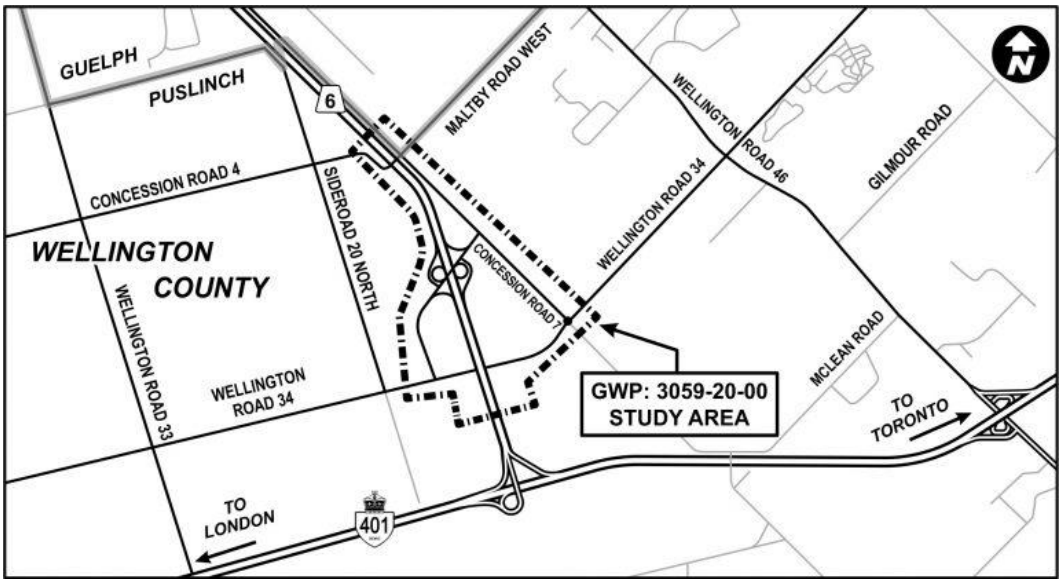

Figure A: Site Location

The site location is shown in **Figure A** above.

WSP is conducting a well water survey at properties in close proximity to the work area to identify properties with water supply wells and gather information about these water supply wells. This information will be used to determine if the project may have any effect on private well water systems.

If you have a water well, this survey is voluntary, however this survey will ensure that WSP and the MTO accurately document the current condition of your water well and well water supply and quality. The survey can be scheduled at a time convenient to you and is free of cost to you. Pending your permission, the survey will include the following aspects, and you are free to authorize or decline each of these aspects:

1) Asking you to provide basic facts about your water well (location, depth, and water level, if you know);
2) Inquiring about the locations of other features on your property which could affect groundwater quality (septic system, fuel storage, land uses)
3) Asking if you have a copy of the Ontario Ministry of the Environment, Conservation, and Parks water well record for your well;
4) Inquiring about your well water supply, including well yield and well water quality, currently and your historical recollections;

5) Conducting a property visit to observe the location and condition of the water well, and WSP field staff may ask to also measure the current well water level and well depth. In such case, WSP will be supported by a licensed water well driller to open and close your well, make sure your well is not damaged while taking measurements, shock (chlorinate) your well after taking measurements, and ensure the well is properly sealed after completing this work.

6) WSP field staff may also ask to / you may request for collection of an untreated well water sample for laboratory analysis, for a comprehensive list of water quality parameters, including microbiology, total metals and inorganic parameters, and volatile organic compounds. The water sample will be preferably collected from a tap which is upstream of any household water treatment, after letting the tap run for 10 minutes, to draw fresh well water.

7) In the event that WSP field staff collect a well water sample, you will be notified immediately of any adverse well water quality results as related to human health, as well as a full letter report with all observations, measurements, and results, once the full laboratory results are available.

   The information that is collected will be used to assess current conditions to better evaluate any potential impacts to the private wells during the construction of the proposed infrastructure. The information will be shared with the WSP environmental management team for the MTO Highway 6 / Hanlon Expressway Midblock Interchange Project and the Wellington-Dufferin-Guelph Public Health Department.

   Given the current constraints related to the COVID-19 pandemic, the surveys are being administered by scheduled appointment or over the phone, along with an arranged time when WSP field staff can visit the property to observe the well and collect the well water sample. The water samples will be collected from an outdoor tap, if possible. WSP may also reduce the scope of the survey in accordance to your preferences, if you are not comfortable with the process noted above.

To participate in the private well survey, please fill out and sign the private well survey included with this letter and mail the completed survey to WSP in the provided self-addressed stamped envelope, or please contact Carolina Lobocki or Fereshteh Ranjbar as follows:

Carolina Lobocki, B.Sc.
Environmental Scientist / Project Coordinator
WSP Canada Inc.
Carolina.Lobocki@wsp.com
(519) 904-1817

Fereshteh Ranjbar, M.Sc.
Environmental Scientist
WSP Canada Inc.
Fereshteh.Ranjbar@wsp.com
(548) 255-0098

If you do not wish to participate in the private well survey or monitoring program for this Project, we ask that you fill out and sign the **Form to Decline Well Survey** included with this letter and mail it to WSP in the provided self-addressed stamped envelope. Alternatively, you may contact Carolina Lobocki or Fereshteh Ranjbar as per the contact information provided. **If we do not hear from you after one month has passed, WSP will consider that you have declined the survey.**

For more information on well construction, maintenance, and water quality, please refer to the Well Aware Guide created by Green Communities Canada in partnership with the Ontario Groundwater Association. This guide can be found at: https://greencommunitiescanada.org/programs/well-aware/.

For further information, questions, comments or concerns regarding the Highway 6 / Hanlon Expressway Midblock Interchange Project, please contact Olga Khuskivadze (MTO) or Peter Bamforth (WSP):

Olga Khuskivadze, P. Eng.
MTO Project Engineer
Ministry of Transportation, West Region
olga.khuskivadze@ontario.ca

Peter Bamforth, P. Eng., CEng., MICE
Consultant Senior Project Manager
WSP
Peter.Bamforth@wsp.com

July 22, 2022

Declining to Participate in the Private Well Survey and Monitoring Program –

Highway 6 / Hanlon Expressway Midblock Interchange Project

Ministry of Transportation, (G.W.P. 3059-20-00)

We at _____(*insert property address*) do not wish to participate in the private well survey or monitoring program related to the Ministry of Transportation's Highway 6 / Hanlon Expressway Midblock Interchange Project.

Signature _____

Mail:	WSP Canada Inc.
	582 Lancaster Street West
	Kitchener, ON N2K 1M3
Attention:	Carolina Lobocki
Email:	Carolina.Lobocki@wsp.com
Phone:	519-904-1817

100 Commerce Valley Dr. West
Thornhill, Ontario L3T 0A1
Tel:(905) 882-1100
Fax:(905) 882-0055

ID #

WATER WELL SURVEY FORM

Project Number: _____
Project Name: _____
Field Personnel: _____ _____

Date of Visit: _____ Owner available? _____ Notification Letter Left? _____ (Y or N)
Follow-Up Visit: _____ _____
Follow-Up Visit: _____ _____

Personal Information

Interviewee Name(s): _____
Primary Phone #: _____
Secondary Phone #: _____
Interviewee is: (circle one) Owner or Tenant/Resident
Survey Results Notification Preference: ☐ Regular Mail ☐ Electronic (Email)
If electronic, provide email address: _____

(complete this section if interviewee is not property owner)
Owner Name(s): _____
Owner Phone #: _____
Has owner provided permission to conduct well survey?: Yes or No
(do not proceed unless owner permission is granted)

Property Information

Property Address: _____
Notification Mailing Address: _____
(☐ check if same as property address)

House age: _____ # of wells on property: _____
# of occupants: _____ # of wells in use: _____
Other water sources or natural features (e.g., cistern, pond, creek, etc.): _____
Septic system: _____
Fuel/chemical storage (e.g., heating oil tank, natural gas / propane tank, etc.): _____
Tile drains: _____

Property Use: (Check all that apply) ☐ Residential ☐ Agriculture ☐ Commercial/Industrial ☐ Government/Public ☐ Livestock ☐ Vacant Lot/Abandoned
Property Notes: _____

Well 1	Well 2
Water Usage and Quantity	
Well Use: (Check all that apply) ☐ Residential (Drinking) ☐ Residential (Non-Drinking) ☐ Livestock ☐ Irrigation ☐ Commercial/Industrial ☐ **Well Not in Use**	Well Use: (Check all that apply) ☐ Residential (Drinking) ☐ Residential (Non-Drinking) ☐ Livestock ☐ Irrigation ☐ Commercial/Industrial ☐ **Well Not in Use**
Has well ever run dry?: Satisfied with current water supply?:	Has well ever run dry?: Satisfied with current water supply?:
Comments on Water Supply Quantity: (e.g., loss of water, interference from other users, etc.)	Comments on Water Supply Quantity: (e.g., loss of water, interference from other users, etc.)
Can WSP Monitor the Well - ☐ YES ☐ NO	Can WSP Monitor the Well - ☐ YES ☐ NO
Water Quality	
Has your water well ever been tested for water quality?:	Has your water well ever been tested for water quality?:
Date of last test: Parameters tested: ☐ bacteria ☐ nitrate ☐ other:	Date of last test: Parameters tested: ☐ bacteria ☐ nitrate ☐ other:
Any problems Identified?:	Any problems Identified?:
Is well ever chlorinated, if so when and how often?:	Is well ever chlorinated, if so when and how often?:
Comments on Water Quality: (e.g., appearance (clear, cloudy), taste / odour (sulphurous), hardness, staining on fixtures (scale, rust), etc.)	Comments on Water Quality: (e.g., appearance (clear, cloudy), taste / odour (sulphurous), hardness, staining on fixtures (scale, rust), etc.)
Well Construction Details (based on interviewee's knowledge)	
Does owner have a copy of the Well Record?	Does owner have a copy of the Well Record?
if yes, MOE Well #: Date Constructed:	if yes, MOE Well #: Date Constructed:
Well type: ☐ Drilled ☐ Bored ☐ Dug ☐ Drive-Point ☐ Other:	Well type: ☐ Drilled ☐ Bored ☐ Dug ☐ Drive-Point ☐ Other:
Well completed into: ☐ Overburden ☐ Bedrock ☐ Unknown	Well completed into: ☐ Overburden ☐ Bedrock ☐ Unknown
Well depth: ☐ Known ☐ Estimated ☐ Unknown	Well depth: ☐ Known ☐ Estimated ☐ Unknown
Typical water level (range): ☐ Known ☐ Estimated ☐ Unknown	Typical water level (range): ☐ Known ☐ Estimated ☐ Unknown
Water Treatment, Pump, and Distribution System	
Treatment: ☐ Water Softener ☐ UV Filter ☐ Reverse Osmosis ☐ Iron Filter ☐ Activated Carbon ☐ Sediment Filter ☐ **No Treatment** ☐ Other:	Treatment: ☐ Water Softener ☐ UV Filter ☐ Reverse Osmosis ☐ Iron Filter ☐ Activated Carbon ☐ Sediment Filter ☐ **No Treatment** ☐ Other:
Treatment notes:	Treatment notes:
Pump type: ☐ Submersible ☐ Jet pump with one pipe (Shallow) ☐ Jet pump with two pipes (Deep) ☐ Piston ☐ Other:	Pump type: ☐ Submersible ☐ Jet pump with one pipe (Shallow) ☐ Jet pump with two pipes (Deep) ☐ Piston ☐ Other:
Pumping rate (gpm): Depth of intake:	Pumping rate (gpm): Depth of intake:
Pressure Tank capacity (gal / liter): or ☐ No Pressure Tank	Pressure Tank capacity (gal / liter): or ☐ No Pressure Tank
Field Measurements and Well Condition Survey **Do not attempt to access well if located in confined space, in precarious terrain, or other danger is present.**	
UTM - E: Zone: Datum:	GPS Coordinates Datum:
UTM - N: Elevation (m):	UTM - E: UTM - N: Elevation (m):
Stick-Up (m ags): Static Water Level (m btoc):	Stick-Up (m ags): Static Water Level (m btoc):
Well Diameter (m): Well Bottom (m btoc):	Well Diameter (m): Well Bottom (m btoc):
Photo Inventory (list jpg file names):	Photo Inventory (list jpg file names):
Condition of Well: ☐ Cracked/Damaged Casing or Cap ☐ No Well Cap/Cover ☐ Loose Cap/Bolts ☐ Not Vermin Proof ☐ Contamination Source Near Well ☐ Exposed Electrical ☐ Corrosion ☐ Poor Ground Drainage/Ponding ☐ Biofilm/Slime ☐ Mineral Scale/Incrustation ☐ Inaccessible	Condition of Well: ☐ Cracked/Damaged Casing or Cap ☐ No Well Cap/Cover ☐ Loose Cap/Bolts ☐ Not Vermin Proof ☐ Contamination Source Near Well ☐ Exposed Electrical ☐ Corrosion ☐ Poor Ground Drainage/Ponding ☐ Biofilm/Slime ☐ Mineral Scale/Incrustation ☐ Inaccessible
Notes on Well Condition:	Notes on Well Condition:
Interviewee informed of well condition: ☐ Yes ☐ No	Interviewee informed of well condition: ☐ Yes ☐ No
Water Sample **Remove aerator and disinfect tap. Purge cold water for at least 5 minutes. Continuously measure temperature, pH, and EC until stable, then sample. SAMPLE UPSTREAM OF WATER TREATMENT when possible.**	
Sample location:	Sample location:
Sample Type: ☐ Raw (Direct from Well) ☐ Pre-Treatment ☐ Post-Treatment	Sample Type: ☐ Raw (Direct from Well) ☐ Pre-Treatment ☐ Post-Treatment
Temp (°C): pH: EC (µS/cm): TDS (ppm):	Temp (°C): pH: EC (µS/cm): TDS (ppm):
Sample ID (as labeled on sample bottles):	Sample ID (as labeled on sample bottles):
Sample Notes:	Sample Notes:

100 Commerce Valley Dr. West
Thornhill, Ontario L3T 0A1
Tel:(905) 882-1100
Fax:(905) 882-0055

ID #

WATER WELL SURVEY FORM

Diagram (sketch locations of wells, roads, structures, surface water features, septic systems, fuel storage tanks, tile drains, and north direction)

measure or estimate distance of septic system and fuel storage tank(s) to well(s)

indicate north direction

Survey Notes

Water Quality Notification Record (to be completed after the initial well survey, upon receipt of adverse water quality results from laboratory)

Parameter	Concentration	Units	Notification Date	Communication Method	Name of Resident Contacted	WSP Staff Name	Conversation Notes

Terms of Use

The information recorded on this survey form by WSP Canada Group Limited (WSP) on behalf of their client, is used to identify water well users near a location of proposed or ongoing work, activities, or land uses that have the potential to affect groundwater quantity (levels) and quality. This information may assist to prevent or resolve potential water supply interruptions or quality concerns arising from the works.

Contact information, address, and well survey results may be shared with WSP project staff, the WSP client, and government agencies, including but not limited to municipalities, environmental regulatory authorities, or public health units.

Acknowledgement

The Undersigned acknowledges that the services (“Water Well Survey”) provided by WSP Canada Group Limited (WSP) on behalf of their client are not intended to replace conventional water well safeguards such as regular water quality testing and well/treatment system maintenance. Information provided by WSP to the Undersigned, or to any third party (including but not limited to information related to well condition, treatment system condition, or notification of water quality results) is not a guarantee of safe water quality.

Signature

The information on this form is correct and complete to the best of my knowledge and I understand that the information will be managed in accordance with the Terms of Use and Acknowledgment.

Interviewee Signature Date

WSP Representative Signature Date

APPENDIX D – ENVIRONMENTAL ASSESSMENT ACT, NOTICE OF APPROVAL TO PROCEED WITH THE UNDERTAKING

ENVIRONMENTAL ASSESSMENT ACT

SECTION 9

NOTICE OF APPROVAL TO PROCEED WITH THE UNDERTAKING

(AND ORDER UNDER SUBSECTION 12.4(3))

RE: An Environmental Assessment for Highway 6: Freelton Northerly 16.9 kilometres to Guelph

Proponent: Ministry of Transportation

EA File No.: TC-CE-02

TAKE NOTICE that the period for requiring a hearing, provided for in the Notice of Completion of the Review for the above-noted undertaking, expired on July 30, 2007. I received one request for a hearing before the expiration date. The public had been advised that the Minister was considering applying section 9 of the *Environmental Assessment Act* with respect to the Environmental Assessment (which has the effect of eliminating the acceptance decision which was necessary prior to January 1, 1997) and were invited to make submissions on that proposal. None did.

Pursuant to subsection 12.4(3) of the amended *Environmental Assessment Act*, I order that the provisions of section 9 (other than paragraph 9(2)2 and other than the reference to subsection 6.4(2) in paragraph 9(2)(5) and 9.3 apply with respect to the Environmental Assessment.

I do not consider it advisable or necessary to hold a hearing. Having considered the purpose of the Act, the Environmental Assessment, the Review and submissions received, I hereby give approval to proceed with the undertaking, subject to conditions set out below.

REASONS

My reasons for giving approval are:

(1) On the basis of the proponent's Environmental Assessment and the ministry Review, the proponent's conclusion that, on balance, the advantages of this undertaking outweigh its disadvantages appears to be valid.

(2) No other beneficial alternative method of implementing the undertaking was identified.

(3) Issues raised during the review of the Environmental Assessment have been resolved or are best addressed by conditions of approval.

(4) On the basis of the proponent's Environmental Assessment, the ministry Review and the conditions of approval, the construction, operation and maintenance of the undertaking will be consistent with the purpose of the *Environmental Assessment Act* (section 2).

(5) The Government Review Team has indicated no outstanding concerns that cannot be addressed through conditions of approval. The public review of the EA did not identify any outstanding concerns which cannot be addressed through conditions of approval.

(6) The submissions received after the Notice of Completion of the Review was published are being dealt with through conditions where appropriate. I am not aware of any outstanding issues with respect to this undertaking which suggest that a hearing should be required.

CONDITIONS

The approval is subject to the following conditions:

1. Definitions

For the purposes of these conditions:

"Director" means the Director of the Environmental Assessment and Approvals Branch.

"EAAB" means the Environmental Assessment and Approvals Branch of the Ministry of the Environment.

"Environmental Assessment (EA)" means the document entitled "Environmental Assessment for Highway 6, Freelton Northerly 16.9 km to Guelph", dated September 1995, the Addendum issued November 1997, and the document entitled Highway 6 North – Freelton to Guelph (W.P. 65-76-05): *Connection Road at Morriston, - Stakeholder Consultation Process (Technical Paper, May 2004).*

"MOE" means the Ministry of the Environment.

"Natural Heritage System" has the same meaning as in the Greenbelt Plan, 2005.

"program" means compliance monitoring program.

"proponent" means the Ontario Ministry of Transportation.

"Regional Director" means the Director of the MOE's West Central Regional Office.

2. General Requirements

2.1 The proponent shall comply with the provisions in the Environmental Assessment which are hereby incorporated in this approval by reference except as provided in these conditions and as provided in any other approval or permit that may be issued.

2.2 These conditions do not prevent more restrictive conditions being imposed under other statutes.

3. Public Record

3.1 Where a document is required for the public record, the proponent shall provide two copies of the document to the Director: a copy for filing within the specific public record file maintained for the undertaking and a copy for staff use.

3.2 The proponent shall provide additional copies of the documents described in Condition 3.1 to the:

a) Regional Director (as required); and

b) Clerk's offices of the City of Guelph, City of Hamilton, County of Wellington, and the Township of Puslinch.

3.3 The EAAB file number TC-CE-02 shall be quoted on the documents.

3.4 These documents may also be provided through other means as considered appropriate by the proponent.

4. Consultation During Detailed Design Phase

4.1 The proponent shall consult with Six Nations of the Grand River Territory during the detailed design phase, as outlined in its December 14, 2006 letter to Six Nations of the Grand River Territory Elected Council. The proponent shall also make reasonable efforts to develop a work plan in consultation with Six Nations of the Grand River Territory during the detailed design phase of the undertaking..

4.2 The proponent shall make reasonable efforts to consult with other Aboriginal communities that express an interest in participating in the detailed design phase.

4.3 In addition to other interested stakeholders the proponent considers appropriate, the proponent shall ensure the following ministries/agencies are consulted during the detailed design phase:

- The MOE's West Central Regional Office;
- Ministry of Natural Resources;
- Ministry of Agriculture and Rural Affairs;
- Ministry of Municipal Affairs and Housing;
- All affected utilities, including Hydro One;
- Grand River Conservation Authority;
- Morriston Tract Conservation Association;
- Fisheries and Oceans Canada;
- Environment Canada; and,
- Transport Canada.

5. Henslow's Sparrow

5.1 The proponent shall update and verify the Henslow's Sparrow habitat investigations documented in the Addendum issued November 1997 to confirm that the proposed highway right-of-way continues to have no potential impacts on the habitat for Henslow's Sparrow.

5.2 The proponent shall update the investigations described in Condition 5.1 by conducting additional investigations within appropriate time periods (i.e., during nesting and breeding season) during the detailed design phase. If the above investigation is undertaken within one year of construction, an additional investigation would not be required immediately prior to construction.

5.3 In the event that the investigations do demonstrate potential impacts, the proponent shall notify the Ministry of Natural Resources and Environment Canada and consider all direction provided by the Ministry of Natural Resources and Environment Canada.

6. Stormwater Management

Preparation of Conceptual Stormwater Management Plan:

6.1 During the detailed design phase of the undertaking, the proponent shall prepare a Conceptual Stormwater Management Plan.

Submission of Conceptual Stormwater Management Plan:

6.2 The proponent shall submit the Conceptual Stormwater Management Plan to the Regional Director for review at least nine months prior to tendering. The proponent shall consider all comments resulting from the MOE's review.

Requirements of Conceptual Stormwater Management Plan

6.3 The Conceptual Stormwater Management Plan shall, at a minimum, include the following:

a) Achieve the treatment levels for soluble pollutants required as per Ministry of Natural Resources and MOE policy and practice, using methods advocated by the MOE and Ministry of Transportation in their respective manuals on stormwater management;

b) An assessment of water quality controls where possible (i.e. sequenced and/or combined linear facilities) for the protection of sensitive receivers, in addition to grassed ditches for quality control purposes;

c) An assessment of the long term life, efficiency and effectiveness of any proposed infiltration basins;

d) An evaluation of the depth between the bottom of the stormwater facilities and the seasonally high water table;

e) A general assessment of the need for an overflow weir/channel for the stormwater management facilities. The proponent shall submit the details of

this assessment to EAAB technical staff for their review prior to submitting the Conceptual Stormwater Management Plan;

f) An assessment of the feasibility of wetland vegetative plantings within the roadside ditches/ponds;

g) A maintenance program for the stormwater management facilities;

h) An assessment of the potential measures to respond to accidental/spill releases; and,

i) An erosion and sedimentation control plan to protect sensitive receivers during construction.

6.4 In preparing the Conceptual Stormwater Management Plan the proponent shall consider the policies in section 4.2.3 of the Greenbelt Plan (2005), where applicable, to avoid, minimize and/or mitigate stormwater volume, contaminant loads and impacts to receiving water courses in order to:

- Maintain groundwater quality and flow and stream baseflow;
- Protect water quality;
- Minimize the disruption of pre-existing natural drainage patterns wherever possible;
- Prevent increases in stream channel erosion;
- Prevent any increase in flood risk; and
- Protect aquatic species and their habitat.

7. Hydrogeological Studies

Preparation of Hydrogeological Studies:

7.1 During the detailed design phase of the undertaking, the proponent shall conduct additional hydrogeological studies.

Submission of Hydrogeological Studies:

7.2 The proponent shall submit the hydrogeological studies described in Condition 7.3 to the Regional Director for review at least 150 days prior to tendering. The proponent shall consider all comments resulting from the MOE's review.

Hydrogeological Studies Required:

7.3 The proponent shall, at a minimum, prepare the following hydrogeological studies:

a) One hydrogeological cross-section along the entire length of the recommended route, and shorter cross-sections placed perpendicular to the recommended route at sensitive areas (e.g. recharge/discharge zones). The

cross-sections should show depth to bedrock, stratification within the overburden, water table and/or potentiometric surface, and referenced wells;

b) On the basis of a pre-construction well owner field survey, a map identifying the location of the wells within 300 metres (m) of the highway right of way will be prepared. Based on the owner survey and a review of the MOE Water Well Record database information wells should be categorized as overburden or bedrock wells, and the owners and status of the wells should be identified;

c) After having completed the studies described in Conditions 7.3 (a) and (b), the proponent shall assess the potential impact of road salt and other contaminants on the identified wells and identify possible mitigation measures that could be implemented in the event that those impacts occur;

d) A pre-construction survey of all potable water wells with 300 m of the highway right of way, to serve as a baseline for comparison to future monitoring data;

e) An assessment of seasonal variation of water level. Boreholes should be drilled at proposed stormwater management facilities to determine the site-specific stratigraphy to the bedrock. Alternative best management practices should be considered if a direct hydraulic connection to bedrock aquifer is identified upon drilling;

f) An explanation of the expected temporary and long-term implications of deep road cuts defined in this project as from 75 m north of Crieff Road northerly for 350 m and from 350 m south of Calfass Rd., northerly for 1 kilometre, to 250 m north of the Connection Road at Morriston on surface water and groundwater interaction;

g) A map identifying the location of the deep road cuts described in Condition 7.3(f);

h) An identification of mitigation options for the impacts of the deep road cuts described in Condition 7.3(f);

i) An assessment of the dewatering impacts of the preferred alternative;

j) Achieve the treatment levels for soluble pollutants required as per current Ministry of Natural Resources and MOE policy and practice, using methods advocated by the MOE and the Ministry of Transportation in their respective manuals on hydrogeology;

k) An assessment of the potential groundwater impacts on lands having existing development rights, and which are located adjacent to the highway project.

<u>Water Quality Monitoring Program:</u>

7.4 The proponent shall conduct a Water Quality Monitoring Program using wells established in or immediately adjacent to the highway construction zone. The Water Quality Monitoring Program shall use as baseline data the data obtained pursuant to Condition 7.3(d).

Provision of Missing Pages in the EA

7.5 The proponent shall provide Figures 5.2 and 5.3 in Appendix M of the EA to the West Central Regional Office along with the submission of the hydrogeological studies described in Condition 7.2.

8. Noise Assessment

Preparation of Noise Assessment

8.1 During the detailed design phase of the undertaking, the proponent shall reassess the noise impacts and the potential for mitigation at all noise sensitive locations along the recommended route which may be subject to increases in noise levels of greater than 5 decibels. The new report will follow the study methods and policy described in the new Environmental Guide for Noise, Ministry of Transportation, October 2006.

Submission of Noise Assessment

8.2 The proponent shall submit a report containing the results of the Noise Assessment to the Director for review and shall consider all comments resulting from the Director's review. The report shall be submitted at least 90 days prior to construction.

9. Conservation Halton

9.1 The proponent shall ensure that the limits of Conservation Halton's fill regulated areas are identified on all relevant design drawings.

9.2 During the detailed design phase of the undertaking, the proponent shall provide any additional details regarding runoff calculations and supporting documentation to Conservation Halton for review.

10. Compliance Monitoring Program

Purpose of Program:

10.1 The proponent shall prepare an EA compliance monitoring program. The program shall be prepared for the monitoring of the proponent's fulfilment of the provisions of the EA for mitigation measures, public consultation, and additional studies and work to be carried out, and of all other commitments made during the preparation of the EA and the subsequent review of the EA for mitigation measures, public consultation, and additional studies and work to be carried out.

Submission of Program:

10.2 The proponent shall submit the program to the Director for placement on the public record at least 60 days before the commencement of construction.

Requirements of Program:

10.3 The program must contain an implementation schedule.

10.4 A statement must accompany the program when submitted to the Director, indicating that the program is intended to fulfil this condition.

10.5 The proponent shall carry out the program, as reasonably amended by the Director.

10.6 The proponent shall make the program documentation available to the MOE or its designate upon request in a timely manner when so requested by the MOE during an on-site inspection, audit, or response to a pollution incident report or when information concerning compliance is requested by the MOE.

11. Compliance Reporting

11.1 The proponent shall prepare an annual compliance report which describes compliance with the conditions of approval set out in this notice and which describes the results of the proponent's program.

11.2 The proponent shall issue the first compliance report no later than one year following the commencement of the detailed design phase, and on the date that is the anniversary of this commencement thereafter, for which the compliance report shall cover the previous year to that date.

11.3 The proponent shall submit the annual compliance report to the Director for placement on the public record.

11.4 The proponent shall submit annual compliance reports until all conditions are satisfied.

11.5 When all conditions have been satisfied, the proponent shall indicate in the annual compliance report that this is its final submission.

11.6 The proponent shall retain either on site or in another location approved by the Director, copies of the annual compliance reports for each reporting year and any associated documentation of compliance monitoring activities.

11.7 The proponent shall make the documentation available to the MOE or its designate upon request in a timely manner when so requested by the MOE during an on-site inspection, audit, or in response to a pollution incident report or when information concerning compliance is requested by the MOE.

12. Greenbelt Lands

12.1 The proponent shall consider the policies in section 4.2.1 of the Greenbelt Plan (2005), where applicable, with respect to detailed design and construction activities, including:

- Construction practices shall minimize, wherever possible, the amount of Greenbelt lands, and particularly Natural Heritage Systems, traversed and/or occupied by infrastructure;
- Construction practices shall minimize, wherever possible, the negative impacts and disturbance of the existing landscape, including, but not limited to, impacts caused by light intrusion, noise and road salt; and
- Where the undertaking does cross a Natural Heritage System or intrude into or result in the loss of a key natural heritage feature or key hydrologic feature, including related landform features, construction practices shall minimize negative impacts and disturbance on the features or their related functions, and where reasonable, maintain or improve connectivity.

13. Agricultural Lands

13.1 For prime agricultural lands which are not permanently required for the undertaking, the proponent shall ensure that any work required for the undertaking is conducted according to appropriate construction standards so that the lands can be returned to productive agricultural uses.

13.2 The proponent shall construct the undertaking in such a way as to avoid disruptions to agricultural infrastructure such as field tiles, drainage ditches, culverts, and field entrances. Should such disruptions be unavoidable, the proponent shall minimize and repair the disruptions to the greatest extent possible.

Dated the 19th day of December 2008 at TORONTO.

Minister of the Environment
135 St. Clair Avenue West, 12th Floor
Toronto, Ontario
M4V 1P5

Approved by O.C. No. 13/2009

Date O.C. Approved Jan 22 2009