



Design and Construction Report (DCR)

Highway 401 Five Structure Replacements, Highbury Avenue Interchange Improvements, and Highway 401 Pavement Rehabilitation and Reconstruction Design Build Project 2022-3004 (G.W.P. 3032-11-00)

Design Build Class Environmental Assessment for
Provincial Transportation Facilities (2000), Group 'B' Project

Ontario Ministry of Transportation
West Region

Prepared for:

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January 2023

**HIGHWAY 401 FIVE STRUCTURE REPLACEMENTS, Highbury Avenue
Interchange Improvements, and Highway 401 Pavement
Rehabilitation and Reconstruction, City of London**

**Design Build Class Environmental Assessment (Group 'B')
Design Build Contract 2022-3004
G.W.P. 3032-11-00**

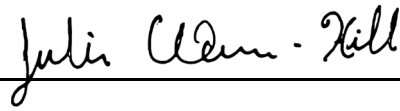
Design and Construction Report

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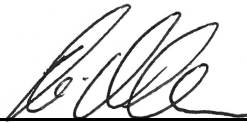
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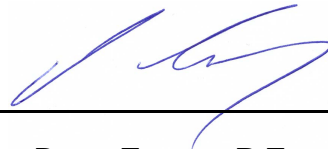
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Ontario Ministry of Transportation
Highway 401 Five Structure Replacements, Highbury Avenue
Interchange Improvements, and Highway 401 Pavement
Rehabilitation and Reconstruction

DESIGN AND CONSTRUCTION REPORT

Design Build Contract 2022-3004

G.W.P. 3032-11-00

A digital copy of this Design and Construction Report (DCR) is available for review on the project website: <http://www.hwy401highbury.ca> in the documentation section which also includes project contact information and an opportunity to provide comments.

The DCR documents the Design Build and associated environmental protection measures. **The DCR is available for a 30-day public comment period beginning January 24, 2023 and ending on February 24, 2023.** The document is available electronically on the Project Website: www.hwy401highbury.ca/documentation.html

Interested persons may provide written comments to the project team by February 24, 2023. Please visit our project website at www.hwy401highbury.ca to obtain additional information about the project or to provide comments. Comments can also be emailed to comments@hwy401highbury.ca.

All comments and concerns should be sent directly to the project team members listed below:

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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 requests on these matters should be addressed in writing to:



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

and Director, Environmental Assessment Branch
Ministry of Environment, Conservation and
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We are committed to ensuring that government information and services are accessible for all Ontarians. For communication supports or to request project information in an alternate format, please contact one of the preceding Study Team members. 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. Version française disponible en composant le 613 722-4420, (Angelo Renon).



DESIGN AND CONSTRUCTION REPORT

Highway 401 Five Structure Replacements, Highbury Avenue Interchange Improvements, and Highway 401 Pavement Rehabilitation and Reconstruction (G.W.P. 3032-11-00)

January 2023

Table of Contents

Executive Summary	i
1.0 Overview of the Undertaking	1
1.1 Background and Project Location.....	1
1.2 Purpose of the Design and Construction Report	2
1.2.1 Environmental Assessment Process	3
1.2.2 Notice of Completion – Design and Construction Report	4
2.0 Consultation Process.....	5
2.1 Mailing List.....	6
2.2 External Agencies and Municipalities	6
2.3 Indigenous Consultation	6
2.4 Utilities.....	7
2.5 Consultation with the Public	8
2.6 Project Website	8
3.0 Detailed Description of the Recommended Design.....	9
3.1 Major Features of the Proposed Work.....	9
3.1.1 Structural Improvements	9
3.1.2 Highway 401 Improvements	9
3.1.3 Highway 401/Highbury Avenue Interchange Improvements.....	10
3.2 Construction Staging and Traffic Management	10
3.2.1 Construction Staging	10
3.2.2 Anticipated Closures.....	12
4.0 Environmental Issues and Commitments	14
4.1 Natural Environment.....	14
4.1.1 Terrestrial Ecosystems	15
4.1.2 Fish and Fish Habitat.....	23
4.1.3 Erosion and Sediment Control.....	28
4.1.4 Drainage.....	31
4.1.5 Groundwater Resources.....	33
4.1.6 Landscape Plan.....	37
4.1.7 Management of Excess Materials.....	38
4.1.8 Property Contamination.....	38
4.1.9 Designated Substances and Waste Management.....	39
4.2 Cultural Environment	40
4.2.1 Heritage Resources.....	40
4.2.2 Archaeological Resources.....	40
4.3 Socio-economic Environment.....	41



DESIGN AND CONSTRUCTION REPORT

Highway 401 Five Structure Replacements, Highbury Avenue Interchange Improvements, and Highway 401 Pavement Rehabilitation and Reconstruction (G.W.P. 3032-11-00)

January 2023

4.3.1	Adjacent Land Use and Property Access	41
4.3.2	Consistency with Provincial Policy Statement	41
4.3.3	Air Quality	42
4.3.4	Construction Noise	42
4.3.5	Construction Vibration	42
4.4	Active Transportation, Traffic, and Emergency Services	43
4.5	Utilities	43
4.6	Climate Change	44
5.0	Summary of Environmental Effects, Mitigation and Commitments	45
6.0	Environmental Clearances, Approvals and Permits	57
7.0	Environmental Monitoring	57
7.1	Environmental Management Plan	57
7.2	Environmental Monitoring/Inspections	58
7.2.1	Project-Specific Technical Monitoring	58
7.2.2	Post-Construction	58
8.0	References	59

List of Figures

Figure 1: Study Area	2
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List of Tables

Table 1: Summary of Environmental Effects, Proposed Mitigation, and Commitments for Future Work	46
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List of Appendices

Appendix A: Notification Materials
Appendix B: Select Correspondence



DESIGN AND CONSTRUCTION REPORT

Highway 401 Five Structure Replacements, Highbury Avenue Interchange Improvements, and Highway 401 Pavement Rehabilitation and Reconstruction (G.W.P. 3032-11-00)

January 2023

Executive Summary

The Ontario Ministry of Transportation (MTO) has retained Stantec Consulting Ltd. (Stantec) and Dufferin Construction Company (Dufferin) to complete the Design-Build (DB) contract for the Class Environmental Assessment (EA), Detail Design and construction of five Highway 401 structure replacements, Highbury Avenue Interchange improvements, and Highway 401 pavement rehabilitation in the City of London. The project will improve access into the City of London and replace or rehabilitate critical infrastructure that is nearing the end of its service life.

The project limits extend from approximately 0.7 km east of Wellington Road South, easterly to approximately 0.6 km west of Old Victoria Road, and include Highbury Avenue from south of Bradley Avenue to Wilton Grove Road.

The Design and Construction Report (DCR) documents the detail design and has been completed in accordance with the MTO Class Environmental Assessment for Provincial Transportation Facilities (2000) (Class EA) approved processes for Group 'B' projects as classified at the time of project initiation.

In 2004, MTO completed the Class EA and Preliminary Design for improvements to Highway 401 from 1.0 km west of Highway 4 (Colonel Talbot Road) easterly to 1.0 km east of Highbury Avenue. The study identified improvements to Highway 401, including improvements to Highbury Avenue Interchange, and was documented in a Transportation Environmental Study Report (TESR). The TESR received environmental clearance in 2004. In 2012, MTO retained Dillon Consulting Limited (Dillon) to review and update the 2004 TESR-approved plan for improvements to the Highbury Avenue Interchange and document the changes in a TESR Addendum. The TESR Addendum was published in 2012 and received environmental clearance in 2013. Finally, to allow the project to progress to Design Build, Dillon was retained by MTO in 2021 to conduct a five-year review of the 2012 TESR Addendum. The TESR Review was documented in a memo completed in 2021 and found that an additional TESR Addendum was not required, as impacts to the TESR-approved plan are considered minor and not significant.

Additionally, MTO retained Dillon to complete the Class EA, Preliminary Design, and initial Detail Design for the replacement of the Tributary to Murray Drain Culvert, CNR Overhead Structure, and Pond Mills Road Overpass. The study was documented in a TESR that was published in 2017 (Dillon 2017).



DESIGN AND CONSTRUCTION REPORT

Highway 401 Five Structure Replacements, Highbury Avenue Interchange Improvements, and Highway 401 Pavement Rehabilitation and Reconstruction (G.W.P. 3032-11-00)

January 2023

The Preliminary Design activities formed the basis for proceeding to the DB stage of the project. DB merges two phases; Detail Design and construction into one contract. Dufferin has been retained as the Design-Builder.

The project includes the following components:

- Replacement of five structures:
 - CNR Overhead (Site 19X-0371/B0)
 - Pond Mills Road Overpass (Site 19X-0372/B0)
 - Highbury Avenue Underpass (Site 19X-0373/B0)
 - Tributary to Murray Drain Culvert (Site 19X-0650/C0)
 - Elliot-Laidlaw Drain Culvert (Site 19X-0651/C0)
- Improvements to the Highway 401 corridor, including:
 - Resurfacing/reconstruction of 5.5 km of Highway 401 from 675 m east of Wellington Road easterly to 630 m west of Old Victoria Road
 - Widening and grade raise of Highway 401 from the area of Pond Mills Overpass to the CNR Overhead to accommodate construction of the new Pond Mills Road Overpass and CNR Overhead
 - Addition of continuous speed change lanes between the Highbury Avenue westbound on-ramp and the Exeter Road westbound off-ramp, and between the Wellington Road eastbound on-ramp and the Highbury Avenue eastbound off-ramp
 - Replacement of the Highway 401 median barrier
 - Replacement of the Highway 401 median storm sewer between Wellington Road and Highbury Avenue
 - Construction of a storm water management facility along the south side of Highway 401 between Pond Mills Road and the London-Port Stanley Railway
 - Rehabilitation/replacement of five non-structural culverts crossing Highway 401
 - Installation of high mast lighting on Highway 401 between Wellington Road and Highbury Avenue



DESIGN AND CONSTRUCTION REPORT

Highway 401 Five Structure Replacements, Highbury Avenue Interchange Improvements, and Highway 401 Pavement Rehabilitation and Reconstruction (G.W.P. 3032-11-00)

January 2023

- Replacement of six overhead signs on Highway 401
- Drainage and roadside safety improvements (i.e., guiderail), as required.
- Improvements to the Highway 401/Highbury Avenue Interchange, including:
 - Reconstruction of the interchange ramps
 - Reconstruction and widening of Highbury Avenue from the north limit of the interchange southerly to Wilton Grove Road
 - Installation of three new overhead signs on Highbury Avenue
 - Installation of high mast and conventional lighting at the interchange
 - Replacement of traffic signals at the Highbury Avenue ramp intersections and on Highbury Avenue at the Flying J Travel Plaza
 - Drainage and roadside safety improvements (i.e., guiderail), as required

Construction is anticipated to begin in 2023, subject to approvals, and will carry over for five years. It is anticipated that the improvements will be completed in 2027.

Notice of Study Commencement occurred the week of June 7, 2022, and involved notification to external agencies, elected officials, municipal staff, Indigenous communities, and stakeholder groups. Emails were sent to provide information about the project and to obtain information relevant to the project regarding their interests.

A project website was developed to provide project details for the general public and for individuals to comment on the project. Public agency, municipal and Indigenous community comments received were responded to, communication has been summarized in this report.

Field investigations were undertaken during this Design-Build stage to confirm existing environmental features as described in the previous TESRs and TESR Addendum, and the findings were used in the assessment of impacts based on the Recommended Design. There is one Significant Woodlot in the Study Area that will be impacted by construction; however, the project is not anticipated to result in significant impacts to the natural environment, and any impacts will be mitigated to the extent possible.

Environmental protection/mitigation and environmental monitoring are integral components of the Recommended Design for this project. The Design-Builder's responsibilities and obligations for environmental management associated with this project include:



DESIGN AND CONSTRUCTION REPORT

Highway 401 Five Structure Replacements, Highbury Avenue Interchange Improvements, and Highway 401 Pavement Rehabilitation and Reconstruction (G.W.P. 3032-11-00)

January 2023

- Design and construction quality management
- Mitigating construction impacts to the surrounding community
- Integrating design and construction staff by considering constructability during the Detail Design phase.
- Identifying and mitigating major areas of risk
- Addressing staging and traffic control, including minimizing impacts to the traveling public
- Meeting obligations for environmental protection during construction.

A summary of the key environmental concerns and environmental protection requirements for this project is provided in **Section 4.0** and **Table 1**.

Construction dewatering will be required for this project. A Category 3 Permit to Take Water (PTTW) will be required in advance of construction.

Property acquisition for the Study Area has been completed to accommodate widening on Highway 401 and the new interchange configuration at Highbury Avenue.

The following construction staging and traffic management measures will be implemented in the Study Area to maintain traffic safety and allow for efficient construction:

- Highway 401
 - Traffic lanes reduced from 3 lanes to 2 lanes in both directions
 - Periodic short duration (i.e., overnight or weekends) full closures of Highway 401
 - During the full closures of Highway 401, it is anticipated that westbound traffic will be detoured onto Veterans Memorial Parkway to Bradley Avenue or to Highbury Avenue. Eastbound traffic will be detoured onto Highbury Avenue to Wilton Grove Road to Veteran Memorial Parkway
- Highbury Avenue
 - Traffic will be reduced to one lane in each direction
 - Periodic short duration full closures (i.e., overnight or weekends) of Highbury Avenue



DESIGN AND CONSTRUCTION REPORT

Highway 401 Five Structure Replacements, Highbury Avenue Interchange Improvements, and Highway 401 Pavement Rehabilitation and Reconstruction (G.W.P. 3032-11-00)

January 2023

- During full closures, Highbury Avenue traffic will be detoured to Pond Mills Road via Wilton Grove Road and Bradley Avenue
- Highway 401/Highbury Avenue Interchange
 - Long duration full closures of the interchange ramps, not to be undertaken during the full closure of Pond Mills Road (see below)
- Pond Mills Road
 - Full closure of Pond Mills Road for a maximum of six (6) months per year over the first three (3) construction seasons
 - During the closure, Pond Mills Road traffic will be detoured to Highbury Avenue via Wilton Grove Road and Bradley Avenue
- Highway 401/Wellington Road South Interchange and Exeter Road Off Ramp
 - Short duration full closures (i.e., overnight or weekends) of the Wellington Road South eastbound on-ramp and the Exeter Road off-ramp

Traffic management for this project will focus on advance notification of the users of the Study Area roadways and area residents of changes to available ramps and lanes at various stages of construction. Drivers will be able to select alternate routes when their preferred route through the Study Area is not available or is constrained during construction.

This Design and Construction Report (DCR) has been prepared near the completion of the Detail Design phase in accordance with MTO's Class EA requirements. This document addresses design-specific details and issues. For environmental issues of broader concern, reference should be made to the Preliminary Design documentation.



DESIGN AND CONSTRUCTION REPORT

Highway 401 Five Structure Replacements, Highbury Avenue Interchange Improvements, and Highway 401 Pavement Rehabilitation and Reconstruction (G.W.P. 3032-11-00)

January 2023

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DESIGN AND CONSTRUCTION REPORT

Highway 401 Five Structure Replacements, Highbury Avenue Interchange Improvements, and Highway 401 Pavement Rehabilitation and Reconstruction (G.W.P. 3032-11-00)

January 2023

1.0 Overview of the Undertaking

1.1 Background and Project Location

The Ontario Ministry of Transportation (MTO) has retained Stantec Consulting Ltd. (Stantec) and Dufferin Construction Company (Dufferin) to complete the Design-Build (DB) contract for the Class Environmental Assessment (EA), Detail Design and construction of five Highway 401 structure replacements, Highbury Avenue Interchange improvements, and Highway 401 pavement rehabilitation in the City of London. As shown in **Figure 1**, the Study Area extends from approximately 0.7 km east of Wellington Road South, easterly to approximately 0.6 km west of Old Victoria Road.

In 2004, MTO completed the Class EA and Preliminary Design for improvements to Highway 401 from 1.0 km west of Highway 4 (Colonel Talbot Road) easterly to 1.0 km east of Highbury Avenue. The study identified improvements to Highway 401, including improvements to Highbury Avenue Interchange, and was documented in a *Transportation Environmental Study Report* (TESR). The TESR received environmental clearance in 2004.

In 2012, MTO retained Dillon Consulting Limited (Dillon) to review and update the 2004 TESR-approved plan for improvements to the Highbury Avenue Interchange and document the changes in a TESR Addendum. The TESR Addendum was published in 2012 and received environmental clearance in 2013. Finally, to allow the project to progress to Design-Build, Dillon was retained by MTO in 2021 to conduct a five-year review of the 2012 TESR Addendum. The TESR Review was documented in a memo completed in 2021, and concluded that the changes from the TESR-approved plan are considered minor and no further addendum was required.

Additionally, MTO retained Dillon to complete the Class EA, Preliminary Design, and initial Detail Design for the replacement of the Tributary to Murray Drain Culvert, CNR Overhead Structure, and Pond Mills Road Overpass. The study was documented in a TESR that was published in 2017 (Dillon 2017).

The Preliminary Design activities formed the basis for proceeding to the DB stage of the project. DB merges two phases, Detail Design and Construction, into one contract. Dufferin has been retained as the Design-Builder.



DESIGN AND CONSTRUCTION REPORT

Highway 401 Five Structure Replacements, Highbury Avenue Interchange Improvements, and Highway 401 Pavement Rehabilitation and Reconstruction (G.W.P. 3032-11-00)

January 2023

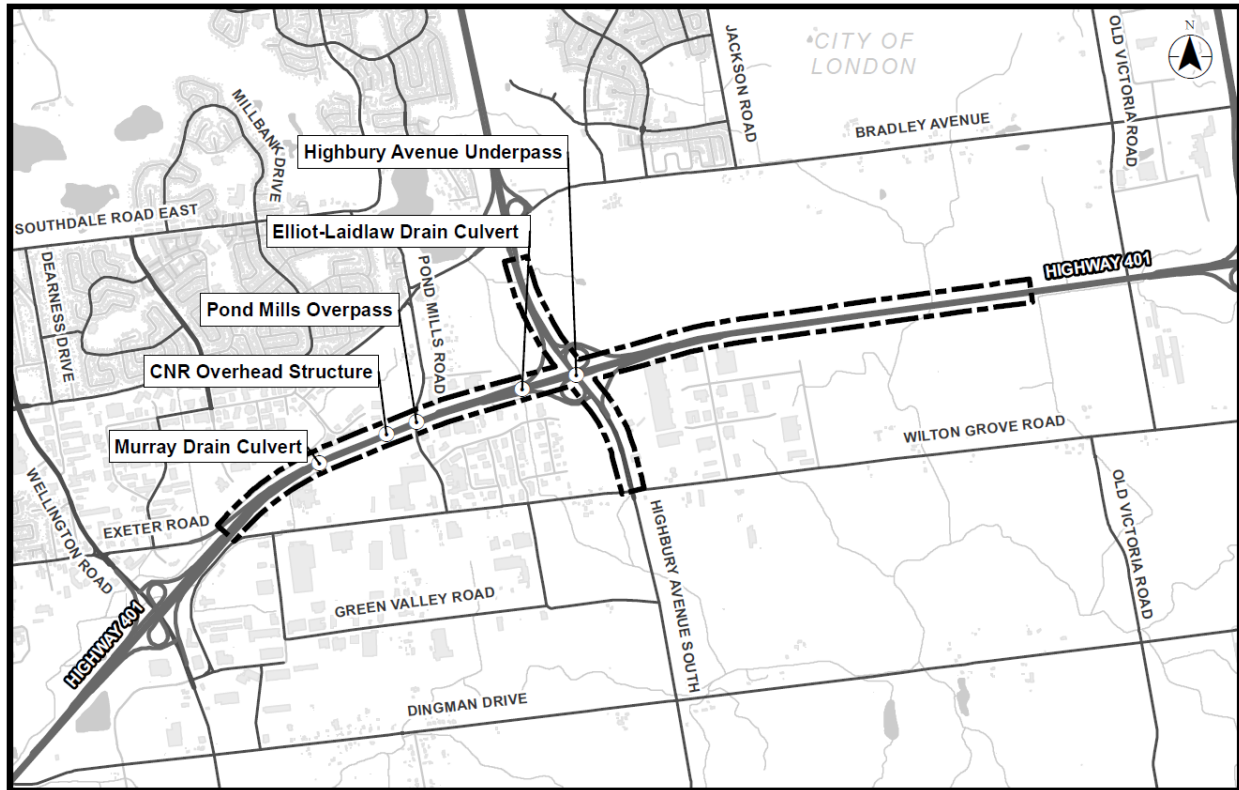


Figure 1: Study Area

1.2 Purpose of the Design and Construction Report

This DCR documents the Design-Build process for the improvements to Highway 401 and Highbury Avenue in the Study Area, and has been prepared to:

- Address any minor design modifications that result in environmental impacts or benefits that may not have been anticipated or detailed in the Preliminary Design documentation
- Further assess environmental impacts and refine mitigation measures
- Address any commitments to future work identified in the Preliminary Design documentation

This document deals with design-specific details and issues. For environmental issues of broader concern, reference should be made to the Preliminary Design documentation, as noted in Section 1.1. If it is necessary to make significant changes to the commitments outlined in the DCR, or to any concept of any portion of the project, an



DESIGN AND CONSTRUCTION REPORT

Highway 401 Five Structure Replacements, Highbury Avenue Interchange Improvements, and Highway 401 Pavement Rehabilitation and Reconstruction (G.W.P. 3032-11-00)

January 2023

Addendum to the DCR may be required. Any changes that may arise will be discussed with the most affected parties. If all parties can be identified and those parties agree that an Addendum is not required, then none will be prepared. If an Addendum is required, appropriate documentation will be prepared and filed in the Public Record for at least 30 calendar days.

During this Design-Build study, all reasonable steps were taken to meet environmental technical requirements, formal environmental approvals, environmental reporting obligations, and environmental standards applicable to the project.

1.2.1 Environmental Assessment Process

1.2.1.1 Ontario Environmental Assessment Act

The Ontario *Environmental Assessment Act* governs the conduct of planning studies in the province of Ontario. The purpose of this Act is the betterment of the people of the whole or any part of Ontario by providing for the protection, conservation, and wise management in Ontario of the environment (*EA Act*, R.S.O. 1990, c. E. 18, s. 2).

The Act mandates clear terms of reference and ongoing consultation with all relevant parties and establishes a 'Class Environmental Assessment' process to streamline the planning for certain types of projects.

1.2.1.2 Class Environmental Assessment for Provincial Transportation Facilities

MTO's *Class Environmental Assessment for Provincial Transportation Facilities* (2000) (Class EA) was approved under the Ontario *Environmental Assessment Act* in 1997 and was amended in 2000. The planning document defines groups of projects and activities, and the Environmental Assessment (EA) processes that MTO has committed to follow for these projects. Provided that this process is followed, projects and activities included under the Class EA do not require formal review and approval under the *Environmental Assessment Act*.

The projects and activities in the Class EA are classified into four groups: this project has followed the approved planning process for Group 'B' projects, which include: improvements to existing highways and freeways, new interchanges, or modifications to traffic access, improvements to provincial transitways and ferryboat docks/terminals, and the establishment/improvement of provincial transportation facilities.

As required under the Class EA, several formal documents have been developed for this project, including:



DESIGN AND CONSTRUCTION REPORT

Highway 401 Five Structure Replacements, Highbury Avenue Interchange Improvements, and Highway 401 Pavement Rehabilitation and Reconstruction (G.W.P. 3032-11-00)

January 2023

- Transportation Environmental Study Report (TESR) for Highway 401, Tributary to Murray Drain Culvert, CNR Overhead Structure, and Pond Mills Road Overpass Replacement (August 2017)
- TESR for Highway 401 Improvements Planning and Preliminary Design Study from 1.0 km west of Highway 4 (Colonel Talbot Road) easterly to 1.0 km east of Highbury Avenue (2004)
- TESR Addendum for Highway 401 Interchange Reconstruction at Highbury Avenue (October 2012)
- Five Year Review of TESR Addendum for Highway 401 Interchange Reconstruction at Highbury Avenue (June 2021)

1.2.1.3 TESR Five Year Review

The Notice of Addendum was issued August 2, 2017, triggering a five-year review of the Highway 401, Tributary to Murray Drain Culvert, CNR Overhead Bridge and Pond Mills Road Overpass Replacement TESR. Stantec completed a review of the 2017 TESR and noted that there were no changes to the original concept of the project as described in that report. Thus, a TESR Addendum was not required and the design decisions and mitigation recommendations are documented in this DCR.

1.2.2 Notice of Completion – Design and Construction Report

A Notice of Completion was placed in the *London Free Press* and *L'Action* newspaper concurrent with filing of the DCR. The purpose of the notice is to inform the public that a DCR documenting the Detail Design and associated environmental protection measures has been prepared and will be available from **January 24, 2023 to February 24, 2023**, for a 30-day public review period.

A Notice is provided to identify ways to review the Design and Construction Report, including on the project website, www.hwy401highbury.ca.

Interested persons may provide written comments to the project team by February 24, 2023. Please visit our project website at www.hwy401highbury.ca to obtain additional information about the project or to provide comments. Comments can also be emailed to comments@hwy401highbury.ca.



DESIGN AND CONSTRUCTION REPORT

Highway 401 Five Structure Replacements, Highbury Avenue Interchange Improvements, and Highway 401 Pavement Rehabilitation and Reconstruction (G.W.P. 3032-11-00)

January 2023

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 requests on these matters should be addressed in writing to:

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

and

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

2.0 Consultation Process

This section of the report documents the Agency, Municipal, Indigenous communities, and public consultation that has taken place. Consultation for this project included:

- Notice of Study Commencement
- Consultation with regulatory agencies
- Indigenous community engagement
- Communication with the general public and businesses in the study area
- Notice of Completion of DCR
- A project specific website: www.hwy401highbury.ca

All notices were published in the *London Free Press* and *L'Action* newspaper, posted on the project website, and sent directly to contacts on the project mailing list. Stakeholder input has been incorporated into the project findings and recommendations as appropriate. The following sections provide details about the consultation undertaken for this project.



DESIGN AND CONSTRUCTION REPORT

Highway 401 Five Structure Replacements, Highbury Avenue Interchange Improvements, and Highway 401 Pavement Rehabilitation and Reconstruction (G.W.P. 3032-11-00)

January 2023

2.1 Mailing List

The recent study contact list from Preliminary Design, used to provide notice of the 2012 TESR Addendum public review period, was updated in 2022 to develop the mailing list for the DB phase of the project. The 2022 update identified current contacts for agencies, local utility companies, elected officials, municipalities, emergency services, and local interest groups. The list of property owners and members of the public who participated during the Preliminary Design study were carried forward to the DB mailing list. The list was added to and updated throughout the DB study, as necessary.

The mailing list is included in **Appendix A**.

2.2 External Agencies and Municipalities

Emails to External Agencies included municipal staff members, stakeholder groups and interested groups were also contacted at the outset of the project.

Emails were sent on June 7, 2022, to provide information about the project and to obtain information relevant to the project regarding their interests. The Notice of Study Commencement OGN was attached to the emails seeking comments by July 4, 2022.

A meeting with Emergency Medical Services (EMS) was held on January 13, 2023, to discuss staging and closures during construction. A member from the Ontario Provincial Police (OPP) and Middlesex-London Paramedic Services attended the meeting and the staging and road closures during construction was discussed. The project team will continue to engage the EMS throughout construction.

Consultation with the City of London was ongoing throughout the project. Key topics included construction staging, tree removals and plantings. The City of London will continue to be engaged and notified in advance of construction.

External Agencies and stakeholder groups that provided comments are included in **Appendix B**.

2.3 Indigenous Consultation

Indigenous community engagement was carried out in accordance with the consultation plan. Letters to the Indigenous communities and contacts were sent by MTO on July 5, 2022 to provide information about the project, to invite the communities to participate in the study and to obtain information related to their environmental, social and cultural interests. The Notice of Study Commencement was provided with the letters.



DESIGN AND CONSTRUCTION REPORT

Highway 401 Five Structure Replacements, Highbury Avenue Interchange Improvements, and Highway 401 Pavement Rehabilitation and Reconstruction (G.W.P. 3032-11-00)

January 2023

The Indigenous Communities on the project mailing list are included below:

- Aamjiwnaang First Nation
- Caldwell First Nation
- Chippewas of Kettle and Stony Point First Nation
- Chippewas of the Thames First Nation
- Delaware Nation at Moraviantown
- Munsee-Delaware Nation 289
- Oneida Nation of the Thames
- Walpole Island First Nation

A comment was received from Delaware Nation at Moraviantown on July 6, 2022. The comment indicated that the project information would be shared with their community's council and that they would be in contact with the Project Team if there were any concerns. No follow-up was received.

A Stage 1-2 Archaeological Assessment is required for a small portion of land at the north end of the Elliot-Laidlaw Drain Culvert on Hydro One property to install a temporary flow-passage passage during the replacement of the culvert. Emails were sent to the Indigenous communities inviting them to participate in the assessment on December 20, 2022. Aamjiwnaang and Caldwell First Nation responded with interest and the project team will continue to work with them during this assessment.

There were no other comments received from Indigenous communities.

A Notice of Study Completion will be sent to Indigenous communities at the conclusion of this project announcing the 30-day review period for the DCR.

2.4 Utilities

The Notice of Study Commencement was sent to the following utilities on June 7, 2022:

- Hydro One
- London Hydro
- Enbridge Gas
- Bell Canada
- Rogers Communication



DESIGN AND CONSTRUCTION REPORT

Highway 401 Five Structure Replacements, Highbury Avenue Interchange Improvements, and Highway 401 Pavement Rehabilitation and Reconstruction (G.W.P. 3032-11-00)

January 2023

Bell Canada, Hydro One, London Hydro, City of London, Enbridge Gas, and Rogers Communication Inc. have existing infrastructure located within the project limits. The project team coordinated with these organizations to discuss relocation plans, as required.

Utility relocation plans and mitigation measures are incorporated into Section 4.5.

2.5 Consultation with the Public

An Ontario Government Notice (OGN) for the Notice of Study Commencement (NOSC) was produced to provide information on the proposed improvements, study process, project schedule, and a link to the project website. The OGN was produced and distributed in both English and French.

Emails with the English OGN attached were sent to contacts on the study mailing list, including local businesses and property owners, on June 7, 2022. The OGN was also published in English in the *London Free Press*, on June 7, 2022, and in French in *L'Action*, on June 9, 2022.

One comment was received on June 22, 2022, from a member of the public following the NOSC. The comment requested a copy of the 2012 TESR Addendum be added to the project website or to provide them with a copy of the report. A response was sent on June 30, 2022, notifying the commenter that the 2012 TESR Addendum had been added to the Documentation page of the project website on June 22, 2022.

No other comments were received from members of the public.

The project team met with local businesses impacted by staging and closures on Highbury Avenue South on January 13, 2023. The meeting was attended by members of the Flying J, Tim Hortons and the Carpenters Union and construction staging was discussed. These businesses will be notified in advance of construction.

2.6 Project Website

A project website (www.hwy401highbury.ca) was developed and made operational to function as an interactive tool for the Project Team to provide study updates, and to provide an opportunity for stakeholders to submit comments during Design Build. The website includes a Home page, and pages with information on the Class EA process, project schedule, relevant documentation, accessibility, and contact information. Additional pages for daily traffic restrictions/detour routes and construction progress updates will be made available during the construction phase of the project.



DESIGN AND CONSTRUCTION REPORT

Highway 401 Five Structure Replacements, Highbury Avenue Interchange Improvements, and Highway 401 Pavement Rehabilitation and Reconstruction (G.W.P. 3032-11-00)

January 2023

3.0 Detailed Description of the Recommended Design

3.1 Major Features of the Proposed Work

3.1.1 Structural Improvements

Replacement of the following structures:

- CNR Overhead Structure (Site 19X-0371/B0)
- Pond Mills Road Overpass (Site 19X-0372/B0)
- Highbury Avenue Underpass (Site 19X-0373/B0)
- Tributary to Murray Drain Culvert (Site 19X-0650/C0)
- Elliot-Laidlaw Drain Culvert (Site 19X-0651/C0).

3.1.2 Highway 401 Improvements

The following improvements are proposed for the Highway 401 corridor:

- Resurfacing/reconstruction of 5.5 km of Highway 401 from 675 m east of Wellington Road easterly to 630 m west of Old Victoria Road
- Widening and grade raise of Highway 401 from the area of Pond Mills Road Overpass to the CNR Overhead to accommodate construction of the new Pond Mills Road Overpass and CNR Overhead
- Addition of continuous speed change lanes between the Highbury Avenue westbound on-ramp and the Exeter Road westbound off-ramp, and between the Wellington Road eastbound on-ramp and the Highbury Avenue eastbound off-ramp
- Replacement of the Highway 401 median barrier
- Replacement of the Highway 401 median storm sewer between Wellington Road and Highbury Avenue
- Construction of a storm water management facility along the south side of Highway 401 between Pond Mills Road and the London-Port Stanley Railway
- Rehabilitation/replacement of five non-structural culverts crossing Highway 401



DESIGN AND CONSTRUCTION REPORT

Highway 401 Five Structure Replacements, Highbury Avenue Interchange Improvements, and Highway 401 Pavement Rehabilitation and Reconstruction (G.W.P. 3032-11-00)

January 2023

- Installation of high mast lighting on Highway 401 between Wellington Road and Highbury Avenue
- Replacement of six overhead signs on Highway 401
- Drainage and roadside safety improvements (i.e., guiderail), as required

3.1.3 Highway 401/Highbury Avenue Interchange Improvements

The following improvements are proposed at the Highway 401/Highbury Avenue Interchange:

- Reconstruction of the interchange ramps
- Reconstruction and widening of Highbury Avenue from the north limit of the interchange southerly to Wilton Grove Road
- Installation of three new overhead signs on Highbury Avenue
- Installation of high mast and conventional lighting at the interchange
- Replacement of traffic signals at the Highbury Avenue ramp intersections and on Highbury Avenue at the Flying J Travel Plaza
- Drainage and roadside safety improvements (i.e., guiderail), as required

3.2 Construction Staging and Traffic Management

To maintain traffic safety and allow for efficient construction, road and ramp closures will be required during construction. Construction is anticipated to be completed over four and a half construction seasons and includes the following construction staging and traffic management measures. All lanes and ramps will remain open during the winter season.

3.2.1 Construction Staging

Year One

- Installation of erosion control measures and wildlife exclusionary fencing
- Highway 401 median shoulder strengthening and construction of crossover
- Construction of the northern portion grade raise, Murray Drain culvert, CNR structure, Pond Mills structure and Elliot-Laidlaw Drain culvert



DESIGN AND CONSTRUCTION REPORT

Highway 401 Five Structure Replacements, Highbury Avenue Interchange Improvements, and Highway 401 Pavement Rehabilitation and Reconstruction (G.W.P. 3032-11-00)

January 2023

- Construction of north portion of Elliot-Laidlaw Drain culvert replacement
- Construction of temporary N-W connection to existing S-W ramp with a temporary traffic signal and left turn lane on Highbury Avenue. One northbound lane closure.

Year Two

- Construction of middle portion of grade raise, Murray Drain culvert, CNR structure, and Pond Mills structure

Year Three

- Complete the replacement of Murray Drain culvert, CNR structure, and Pond Mills structure
- Complete the replacement of Elliot-Laidlaw Drain culvert
- One westbound and one eastbound lanes closed along Highway 401 through Elliot-Laidlaw culvert area
- Construct substructure for portion of Highbury Avenue structure
- Installation of the girder for portion of the new Highbury Avenue structure
- Construct portion of new N-E ramp
- Widening of Highbury Avenue up to the level of the existing platform

Year Four

- Construction of the median barrier wall, median sewers, high mast lighting and overhead signs
- Demolition of Highbury Avenue structure
- Complete installation of girders for Highbury Avenue structure
- Realignment and paving of ramps along new alignment

Year Five

- Rehabilitation of pavement along Highway 401 east of Highbury Avenue
- Complete ramp reconstruction
- Complete paving of Highbury Avenue and construct median island



DESIGN AND CONSTRUCTION REPORT

Highway 401 Five Structure Replacements, Highbury Avenue Interchange Improvements, and Highway 401 Pavement Rehabilitation and Reconstruction (G.W.P. 3032-11-00)

January 2023

3.2.2 Anticipated Closures

The following provides an overview of the anticipated closures:

Highway 401 Closures

Year 1

- One westbound and one eastbound lane closed between Wellington Road and Highbury Avenue for reconstruction/widening of Highway 401, and replacement of Murray Drain culvert, CNR Overhead, Pond Mills Overpass and Elliot-Laidlaw Drain culvert

Year 2

- One westbound and one eastbound lane closed between Wellington Road and Highbury Avenue for reconstruction/widening of Highway 401, and replacement of Murray Drain culvert, CNR Overhead, Pond Mills Overpass and Elliot-Laidlaw Drain culvert

Year 3

- One westbound and one eastbound lane closed between Wellington Road and Highbury Avenue for reconstruction/widening of Highway 401, and replacement of Murray Drain culvert, CNR Overhead, Pond Mills Overpass and Elliot-Laidlaw Drain culvert
- During girder installations a full closure westbound lanes from Veterans Memorial Parkway (VMP) to Highbury Avenue, one westbound lane closed through grade raise area. Full closure eastbound lanes from Wellington Road to Highbury Avenue

Year 4

- One eastbound lane closed for 70 days for median barrier, sewer, high mast lighting and overhead sign installation
- Full closure westbound lanes from VMP and eastbound lanes from Wellington Road to Highbury Avenue during demolition of Highbury Avenue structure and installation of girders for Highbury Avenue structure

Year 5

- Reduce to one lane in each direction for 3 weekends for pavement reconstruction
- Nightly lane closures as required



DESIGN AND CONSTRUCTION REPORT

Highway 401 Five Structure Replacements, Highbury Avenue Interchange Improvements, and Highway 401 Pavement Rehabilitation and Reconstruction (G.W.P. 3032-11-00)

January 2023

Ramp Closures

Ramp closures in Year 4 for construction of new alignment

- N-E ramp closed for 90 days
- W-N/S ramp closed for 30 days
- E-N/S ramp closed for 40 days
- S-W ramp closed for 150 days
- S-E ramp closed for 95 days
- N-W ramp closed for 30 days (Year 5 for reconstruction)
- Other periodic short duration (i.e., overnight or weekends) closures will be required throughout construction

Highbury Avenue Closures

- Traffic will be reduced to one lane in each direction in Year 3 (following re-opening of Pond Mills Road), Year 4, and Year 5
- Periodic short duration full closures (i.e., overnight or weekends) of Highbury Avenue
- Northbound lanes closed from S-E ramp to Bradley Avenue and N-W ramp to Wilton Grove Road during demolition
 - Highbury Avenue traffic will be detoured to Pond Mills Road via Wilton Grove Road and Bradley Avenue

Pond Mills Road Closures

- Full closure of Pond Mills Road for the Year 1, 2, and 3, for a maximum of six months per year over the three construction seasons
 - During the closure, Pond Mills Road traffic will be detoured to Highbury Avenue via Wilton Grove Road and Bradley Avenue

Highway 401/Wellington Road South Interchange and Exeter Road Off Ramp

- Short duration full closures (i.e., overnight or weekends) of Wellington Road South eastbound on-ramp and Exeter Road off-ramp



DESIGN AND CONSTRUCTION REPORT

Highway 401 Five Structure Replacements, Highbury Avenue Interchange Improvements, and Highway 401 Pavement Rehabilitation and Reconstruction (G.W.P. 3032-11-00)

January 2023

Traffic management for this project will focus on advance notification of the users of the Study Area roadways and area residents of changes to available ramps and lanes at various stages of construction. Drivers will be able to select alternate routes when their preferred route through the Study Area is not available or is constrained during construction. Formal detour routes will only be used for closure of Highway 401.

4.0 Environmental Issues and Commitments

This section focuses on the direct and indirect environmental effects associated with the construction of the proposed improvements. In general, impacts to the natural, social, and cultural environment were minimized during planning and design by following these three principles:

- Avoidance
- Identification of roadway design elements at key locations that can minimize environmental impacts
- Development of generic environmental protection plan guidelines for consideration during and following construction

The design, construction, and operation/maintenance phases of this project involve typical activities for which potential environmental impacts are predictable and known environmental protection measures are applied.

All commitments made during Preliminary Design have been reviewed and addressed. Details on how environmental impacts will be mitigated, either using environmental design or through environmental constraints contained in the contract package and the Environmental Management Plan, are included in the following sections.

Design changes made during the Detail Design phase do not compromise or contradict the intent of Preliminary Design mitigation or the EA commitments in the Preliminary Design documentation. Thus, a TESR Addendum is not required for the Highway 401, Tributary to Murray Drain Culvert, CNR Overhead Bridge and Pond Mills Road Overpass Replacement report, 2017.

4.1 Natural Environment

The existing environmental features as described in the Preliminary Design documentation were taken into consideration during this study and updated based on supplementary field investigations and background studies undertaken in summer 2022.



DESIGN AND CONSTRUCTION REPORT

Highway 401 Five Structure Replacements, Highbury Avenue Interchange Improvements, and Highway 401 Pavement Rehabilitation and Reconstruction (G.W.P. 3032-11-00)

January 2023

Background information and habitat characteristics were summarized in the *Terrestrial Ecosystem Existing Conditions and Impact Assessment Report (2022)*.

4.1.1 Terrestrial Ecosystems

Field investigations were undertaken by Stantec on June 1 and 16, and July 6 and 27, 2022, to fulfill environmental commitments identified during Preliminary Design, including:

- Confirmation of natural feature limits for Significant Woodlands, Provincially Significant Wetlands (PSWs), and Environmentally Sensitive Areas
- Migratory bird nest survey to update findings from 2012, 2013, and 2014
- Search and inventory, if applicable, Brainerd's Hawthorn and Northern Hawthorn, to confirm the presence/absence of these species in areas of proposed vegetation removal, and develop mitigation measures
- Acoustic monitoring of species at risk bats within previously identified potential bat maternity habitat and areas where tree removals are proposed
- Documentation and mapping of invasive plant species, such as Common Reed (*Phragmites australis australis*, aka., Phragmites)

4.1.1.1 Vegetation

Existing Conditions

The assessment to confirm natural feature limits for Significant Woodlands, PSWs, and Environmentally Sensitive Areas identified one Significant Woodland that extends into the Highbury Avenue right-of-way, southwest of the Highway 401/Highbury Avenue Interchange, and one Significant Woodland to the east of Highbury Avenue that is outside of the Highway 401 right-of-way. The assessment also identified Westminster Ponds-Pond Mill Wetland Complex, a PSW, and non-significant deciduous swamp and meadow marsh features in the Study Area; however, these features were absent from the highway right-of-way.

The search for Brainerd's Hawthorn and Northern Hawthorn was conducted on June 1, 2022. During this time of the year, both species are in flower and can be most accurately identified. Neither Brainerd's Hawthorn nor Northern Hawthorn were present within the areas of proposed vegetation removal and are considered to be absent from the areas surveyed.



DESIGN AND CONSTRUCTION REPORT

Highway 401 Five Structure Replacements, Highbury Avenue Interchange Improvements, and Highway 401 Pavement Rehabilitation and Reconstruction (G.W.P. 3032-11-00)

January 2023

One plant SAR, Black Ash, was documented within the Study Area, but individuals were only present outside of the rights-of-way.

During field investigations, *Phragmites australis australis* (hereafter, Phragmites), an invasive plant species, was found to be abundant throughout the Study Area. Occurrences were typically along watercourses and in ditch bottoms. Areas with Phragmites were marked, delineated, and recorded during a search conducted by Stantec on July 27, 2022.

Potential Impacts

Construction of the proposed improvements will result in the temporary and permanent disturbance to vegetation cover and terrestrial habitat. The work will be confined to the rights-of-way, and construction will mostly disturb common roadside species that are expected to recolonize following construction. Temporary vegetation removal will also occur in areas where grading is proposed. Approximately 0.2 hectares (ha) of vegetation cover and terrestrial habitat will be permanently disturbed during construction.

Permanent and direct impacts to portions of the Significant Woodland to the southwest of the Highway 401/Highbury Avenue Interchange are anticipated. Tree removals along the edge of the woodland in the Highbury Avenue right-of-way are required to facilitate the widening of Highbury Avenue. Approximately 654.6 square metres (m²) of vegetation and terrestrial habitat will be directly impacted. Impacts to the woodland will be mitigated to the extent possible.

Two Black Ash trees were present in the Significant Woodland. Although designated as a provincially Endangered species, MECP has suspended their protection for a period of two years (from 2022 to 2024) to determine the best way to protect and recover the species. During the two-year window, authorizations are not required for activities that may impact Black Ash and its habitat (MECP 2022).

There will be a temporary loss of or disturbance to vegetation communities and associated native vegetation as a result of the clearing required to accommodate the proposed construction activities. These impacts are anticipated to be minor.

Direct impacts to the Westminster Ponds-Pond Mill Wetland Complex, other woodlands, and deciduous swamp and meadow marsh features are not anticipated as a result of construction, as these features are beyond the rights-of-way.

Potential indirect impacts include soil compaction, siltation of adjacent natural communities, vegetation disturbance, spills of deleterious substances into natural communities, noise disturbance, and encounters with wildlife. There is also the potential



DESIGN AND CONSTRUCTION REPORT

Highway 401 Five Structure Replacements, Highbury Avenue Interchange Improvements, and Highway 401 Pavement Rehabilitation and Reconstruction (G.W.P. 3032-11-00)

January 2023

for accidental damage or loss of trees and other vegetation features because of site alteration or construction activities, and the permanent loss of native vegetation due to the increased potential for non-native and invasive vegetation species spreading into disturbed areas after construction. These impacts will be mitigated through the application of appropriate construction techniques and mitigation measures.

Phragmites propagates through the spread of root fragments and seeds. The species is known to quickly colonize a variety of disturbed areas. Mitigation measures, as outlined below, are recommended to control the spread of Phragmites.

Proposed Mitigation

Standard Sediment and Erosion Control and vegetation protection measures, and the management of invasive Phragmites are provided in **Section 5 and Table 1**.

4.1.1.2 Tree Inventory

A tree inventory was undertaken by a Stantec certified arborist between June 9 and June 16, 2022 and included the inventory and assessment of trees located within the Highway 401/Highbury Avenue Interchange and surrounding lands. Detailed inventory data was collected for trees with 10 cm diameter at breast height (DBH) and greater in woodlots (e.g., Significant Woodland located at the northwest corner of Wilton Grove Road and Highbury Avenue South), tree clusters, and for individual trees. The data collected included tree species, general health condition, DBH, and dripline radius. General inventory data was collected for trees with 10 cm DBH and greater in woodlots and tree clusters where large numbers of single species (or relatively few species) of similar size and condition were present. The data collected included tree species, range of observed DBH, and general condition.

The Study Area contained both native species and non-native species. A total of 174 trees were inventoried through the detailed inventory. An additional 37 units with approximately 1171 trees were inventoried through the general inventory.

The details of trees inventoried are documented in the *Tree Inventory Report (2022)*.

Potential Impacts

There are 10 trees from the detailed inventory that will be removed to accommodate the proposed grading. One dead tree is also recommended for removal within the grading limit on the north-west side of Highway 401 at Pond Mills Overpass. Fourteen (14) groups of trees from the general inventory will be impacted by the proposed grading, resulting in approximately 200 trees recommended for removal.



DESIGN AND CONSTRUCTION REPORT

Highway 401 Five Structure Replacements, Highbury Avenue Interchange Improvements, and Highway 401 Pavement Rehabilitation and Reconstruction (G.W.P. 3032-11-00)

January 2023

A portion of the Significant Woodland to the southwest of the Highway 401/Highbury Avenue Interchange is recommended to be retained and is likely to experience edge effects. Edge effects refers to the conditions associated with edge habitat in wooded areas. Such effects generally include penetration of drying winds, higher ambient light levels, consequent decrease in soil moisture and evaporation of standing water, susceptibility to wind throw for remaining trees, reduced stability of landforms composed of unconsolidated materials, root stress and decline of retained trees, and susceptibility to invasive species.

The biological effects of edge habitat include insect decline, and increased predation and declining nesting success of forest interior bird species. Physical edge effects also have the potential to affect non-breeding amphibians in both the summer and winter, as amphibians are highly susceptible to desiccation. Likewise, edge effects have the potential to affect amphibian breeding ponds by increasing the potential for drying. Ponds must persist long enough to allow for tadpoles to transform to larvae; a period that often must extend into mid-July.

During construction, trees can be damaged without showing signs of damage until some years later. Most of the impacts relate to the removal of roots that results in the slow death of the tree as a result of its inability to absorb sufficient water and nutrients.

The leading cause of construction damage to trees is compaction of the soil around the roots or within the Tree Protection Zone (TPZ). The TPZ is the area around the tree or group of trees in which no grading or construction activity should occur. Equipment entering into the TPZ compresses the air pockets around roots, inhibiting the tree from absorbing nutrients and water. This damage ultimately reduces the health of the tree.

Equipment can physically damage trees through striking the trunk, limbs, and/or roots. Felled trees can also cause damage during the tree removal stage of construction. Some damage is unavoidable due to the close proximity of adjacent trees; however, through the use of proper equipment and BMPs, the damage can be minimized. Trees shall be felled away from adjacent trees to be maintained.

The success of tree preservation is dependent not only on protecting the root zone from compaction and damage, but it is also contingent upon the ability to ensure that the structural roots within the root plate are not disturbed. Impacts to the root plate may result in the structural failure of the trees. Excavating soil 1 m outside of a tree's dripline or within a dripline, if approved by an Arborist, can damage roots by tearing and splitting back to the stem. This damage can later lead to rot, which can kill the tree.



DESIGN AND CONSTRUCTION REPORT

Highway 401 Five Structure Replacements, Highbury Avenue Interchange Improvements, and Highway 401 Pavement Rehabilitation and Reconstruction (G.W.P. 3032-11-00)

January 2023

Proposed Mitigation

Construction mitigation measures will be implemented to reduce the impact to designated trees for preservation, including flagging of trees for preservation prior to removals, and tree protection barrier installation prior to construction. Removal is to be completed outside of migratory bird nesting season (April 1 to August 31). The following measures are recommended to mitigate edge effects at the Significant Woodland:

1. Disturbance to the woodland due to removals shall be limited as much as possible, with an emphasis on avoiding soil compaction within the rooting zones of trees to be preserved
2. Consideration will be given for supplemental plantings in removal areas to provide canopy cover over the area
3. Chipped wood can be reutilized for restoration plantings, but large areas should not be covered with chipped material as it can suppress growth
4. Replant trees and shrubs along the disturbed edge of the woodland to provide an edge buffer and replace the ecological community that forms along a healthy woodland edge
5. Exposure of interior trees can increase the risk of windthrow. Trees should be reviewed to assess hazards where built elements are proposed adjacent to the woodland
6. In areas heavily impacted by invasive exotics, invasive species removal prior to construction disturbances should be completed to reduce spread within the site

Standard and site-specific mitigation measures are listed in **Table 1**.

4.1.1.3 Wildlife and Wildlife Habitat

Existing Conditions

Wildlife habitat includes SAR habitat, seasonal concentration areas, rare or specialized habitats, habitats for Species of Conservation Concern (SOCC), and animal movement corridors.

Migratory Birds

During field investigations, the following bridges and culverts with proposed work were searched for the presence of migratory bird nests:

- Tributary to Murray Drain Culvert (Site 19X-0650/C0)
- Elliot-Laidlaw Drain Culvert (Site 19X-0651/C0)



DESIGN AND CONSTRUCTION REPORT

Highway 401 Five Structure Replacements, Highbury Avenue Interchange Improvements, and Highway 401 Pavement Rehabilitation and Reconstruction (G.W.P. 3032-11-00)

January 2023

- CNR Overhead Structure (Site 19X-0371/B0)
- Pond Mills Road Overpass (Site 19X-0372/B0)
- Highbury Avenue Underpass (Site 19X-0373/B0)

These structures have the potential to provide nesting habitat for Barn Swallow, a species at risk bird that is protected by the *Endangered Species Act* (ESA) and MBCA, and other species that are protected by the MBCA, such as Cliff Swallow and Eastern Phoebe. Nests of birds protected by the MBCA also have the potential to occur in vegetation in the Study Area.

During Stantec's 2022 field investigations, no nests were observed at any of the structures listed above.

Bats

Trees within or adjacent to the rights-of-way were assessed to identify trees that meet the criteria to support potential maternity roosts of SAR bats. The assessment was completed following the guidance in the *Species at Risk Bat Survey Note* (MECP 2022), *Treed Habitats – Maternity Roost Surveys* (MECP 2022), and *Bats and Bat Habitats: Guidelines for Wind Power Projects* (MNR 2011).

Any tree with a diameter at breast height (DBH) of 10 cm or greater is considered to provide potential bat maternity roost habitat. A total of four suitable trees were documented within two forest communities in the Study Area. One suitable tree was located in the forest community north of Highway 401 between the CNR Overhead Structure and Pond Mills Road Overpass and three suitable trees were located in the forest community southwest of the Highbury Avenue/Highway 401 Interchange.

Automatic Recording Units (ARUs), specifically, Wildlife Acoustic Mini Bat Detectors were placed in proximity to concentration of identified candidate bat maternity roosts in the Study Area from June 16 to July 6, 2022, to determine species presence/absence. Recording parameters followed guidance within *Species at Risk Bat Survey Note* (MECP 2022), *Treed Habitats – Maternity Roost Surveys* (MECP 2022), and *Bats and Bat Habitats: Guidelines for Wind Power Projects* (MNR 2011).

During the acoustic monitoring period, a total of 209 calls were detected at the ARUs. Four non-SAR bat species were identified from the recorded calls, including Big Brown Bat, Eastern Red Bat, Hoary Bat, and Silver-haired Bat. There were no SAR bat calls recorded.



DESIGN AND CONSTRUCTION REPORT

Highway 401 Five Structure Replacements, Highbury Avenue Interchange Improvements, and Highway 401 Pavement Rehabilitation and Reconstruction (G.W.P. 3032-11-00)

January 2023

Species at Risk

No SAR were identified in the Study Area during 2022 field investigations.

Significant Wildlife Habitat

Candidate Significant Wildlife Habitat (SWH) with the potential to occur in the Study Area includes turtle nesting areas and terrestrial crayfish chimneys. Natural habitat for turtle nesting was not observed in the rights-of-way during field investigations. There is the potential for turtles to nest in road shoulders; however, road shoulders do not qualify as SWH. In 2012, Dillon observed terrestrial crayfish chimneys in the right-of-way. There is the potential for this species to occur in meadow and marsh communities throughout the Study Area; however, this was not confirmed.

Species of Conservation Concern

There are several Species of Conservation Concern (SOCC) that have the potential to be present in the Study Area. Individuals of one SOCC, Monarch, was observed by Dillon in 2012 and 2013 along with Common Milkweed in the Study Area and rights-of-way. Other SOCC that have the potential to be present in the Study Area include reptile SOCC (Eastern Milksnake, Eastern Ribbonsnake, Snapping Turtle, and Midland Painted Turtle), and forest bird SOCC (Eastern Wood-pewee and Wood Thrush). There was potential habitat for reptile SOCC in wetlands, aquatic features, forests, meadows, and agricultural areas in the Study Area. Reptile SOCC have the potential to enter the rights-of-way. Forest communities within the Study Area may support forest bird SOCC. Forest edges in the rights-of-way may provide suitable habitat for breeding Eastern Wood-pewee. It is unlikely, however, for Wood Thrush to occur in the rights-of-way, as this species prefers interior habitats away from disturbance and forest edges.

Potential Impacts

There is a potential for migratory birds, including Barn Swallow and Cliff Swallow, to build nests in/on structures within the Study Area prior to the start of construction. Work near active bird nests has the potential to disturb nesting behaviour and/or to damage/destroy the nests, particularly if vegetation clearing within the rights-of-way occurs during the active bird breeding window (i.e., April 1 to August 31).

Bat maternity roost habitat was limited to four trees within deciduous forests present in the Study Area, and SAR bats were not detected during acoustic surveys; therefore, impacts to SAR bats are not anticipated. Likewise, with the implementation of timing windows to avoid harm to roosting bats, no impacts to other bat species and/or their habitat are anticipated. Furthermore, forest and other suitable bat maternity habitat are



DESIGN AND CONSTRUCTION REPORT

Highway 401 Five Structure Replacements, Highbury Avenue Interchange Improvements, and Highway 401 Pavement Rehabilitation and Reconstruction (G.W.P. 3032-11-00)

January 2023

well represented in the region, and treed habitat adjacent to Highway 401 and Highbury Avenue is not likely to be high quality.

Suitable habitat for SAR and SOCC in the Study Area were primarily associated with deciduous woodland, wetland, and open meadow communities in the Study Area, and the best habitats were present outside of the existing rights-of-way. As construction activities will be confined to the rights-of-way, there is a low likelihood of impacts to habitat of SAR and SOCC.

Disturbance to habitat of Eastern Wood-pewee and Wood Thrush is not anticipated because their habitat is either outside the rights-of-way or is unlikely to be occupied in areas adjacent to Highbury Avenue where tree removals are proposed.

In southern Ontario, Monarch are primarily found in areas containing milkweed and wildflowers (COSEWIC 2010). The larvae occur only where milkweed exists, whereas adults are more generalized, feeding on a variety of wildflower nectar (MNR 2014). Monarch habitat may be present in roadside meadows, which will experience temporary disturbance during construction.

The interaction of Snapping Turtle and Midland Painted Turtle with construction activities could result in direct mortality. There is limited suitable habitat within the rights-of-way, but individuals may travel through construction areas when seeking nesting sites, such as the sand/gravel road shoulder. MTO has stockpiled excess material from a previous project at the Highway 401/Westchester Bourne Interchange. This stockpiled material will be used for construction of this project, and there is the potential for turtles to enter the stockpile area for nesting purposes. The stockpile is currently encircled by previously removed tall wall barrier and temporary concrete barrier to prevent turtle nesting.

Construction activities can also result in direct mortality to snakes. Snakes may be vulnerable during emergence from and re-entrance to a hibernaculum, and during basking periods, and may preferentially seek out construction materials to bask under. Peak activity for Eastern Milksnake and Eastern Ribbonsnake is typically between late April and late June (MNR 2013). Habitat for snake SOCC may be present in roadside meadows and ditches which will experience temporary disturbance during construction, and snake SOCC may enter the rights-of-way during construction.

There is the potential for Terrestrial Crayfish to be impacted during construction. Terrestrial Crayfish are known to be tolerant to temporary construction disturbance and have the ability to recolonize once habitat has been restored; however, surface water from roads may adversely affect Terrestrial Crayfish habitat as burrows can become flooded and/or contaminated with runoff and sediment. Also, the areas of widening



DESIGN AND CONSTRUCTION REPORT

Highway 401 Five Structure Replacements, Highbury Avenue Interchange Improvements, and Highway 401 Pavement Rehabilitation and Reconstruction (G.W.P. 3032-11-00)

January 2023

within the Highway 401 and Highbury Avenue rights-of-way may result in a direct and permanent loss of habitat.

Proposed Mitigation

Long term effects from the highway and intersection improvements are considered negligible with the implementation of the standard site-specific environmental protection measures included in this report. Standard and site-specific mitigation measures are listed in **Table 1**.

4.1.2 Fish and Fish Habitat

A Fish and Fish Habitat Existing Conditions and Impact Assessment Report (2022) provides supporting documentation for this project. Field investigations were completed on June 16 and July 26, 2022, to document aquatic ecological conditions in watercourses in the Study Area at Highway 401 and Highbury Avenue. During the fieldwork, MTO Watercourse Field Record Forms and MTO Fish Habitat Mapping Forms were completed, the watercourses were photographed, and *in situ* water quality parameters were measured. Forms and documentation were completed following the *Interim Environmental Guide for Fisheries* (MTO 2020). The Tributary to Murray Drain was not included in the June 2022 habitat assessment because data were available from Stantec's June 2020 field investigation undertaken for a separate study.

Due to the project schedule and timing of the project award, fish sampling was not conducted during Stantec's June 2022 field investigations; however, qualitative fish collections were conducted on July 26, 2022, using a backpack electrofisher in two watercourses in the Study Area where water was present at the time of the field investigation. Electrofishing was not conducted at the Tributary to Murray Drain due to high conductivity in the creek; therefore, fish collection was conducted using a dip net. Electrofishing data is available from the Tributary to Murray Drain, collected during Stantec's June 2020 field investigation undertaken for a separate study.

4.1.2.1 Existing Conditions

Within the Study Area, five watercourses support warmwater fish communities. Based on the results of Stantec's field investigations and available background data, Stantec determined that the watercourses at the following five locations provide direct fish habitat:

- Tributary to Murray Drain (conveyed under Highway 401 by the Tributary to Murray Drain Culvert, Site 19X-0650/C0)



DESIGN AND CONSTRUCTION REPORT

Highway 401 Five Structure Replacements, Highbury Avenue Interchange Improvements, and Highway 401 Pavement Rehabilitation and Reconstruction (G.W.P. 3032-11-00)

January 2023

- Murray Drain (west of the Tributary to Murray Drain Culvert, outside of the MTO right-of-way but parallel to the north side of Highway 401)
- Elliot-Laidlaw Drain (conveyed under Highway 401 by the Elliot-Laidlaw Drain Culvert, Site 19X-0651/C0)
- Hampton-Scott Drain (conveyed under Highway 401 by a non-structural culvert at Station 29+066)
- Moore Drain (conveyed under Highway 401 by a non-structural culvert at Station 29+963), provides seasonal habitat on the south side of Highway 401 only (i.e., not fish habitat on the north side of Highway 401)

Stantec determined that one watercourse provides indirect fish habitat:

- The Tributary to Elliot-Laidlaw Drain that crosses Highbury Avenue north of Highway 401 provides flow contribution to downstream habitat

Stantec determined that one watercourse does not provide fish habitat:

- W.M. Jackson Drain is not connected to other surface water features and does not provide fish habitat

Species lists from background data sources and Stantec's field investigations indicate that the warmwater fish communities in the Study Area are comprised primarily of baitfish species. There are no records of aquatic SAR in watercourses in the Study Area (MNR 2022b, DFO 2022). Stantec also determined that watercourses in the Study Area do not provide Significant Habitat for fish.

4.1.2.2 Potential Impacts

In consultation with Fisheries and Oceans Canada (DFO), MTO has developed the *Best Management Practices Manual for Fisheries* (MTO 2020c). The Best Management Practices (BMPs) and Table 2 of the *MTO/DFO/MNR Fisheries Protocol for Protecting Fish and Fish Habitat on Provincial Transportation Undertakings* (the Protocol) were developed for routine activities in or near water with minimal to no impacts to fish and fish habitat. If a project is located within 30 m of the high water level of a waterbody and the activity is listed in Table 2 of the Protocol, it can proceed without a Fisheries Assessment. Mitigation measures must be implemented to reduce the risk of death of fish or the harmful alteration, disruption or destruction (HADD) of fish habitat.



DESIGN AND CONSTRUCTION REPORT

Highway 401 Five Structure Replacements, Highbury Avenue Interchange Improvements, and Highway 401 Pavement Rehabilitation and Reconstruction (G.W.P. 3032-11-00)

January 2023

Tributary to Murray Drain Culvert (Site 19X-0650/C0)

The existing culvert is being replaced with a narrower culvert; therefore, the BMP for *Like-for-Like Culvert Replacement* is not applicable, and a Fisheries Assessment was conducted. The proposed work at the site also includes ditch cleanout on the north side of Highway 401 and new ditches on the south side of Highway 401. The BMP for *Ditch Maintenance Within 30 Metres of a Waterbody* is applicable to the ditch cleanouts proposed within 30 m of the culvert.

For the Fisheries Assessment, Pathways of Effects (POEs) for land-based and in-water activities were applied to determine residual effects of the culvert replacement. The existing concrete box culvert is 3 m wide and 73.9 m long and will be replaced with a new concrete box culvert that is 1.8 m wide and 74 m long. During a two-year storm, water velocity in the culvert will increase due to the reduced culvert width.

Rock protection (waterbody aggregate material) will be added to the bed and banks of the watercourse at both ends of the new culvert to reduce scour and erosion. Approximately 72 m² of the watercourse channel and banks will be lined with WB-200 (as per Table 3 of Ontario Provincial Standard Specification [OPSS.PROV] 1005). Granular B will be added to the waterbody material to reduce water loss among the interstitial spaces. The waterbody material will also be placed inside the culvert. The particle size of the rock protection was determined using the expected water velocity during a 100-year flow event, as determined by Stantec hydrologists.

The POEs that are applicable to land-based and in-water activities during construction at this site include vegetation clearing, grading, use of industrial equipment, fish passage issues, structure removal, placement of materials or structures in water, and change in timing, duration and frequency of flow. As part of the assessment, the following residual effects were identified:

- Change in access to habitats resulting from fish passage issues
 - The increase in water velocity during a 2-year storm event may result in a decrease in the number of fish (baitfish) that can pass through the culvert. The extent of habitat upstream of the culvert is limited to approximately 80 m of creek channel within an industrial area. This effect is permanent
- Change in habitat structure and cover, and change in food supply from placement of materials or structures in water
 - With the addition of rock protection on the creek banks and below the normal high water level, the habitat will change from fine substrates to coarse material that can provide structure, habitat diversity, and habitat for benthic invertebrates



DESIGN AND CONSTRUCTION REPORT

Highway 401 Five Structure Replacements, Highbury Avenue Interchange Improvements, and Highway 401 Pavement Rehabilitation and Reconstruction (G.W.P. 3032-11-00)

January 2023

that can serve as food for resident baitfish species. This effect is permanent and will affect approximately 72 m² of the watercourse

POEs, as listed above, have the potential to cause other direct and indirect impacts, including changes in sediment concentrations, changes in contaminant concentrations, changes in water temperature, potential mortality of fish/eggs/ova from equipment, incidental impingement or entrainment of fish, displacement or standing of fish, and changes in migration/access to habitats. These potential impacts, however, will be mitigated through OPSS.PROVs and measures included in the Contract Documents. A Project Notification Form will also be prepared at Step 5 of the Protocol for this site.

Murray Drain (north side of Highway 401, west of Site 19X-0650/C0)

As part of the proposed improvements, grading will be undertaken within 30 m of the drain. Table 2 of the Protocol is applicable to work within 30 m of the watercourse; therefore, no further assessment was conducted with respect to potential impacts to fish and fish habitat in Murray Drain.

Elliot-Laidlaw Drain Culvert (Site 19X-0651/C0)

The existing culvert will be replaced with a culvert of the same size. In addition, the proposed work at the site includes ditch cleanout on both sides of Highway 401. The BMPs for *Like-for-Like Culvert Replacement* and *Ditch Maintenance Within 30 Metres of a Waterbody* are applicable to the work proposed at the site. A Project Notification Form will also be prepared at Step 5 of the Protocol for this site.

Hampton-Scott Drain (Station 29+066)

As part of the proposed improvements, median barrier and steel guide rail will be installed within 30 m of the watercourse. Table 2 of the Protocol is applicable to work within 30 m of the watercourse; therefore, no further assessment was conducted with respect to potential impacts to fish and fish habitat in Hampton-Scott Drain.

Moore Drain (Station 29+963)

There is no work proposed within 30 m of this watercourse. As such, the Protocol is not applicable and impacts to Moore Drain are not anticipated.

4.1.2.3 Proposed Mitigation

Measures to reduce the risk of impacts to fish and fish habitat were implemented while designing the proposed improvements for the project. The project was designed such that channel relocations are not required and disturbance to fish habitat during construction is reduced to the extent possible. Drainage and stormwater management



DESIGN AND CONSTRUCTION REPORT

Highway 401 Five Structure Replacements, Highbury Avenue Interchange Improvements, and Highway 401 Pavement Rehabilitation and Reconstruction (G.W.P. 3032-11-00)

January 2023

improvements were also designed to reduce the effects on watercourses that provide fish habitat, to the extent possible.

Mitigation measures to reduce the risk of impacts to fish and fish habitat will also be implemented during construction. Works adjacent to aquatic resources that provide fish habitat are restricted to certain periods to avoid construction-related impacts to fish species during their most sensitive/vulnerable life cycles. For this project, in-water construction activities are permitted in watercourses in the Study Area from July 16 to March 14, inclusive (i.e., in-water work is not permitted from March 15 to July 15) (MNRF 2022d). The timing window does not apply to work above the high water level. The high water level as defined by DFO is the usual or average level to which a body of water raises at its highest point and remains for sufficient time to change the characteristics of the land. In flowing waters (e.g., rivers, streams) this refers to the “active channel/ bank-full level” which is often the 1-2 year flood flow return level.

The duration of in-water work should be reduced to the extent possible and be conducted during periods of low flow to allow in water to be isolated from flows. In-water work should be scheduled to avoid wet, windy, and rainy periods that may increase erosion and sedimentation. Additionally, the Design Builder should allow time for re-stabilization and re-vegetation, as appropriate, prior to winter.

The Design Builder will utilize and follow the requirements outlined in the BMP for *Ditch Maintenance Within 30 Metres of a Waterbody* for ditch cleanouts adjacent to the Tributary to Murray Drain Culvert and at Elliot-Laidlaw Drain Culvert. Additionally, the Design Builder will utilize and follow the requirements outlined in the BMP for *Like-for-Like Culvert Replacement* for work at Elliot-Laidlaw Drain Culvert.

The following general measures are applicable to the project and should be designed and implemented as per the list below:

- Limit access to banks or areas adjacent to watercourses to the extent required for construction activities
- Watercourse crossing (fording) is not permitted
- Manage and treat dewatering (or other) discharge water to reduce the risk of erosion and/or release of sediment-laden or contaminated water to surface water features
- Operate, store, and maintain (e.g., refuel) machinery on land above the high water level
- Operate, store, and maintain equipment, vehicles, and materials in a manner that reduces the risk of the entry of deleterious substances to surface water features



DESIGN AND CONSTRUCTION REPORT

Highway 401 Five Structure Replacements, Highbury Avenue Interchange Improvements, and Highway 401 Pavement Rehabilitation and Reconstruction (G.W.P. 3032-11-00)

January 2023

- Equipment operating within 30 m of surface water features will be free of fluid leaks, invasive species, and noxious weeds
- Design and implement erosion and sedimentation controls (E&SC) to contain/isolate the construction zone, manage site drainage/runoff, and reduce the risk of erosion of exposed soils and migration of sediment to surface water features during construction and site restoration
- Erosion and sedimentation control measures should be maintained until disturbed ground has been permanently stabilized. The plan should include:
 - Installation of effective erosion and sedimentation control measures before starting work to reduce the risk of sediment from entering surface water features
 - Regular inspection, maintenance, and repair of erosion and sedimentation measures during construction
 - Removal of non-biodegradable erosion and sedimentation materials once the site is stable
- Develop a Spill Management Plan and have it on site for implementation in the event of an accidental spill
- Stabilize and re-vegetate areas of disturbed/exposed soil, as per the rehabilitation/re-vegetation plan

Additionally, a special provision will be included in the Contract Documents to provide for the use of a native seed mix for restoration of disturbed areas. Ontario Provincial Standards and Specification to be applied during construction include (OPSS 180, 182, 517, 803, 804, 805, 825, 1005). Fish and Fish habitat protection measures are described further in **Table 1**.

4.1.3 Erosion and Sediment Control

An *Erosion and Sediment Control Risk Assessment* (ESORA) was completed by Dillon in 2018 for the proposed Highway 401/Highbury Avenue Interchange improvements (Dillon 2018). The ESORA findings were utilized for the preparation of an *Erosion and Sediment Control Plan* (ESCP) for the project (Stantec 2022). The ESCP has been developed to protect the receiving watercourses and wetlands from sediment-laden water and erosion potential during and following construction.

Critical areas of concern identified in the ESCP include Murray Drain, Elliot-Laidlaw Drain, Hampton-Scott Drain, and the Significant Woodland to the southwest of the



DESIGN AND CONSTRUCTION REPORT

Highway 401 Five Structure Replacements, Highbury Avenue Interchange Improvements, and Highway 401 Pavement Rehabilitation and Reconstruction (G.W.P. 3032-11-00)

January 2023

Highway 401/Highbury Avenue Interchange. The ESCP was created based on the precedent for protecting the watercourse crossings, wetlands, and woodlots in the Study Area.

Potential Impacts

The proposed improvements have the potential to create sources of erosion and sedimentation with the following activities:

- Road embankment grading and widening, increasing imperviousness
- Roadway profile grade raise with placement of fill
- Staged construction for the replacement of the Tributary to Murray Drain Culvert and Elliot-Laidlaw Drain Culvert
- Rehabilitation of non-structural culverts along the intermittent drainage ditches
- Ditch maintenance activities
- Construction of the proposed stormwater management facility
- Temporary construction staging (e.g., access, crossovers, pre-loading, etc.)
- Earth borrow and granular stockpiles.

Grading operations to accommodate the revised profiles of the interchange ramps and approaches to the Highbury Avenue Underpass will require the removal of some roadside vegetation and topsoil, and the placement of fill. The Highbury Avenue improvements south of the interchange will require road profile grade raise and new entrance on the west side of Highbury to accommodate future development. The impacts to the Significant Woodland are expected to be minimal and limited to the edge of the forest community.

The works at the Tributary to Murray Drain Culvert and Elliot-Laidlaw Drain Culvert will require in-water work and disturbances to areas adjacent to the watercourses. Suspension of sediment may have direct negative effects on resident fish and may affect the fish populations within the culvert reaches or downstream watercourses in the short term.

The Thames-Sydenham Region Source Protection Plan (2014) indicates that the Highway 401/Highbury Interchange Study Area is located in an area of low vulnerability for groundwater recharge and has low susceptibility to groundwater contamination due



DESIGN AND CONSTRUCTION REPORT

Highway 401 Five Structure Replacements, Highbury Avenue Interchange Improvements, and Highway 401 Pavement Rehabilitation and Reconstruction (G.W.P. 3032-11-00)

January 2023

to a thick confining layer of fine-grained till. The site is not located near identified wellhead protection zones.

Proposed Mitigation

The ESCP includes a multi-barrier approach which includes the prevention of erosion during construction operations and the prevention of suspended sediment from being released into the environment. Erosion and sedimentation protection will be provided during and after construction in accordance with applicable BMPs outlined in MTO's Environmental Guide for Erosion and Sediment Control During Construction of Highway Projects (2015), as summarized in the ESCP.

Erosion control BMPs are intended to mitigate the risk of erosion from areas of high erosion potential, such as exposed soil. Preventing erosion at the source reduces the required management of sediment downstream. Cover is the most effective erosion control measure to protect exposed soil from wind, rain splash, and overland flow.

Sediment control BMPs are intended for application to flowing water where there is a need to retain mobilized sediment and prevent water with excessive sediment from leaving the construction site. Sediment control measures should be installed at the source to reduce the quantity of water that must be managed.

Mitigation measures for erosion, sedimentation, and dust control will be implemented during construction to reduce sediment and dust from entering sensitive natural features. The primary principles associated with sedimentation and erosion protection measures are to: (1) minimize the duration of soil exposure; (2) retain existing vegetation, where feasible; (3) encourage re-vegetation; (4) divert runoff away from exposed soils; (5) keep runoff velocities low; and to (6) trap sediment as close to the source as possible.

To address these principles, the following mitigation measures are proposed:

- Installation of silt fencing and/or barriers along work zones where there is potential for sedimentation or inadvertent encroachment of construction vehicles into Significant Woodlands, wetlands, or watercourses
- Avoid entering any natural areas beyond the barrier fencing with equipment and avoid excess vegetation removal
- Stabilize exposed soil areas (with native seed mixes, sourced locally, if possible) and re-vegetate through the placement of seed and mulching or seed and an erosion control blanket, promptly upon completion of construction activities



DESIGN AND CONSTRUCTION REPORT

Highway 401 Five Structure Replacements, Highbury Avenue Interchange Improvements, and Highway 401 Pavement Rehabilitation and Reconstruction (G.W.P. 3032-11-00)

January 2023

- Re-fuel equipment 30 m away from wetlands and watercourses to reduce potential impacts in the event that an accidental spill occurs
- In addition to any specified requirements, make additional silt fence available on site, prior to grading operations, to provide a contingency supply in the event of an emergency
- Monitor all sediment and erosion controls regularly and properly maintain, as required. Remove controls only after the soils of the construction area have been stabilized and adequately protected or until cover is re-established
- Monitor limits of construction adjacent to natural features during construction (along with erosion and sedimentation control measures) to ensure that the limits are maintained with respect to vehicular traffic and soil or equipment stockpiling
- Avoid stockpiling excess materials on site within proximity of Significant Woodlands, wetlands, or watercourses
- Restore any disturbed natural areas to pre-construction conditions

A contingency plan is included in the ESCP to mitigate adverse impacts due to failure of erosion and sedimentation control measures. Failure of these measures may result from insufficient erosion and sedimentation control measures, neglect of BMP maintenance, severe weather conditions, etc.

4.1.4 Drainage

Under existing conditions, six non-structural concrete box culverts, two non-structural pipe culverts, and three structural concrete box culverts cross Highway 401 in the Study Area. Eight non-structural pipe culverts cross the Highway 401/Highbury Avenue Interchange ramps. A detailed topographic survey within the MTO right-of-way and Highway 401/Highbury Avenue Interchange was completed during the Preliminary Design/Design-Build Ready phase of the project. The topographic survey for the drainage design encompassed the existing drainage ditches, municipal drain inverts, and culvert elevations. A subsequent culvert inspection was completed by Stantec in 2022 to confirm the condition, dimensions, and existing drainage patterns upstream and downstream of the culverts.

A hydraulic analysis was completed to determine the surface drainage characteristics of the Study Area. Existing and proposed models were created to evaluate the performance of the drainage system and to provide recommendations based on the proposed works on the lands contributing to the drainage features. The hydraulic analysis was completed in accordance with methods represented in the MTO Drainage



DESIGN AND CONSTRUCTION REPORT

Highway 401 Five Structure Replacements, Highbury Avenue Interchange Improvements, and Highway 401 Pavement Rehabilitation and Reconstruction (G.W.P. 3032-11-00)

January 2023

Design Manual (1997) and is documented in Stantec's *Drainage and Hydrology Report* (2022).

Based on the existing conditions hydraulic analysis and culvert inspection, eight of the ten non-structural pipe culverts are recommended for replacement. Likewise, two structural culverts, Tributary to Murray Drain Culvert and Elliot-Laidlaw Drain Culvert, are recommended to be replaced with new culverts that exceed hydraulic requirements per MTO's Highway Design Drainage Standards (HDDS) (2008). The six non-structural concrete box culverts in the Study Area are in good condition and exceed hydraulic requirements per the HDDS. Hampton-Scott Drain Culvert also exceeds hydraulic requirements per the HDDS. As such, these culverts are proposed to be retained. It was also recommended that two new non-structural pipe culverts be installed in the S-W and N-E ramps of the Highway 401/Highbury Avenue Interchange.

The proposed improvements at the Highway 401/Highbury Avenue Interchange will directly impact the existing median storm sewer system capacity. It was determined that the increased drainage areas resulting from the widening will create surcharge conditions under a 10-year design storm. As a result, replacement of the Highway 401 median storm sewer system between Wellington Road and Highbury Avenue was recommended.

To mitigate the potential increase of flows as a result of the proposed improvements, the ditches west of the CNR Overhead Structure and east of Pond Mills Road Overpass will be enhanced and widened on the south side of Highway 401. The enhanced ditches will allow for additional flow attenuation, mitigating impacts on downstream receiving watercourses.

Under existing conditions, the Highway 401 right-of-way drainage between the CNR Overhead Structure and Pond Mills Road is conveyed to the Pond Mills Road ditches south of Highway 401. This includes the drainage collected from the median storm sewer and the roadside ditch. During Preliminary Design, it was determined that the downstream receiving watercourses, including the storm sewer system along Pond Mills Road, have limited capacity for additional runoff from the proposed expansion of Highway 401. As a result, it was recommended that a stormwater management facility dry pond designed for quantity control be constructed on the south side of Highway 401, within the MTO right-of-way. The proposed stormwater management facility dry pond will attenuate the post-construction peak flow rates to pre-construction peak flow rates, up to and including the 100-year storm event flow rate. It will also provide quantity control by reducing the flows to, and surcharge potential of, the downstream receiving storm infrastructure.



DESIGN AND CONSTRUCTION REPORT

Highway 401 Five Structure Replacements, Highbury Avenue Interchange Improvements, and Highway 401 Pavement Rehabilitation and Reconstruction (G.W.P. 3032-11-00)

January 2023

4.1.5 Groundwater Resources

A *Hydrological Assessment Report* (2022) was completed to consider the groundwater and source water setting, construction dewatering requirements, management of discharge, impact assessment and contingency plan. A Category 3 Permit to Take Water (PTTW) will be required to ensure adequate flexibility of construction operations.

The geology and hydrogeology in the vicinity of the Study Area are interpreted based on regional mapping and reporting, surficial geology mapping, and results of geotechnical studies completed in the area. Surficial geology mapping by the Ontario Geological Survey (2010) indicates that surficial deposits of clay or silt textured till are located through the majority of the Study Area, with modern alluvial deposits of clay, silty, sand, and gravel located near the banks of the Elliot-Laidlaw Drain bedrock. Coarse-textured glaciolacustrine deposits of sand, gravel, minor silt, and clay are mapped to the south and east of Highbury Avenue. Pockets of organic material are also located near the Study Area and intersect Highway 401 approximately 900 m east of Highbury Avenue.

This description is consistent with MECP Water Well Records (WWRs), where it is noted that wells along the route are generally drilled through silt to clay overburden, sometimes describing it as till. Shallow coarser materials such as sand and gravel are described on some WWRs. For the 14 wells in the Study Area with a total depth of less than 30 m and an available water level, an average static water level of about 11 m below ground surface was recorded (MECP 2022a).

Bedrock was encountered in three WWRs at depths ranging from about 56 to 62 m BGS and was described as shale or limestone (MECP 2022a). The bedrock geology beneath the Study Area is comprised of limestone, dolostone, and shale of the Dundee Formation (Armstrong and Dodge 2007). Construction will involve excavation depths of less than 10 m BGS and contact with bedrock is not expected.

Thurber Engineering Ltd. (Thurber) (2016) completed a Foundation Investigation and Design Report for the reconstruction of the Highway 401/Highbury Avenue Interchange, which included borehole drilling, monitoring well installation, settlement assessment, and grain size analysis. In 2022, Stantec completed a geotechnical investigation, which involved drilling approximately 86 boreholes, including completing eight as monitoring wells. The results of this investigation are still pending; therefore, Stantec's *Hydrogeologic Assessment Report* (2022) utilized information from the 2016 investigations completed by Thurber.

The results of Thurber's geotechnical investigations were consistent with MECP WWRs in the vicinity of the Highway 401/Highbury Avenue Interchange. Fill was encountered



DESIGN AND CONSTRUCTION REPORT

Highway 401 Five Structure Replacements, Highbury Avenue Interchange Improvements, and Highway 401 Pavement Rehabilitation and Reconstruction (G.W.P. 3032-11-00)

January 2023

beneath roadways, as expected, with native overburden generally described as silt to clay till. Bedrock was not encountered.

Regional groundwater flow in the Study Area is interpreted to flow south toward Lake Ontario, while local groundwater flow conditions are impacted by nearby surface water features (Dillon 2004). Historical groundwater monitoring near the Highway 401/ Highbury Avenue Interchange by Thurber in 2012 and 2016 indicated the following:

- Water levels at Borehole (BH) 1 at 11.5 m below ground surface (263.5 m above mean sea level)
- Water levels at BH2 at 4.5 m below ground surface (270.9 m above mean sea level)
- Water levels at BH16-04 at 16.4 m below ground surface (266.1 m above mean sea level) to 17.9 m below ground surface (264.6 m above mean sea level)
- Water levels at BH16-06 at 10.0 m (272.5 m above mean sea level) to 10.8 m below ground surface (271.7 m above mean sea level)

4.1.5.1 Source Water Protection

The primary objective of a Source Protection Plan, as provided for in the Clean Water Act (2006), is to protect existing and future drinking water sources. The Study Area is located in the Upper Thames River Source Protection Area, and Thames-Sydenham Source Protection Region.

The Study Area is not located within, or adjacent to any Wellhead Protection Areas or Intake Protection Zones, and there are no municipal well fields in the immediate vicinity of the Study Area. The nearest surface water intake is located approximately 32 km south of the Study Area, just east of Port Stanley, with an associated Intake Protection Zone located approximately 29 km to the south of the Study Area (MECP 2022b). The closest Wellhead Protection Areas are associated with the Belmont Well Supply System and the Dorchester Well Supply System, which are located approximately 9 km southeast and 9 km east of the Study Area, respectively (MECP 2022b). Given this information and the depth of the planned construction, the proposed construction is not considered to be a significant groundwater threat to the municipal water supply under the *Clean Water Act* (2006).

The Study Area is not located within a Significant Groundwater Recharge Area. A small area that is designated as a Highly Vulnerable Aquifer is located near Elliot-Laidlaw Drain Culvert (MECP 2022b).



DESIGN AND CONSTRUCTION REPORT

Highway 401 Five Structure Replacements, Highbury Avenue Interchange Improvements, and Highway 401 Pavement Rehabilitation and Reconstruction (G.W.P. 3032-11-00)

January 2023

Stantec's *Hydrogeologic Assessment (2022)* determined that, based on the *Clean Water Act (2006)*, there are no significant chemical, pathogen, or dense non-aqueous phase liquids source water threats to municipal supply sources due to the proposed improvements.

4.1.5.2 Construction Dewatering and Permit to Take Water

Construction dewatering will be completed on an as-required basis at each of the five structures to be replaced. A Permit to Take Water (PTTW) for construction dewatering will be obtained prior to construction commencing and is intended to cover unexpected conditions and account for precipitation events. A hydrogeologic assessment was completed to support the proposed PTTW application and was documented in the *Hydrogeologic Assessment Report (Stantec 2022)* undertaken for the project.

In the report, dewatering rates were estimated for each of the five structures to be replaced; however, the actual dewatering rates will be dependent on the conditions encountered. The estimated dewatering rates for dewatering at the structures ranged from approximately 67,000 litres per day (L/day) at the CNR Overhead Structure to approximately 407,000 L/day at Elliot-Laidlaw Drain Culvert.

Additional construction dewatering capacity may be required in the event of significant precipitation events, which could result in significant pooling of surface runoff and precipitation within any open excavation. Stormwater inflows were estimated for the 1:100 year return period precipitation event. The local 1:100 year, 24-hour duration storm event has a rainfall depth of approximately 134 mm based on Intensity-Duration-Frequency information from MTO (2010) for the Study Area. Such a storm event would result in the accumulation of precipitation within an open excavation ranging from approximately 59,000 L/day at the Tributary to Murray Drain Culvert to 300,000 L/day at the CNR Overhead Structure.

For the purposes of dewatering, once stormwater enters an excavation it is considered groundwater and included in the total volume of groundwater pumped. The maximum day dewatering rate is estimated as the estimated groundwater pumping rate and stormwater removal rate for a 1:100 year storm event. The maximum day rates ranged from 277,000 L/day at the Tributary to Murray Drain Culvert to 516,000 L/day at Elliot-Laidlaw Drain Culvert.

It is the Design Builder's responsibility to design and implement a dewatering strategy for groundwater dewatering in the Study Area, but it is anticipated that dewatering will be completed with standard construction sump/trash pump(s) or equivalent, with trench dewatering occurring on an as-required basis. The Design Builder may also use a well point system, passive drainage, or equivalent, as required.



DESIGN AND CONSTRUCTION REPORT

Highway 401 Five Structure Replacements, Highbury Avenue Interchange Improvements, and Highway 401 Pavement Rehabilitation and Reconstruction (G.W.P. 3032-11-00)

January 2023

Additionally, it is expected that a bypass or flume of surface water flow will be required to facilitate the proposed replacement of culverts in the Study Area. Under Ontario Regulation 64/16, a PTTW is not required for a construction-related activity that involves passive or active diversion of water within a watercourse to accommodate in-water construction activity. As such, a PTTW will not be required for the active in-stream diversion for the proposed culvert replacements as long as the conditions in Ontario Regulation 64/16 are complied with.

With respect to the proposed groundwater dewatering, interference with surface water features is not expected based on the minimal extent of drawdown predicted.

Potential Impacts

It is anticipated that impacts on groundwater will be minimal. Standard best management practices and appropriate environmental protection measures will be adopted during construction to mitigate potential impacts to the groundwater system with additional mitigation measures and monitoring.

Of the 182 MECP WWRs located in the Study Area, only 19 WWR are classified as water supply wells, while the majority are monitoring wells, abandoned, or unknown. There are no WWRs categorized as water supply wells within the calculated radii of influence for the five culvert replacements; therefore, no private well interference is anticipated.

Considering significant below ground excavation is not anticipated to the east of the Highbury Avenue interchange, the nearest potential private water supply wells that may be in use located between Highbury Avenue and Wellington Road and are associated with properties along Wilton Grove Road near the intersection of Highbury Avenue South. There are an estimated seven (7) potential private wells within 250 m of Highbury Avenue S along Wilton Grove Road.

To address potential interference concerns, in October 2022 Stantec completed a private well monitoring program prior to construction activities. The purpose of the monitoring program was to establish baseline conditions that will be used to help assess well interference complaints should they arise. Stantec delivered a notification letter on October 18, 2022 to five (5) houses identified to have a private well west of Highbury Avenue along Wilton Grove Road. No responses to the notification were received and no monitoring was completed. The properties with private wells are within an area designated on the London Official Plan as the 401 Industrial Expansion area and are in a period of transition from residential to industrial.

As noted in Section 4.1.5.1, given the information regarding groundwater features within and adjacent to the Study Area and the depth of the planned construction, the proposed



DESIGN AND CONSTRUCTION REPORT

Highway 401 Five Structure Replacements, Highbury Avenue Interchange Improvements, and Highway 401 Pavement Rehabilitation and Reconstruction (G.W.P. 3032-11-00)

January 2023

construction works are not considered to be a significant groundwater threat to municipal water supply sources under the *Clean Water Act* (2006). There are also no significant chemical, pathogen, or dense non-aqueous phase liquids source water threats to municipal supply sources due to the proposed improvements.

Ancillary project activities (e.g., application of road salt, handling and storage of fuel, etc.) may pose a low risk to local groundwater and surface water quality.

Proposed Mitigation

During groundwater dewatering, it is the Design Builder's responsibility to document pumping rates, as daily records will be required to be reported annually to MECP for the PTTW. The dewatering volume can be estimated by the Design Builder using a flow meter, manual measurement in the field, estimated based on the pump type, size and duration of pumping, and/or an equivalent calculation, as determined by the Design Builder.

The Design Builder will be responsible for determining the appropriate discharge location(s) during dewatering, which may include discharging to a sanitary/storm sewer, the environment, or removing and disposing of the discharge off-site. The Design Builder shall adhere to all relevant regulations, and shall ensure that appropriate mitigation, contingency, and monitoring measures are implemented during dewatering. The Design Builder shall also obtain any relevant agreements, approvals, permits, etc. required for their selected method of discharging during dewatering.

Standard mitigation measures will be implemented to reduce the risk of impacts during construction, including the installation and maintenance of erosion and sedimentation control measures, refueling and maintenance of equipment away from water features, and having spill containment kits on site.

Ancillary project activities (e.g., application of road salt, handling and storage of fuel, etc.) may pose a low risk to local groundwater and surface water quality. To minimize these risks, MTO and the Design Builder will apply current BMPs (e.g., Salt Management Plan) and adhere to established Ministry plans and policies, special contract provisions, OPSSs, and contract monitoring.

4.1.6 Landscape Plan

A Landscape Design Plan was developed for the Highway 401/Highbury Avenue Interchange based on the *Bridge Aesthetics and Landscape Architecture along Highway 401 in the City of London* (Stantec 2022) developed in consultation with the City of London under another project. The plan includes plantings of shrubs, and deciduous and coniferous trees within the interchange and Pond Mills bridge. The Project Team



DESIGN AND CONSTRUCTION REPORT

Highway 401 Five Structure Replacements, Highbury Avenue Interchange Improvements, and Highway 401 Pavement Rehabilitation and Reconstruction (G.W.P. 3032-11-00)

January 2023

will consult with the City of London to ensure the plantings meet the aesthetics the city has planned for the Highway 401 Corridor through London. The Landscape Design Plan will be implemented by the Design Builder.

4.1.7 Management of Excess Materials

It is anticipated that any excess material generated during construction will be reused within the limits of the project. All excess material generated during construction shall be managed in accordance with OPSS.PROV 180 and measures provided in the Contract Documents.

4.1.8 Property Contamination

To support the completion of the 2017 TESR, Dillon undertook a *Contamination Overview Study* (COS) in 2015. The COS consisted of a non-intrusive, windshield-level visual survey of properties and a review of readily accessible documentation to assess activities and land use for potential environmental concerns, as well as signs of subsurface and groundwater contamination. The areas assessed for potential contamination included Elliot-Laidlaw Drain Culvert, Pond Mills Road Overpass, CNR Overhead Structure, Tributary to Murray Drain Culvert, and areas of permanent property acquisition.

The COS Report identified the following areas as having a high potential for contamination:

- Recently acquired MTO property adjacent to properties with private fuel outlets, and an industrial tool and mold manufacturing facility on Towerline Place
- A portion of the MTO right-of-way in the vicinity of Elliot-Laidlaw Drain Culvert that is adjacent to a property that conducts truck maintenance and has a retail fuel outlet on Buchanan Court
- A portion of the MTO right-of-way in the vicinity of Elliot-Laidlaw Drain Culvert that is adjacent to a property that conducts vehicle maintenance/repair and has a retail fuel outlet on Enterprise Drive, and
- Recently acquired MTO property adjacent to a private fuel outlet on Pond Mills Road

Additionally, the area around the CNR Overhead Structure and Tributary to Murray Drain Culvert were identified as having low potential for impacts to the subsurface. The COS Report recommended that, based on the findings of the study, Phase I Environmental Site Assessments be undertaken for areas identified as having high potential for contamination to the subsurface (Dillon 2015).



DESIGN AND CONSTRUCTION REPORT

Highway 401 Five Structure Replacements, Highbury Avenue Interchange Improvements, and Highway 401 Pavement Rehabilitation and Reconstruction (G.W.P. 3032-11-00)

January 2023

MTO retained WSP E&I Canada Limited (WSP) to investigate the areas identified as having a high potential for contamination to the subsurface. Soil and groundwater samples were collected for analysis for suspect parameters of concern. The assessment criteria applicable to the site was determined to be Table 3 Site Condition Standards for industrial/commercial/community land use and medium to fine textured soils. The results of the soil and groundwater testing indicated no exceedances of Table 3 Site Condition Standards for petroleum hydrocarbons, volatile organic compounds, polycyclic aromatic hydrocarbons, or Ontario Regulation 153/04 metals. Based on the findings of the investigation, WSP concluded that no further environmental site assessment work was warranted. WSP's investigation was documented in a *Soil and Ground Water Investigation Report (2022)*.

4.1.9 Designated Substances and Waste Management

4.1.9.1 Designated Substances

There is the potential for designated substances to be present within some of the existing bridges in the Study Area. Asbestos may be present in certain bridge components at the Highbury Avenue Underpass and the CNR Overhead Structure. Silica and lead may also be present at structures in the Study Area.

Appropriate measures for testing, handling, storing, and disposing of designated substances will be determined by the Design Builder in consultation with MTO, and will be in accordance with all relevant legislation.

4.1.9.2 Waste Management

During construction, there is some potential for spills of operational fluids from vehicles, equipment and other sources. Spills can result in the contamination of soils and contribute to surface and groundwater degradation. During construction, the potential for spills is greatly reduced by managing these materials according to regulations and implementing appropriate mitigation. A Spill Prevention and Response Contingency Plan will be prepared to address procedures for preventing and responding to spills, and equipment and resources that will be available to prevent/ respond to all potential discharges resulting from Design Builder's operations.

Standard mitigation measures for waste and spills management can be found in **Table 1**.



DESIGN AND CONSTRUCTION REPORT

Highway 401 Five Structure Replacements, Highbury Avenue Interchange Improvements, and Highway 401 Pavement Rehabilitation and Reconstruction (G.W.P. 3032-11-00)

January 2023

4.2 Cultural Environment

4.2.1 Heritage Resources

The bridges and culverts with proposed work were pre-screened or assessed as part of previously completed Preliminary Design and Class EA studies for built heritage resource potential. Bridges and culverts in the Study Area are not listed on the Ontario Heritage Bridge list or the MTO *Heritage Bridges: Identification and Assessment Guide, Ontario 1945-1965* and were not identified as built heritage resources in documentation completed for previous studies.

4.2.2 Archaeological Resources

As part of the 2012 TESR Addendum, a Stage 1 and 2 Archaeological Assessment was completed by Fisher Archaeological Consulting on behalf of Dillon, for lands with archaeological potential within and adjacent to the Highway 401/Highbury Avenue Interchange. The areas to be impacted by the widening of Highbury Avenue, south of Highway 401 were assessed as part of the investigation. The assessment determined that there was no archaeological significance and that no further archaeological investigations were required for the Study Area. The Stage 1 and 2 Archaeological Assessment Report was accepted into the Ontario Public Register of Archaeological Reports by the Ministry of Tourism, Culture and Sport, on January 17, 2013.

In addition, a Stage 1 Archaeological Assessment was completed in 2001 as part of the 2004 Class EA and Preliminary Design for improvements to Highway 401 from 1.0 km west of Highway 4 (Colonel Talbot Road) easterly to 1.0 km east of Highbury Avenue, as documented in the 2004 TESR. The assessment determined that the lands along Highway 401 from Exeter Road to Highbury Avenue have been extensively disturbed and have low archaeological potential. Based on this, it was determined that no further archaeological assessments were required for areas within the highway right-of-way through this corridor.

MTO reviewed the recommendations of the 2001 Stage 1 Archaeological Assessment Report as part of the 2017 TESR completed for the *Tributary to Murray Drain Culvert, CNR Overhead Structure, and Pond Mills Road Overpass Replacements*. As the recommended improvements affected lands beyond the Highway 401 right-of-way, a Stage 1 Archaeological Assessment was completed. The report recommended a Stage 2 Archaeological Assessment on lands to be acquired to facilitate the replacement work. As part of this design study, it was determined that the work at these sites will occur solely within the highway right-of-way. As such, a Stage 2 Archaeological Assessment for the sites is not required.



DESIGN AND CONSTRUCTION REPORT

Highway 401 Five Structure Replacements, Highbury Avenue Interchange Improvements, and Highway 401 Pavement Rehabilitation and Reconstruction (G.W.P. 3032-11-00)

January 2023

A Temporary Licence Agreement with Hydro One is required for a portion of land on the north end of the Elliot-Laidlaw Drain Culvert to install a temporary flow-passage system during construction. The land is owned by Hydro One and a Stage 1-2 Archaeological review will be completed prior to construction at this location.

During construction, there is always the chance of encountering deeply buried archaeological material. If the Design Builder's operations expose any items which may indicate an archaeological find, such as building remains, hardware, accumulations of bones, pottery, or arrowheads, the Design Builder shall immediately notify the Contract Administrator and suspend operations within the area identified by the Contract Administrator. Work shall remain suspended within that area until otherwise directed by the Contract Administrator in writing.

4.3 Socio-economic Environment

4.3.1 Adjacent Land Use and Property Access

The majority of land in the Study Area is designated as Light Industrial, with woodlands, wetlands, and watercourses designated as Green Space, and areas at the east end of the Study Area designated as Farmland, Future Industrial Growth, and Environmental Review. Rural residences are scattered along Wilton Grove Road. Access to residences will be maintained at all times during construction.

Local residents and businesses may experience temporary disruption during construction due to lane reductions and temporary full closures of Highway 401, Pond Mills Road, and Highbury Avenue, as well as ramp closures at the Wellington Road and Highbury Avenue interchanges.

4.3.2 Consistency with Provincial Policy Statement

The Provincial Policy Statement (PPS) is issued under Section 3 of the Planning Act and came into effect on May 1, 2020. Section 3 of the Planning Act states decisions affecting planning matters "shall be consistent with" the PPS. The consistency of the proposed improvements (defined as "infrastructure" in the PPS) with the relevant Infrastructure and Public Service Facilities policies included in Section 1.6 of the PPS is summarized as follows:

- The planned improvements are appropriate to address the project needs and will also allow the Provincial highway system to continue to operate in a safe, energy efficient manner, which facilitates the movement of people and goods. The project need is based on maintaining the highway infrastructure in an operable state;



DESIGN AND CONSTRUCTION REPORT

Highway 401 Five Structure Replacements, Highbury Avenue Interchange Improvements, and Highway 401 Pavement Rehabilitation and Reconstruction (G.W.P. 3032-11-00)

January 2023

- The project makes efficient use of existing and planned infrastructure;
- MTO's Class EA planning and design process has integrated transportation and land use planning considerations at all stages of the project; and
- As required by Section 1.6.8.1, MTO has planned for, and protected the corridors and rights-of-way for transportation facilities to meet current and projected needs.

Section 1.6.8.6 requires that MTO, when planning for corridors and rights-of-way for significant transportation facilities, consider the significant resources protected by Section 2 of the PPS, Wise Use and Management of Resources. The project is not anticipated to impact significant resources.

4.3.3 Air Quality

Dust and air quality impacts on adjoining land uses during construction will be minimized by General Conditions included in the Contract.

4.3.4 Construction Noise

Construction noise impacts are temporary in nature and largely unavoidable. With adequate controls, impacts can be minimized; however, for some periods of time and types of work, construction noise will be noticeable. The Design Builder is expected to comply with all applicable noise mitigation requirements to be included in the Contract Documents.

4.3.5 Construction Vibration

Pre- and post-construction condition monitoring will be undertaken for all buildings, underground utilities, structures, water wells, and facilities that may be affected by deep foundation work at all three bridges. Vibration monitoring of the City of London watermain will also be undertaken during deep foundation installations at the new Pond Mills Road Overpass. Pre-construction condition surveys shall be completed a minimum of two weeks prior to commencement of the installation of the deep foundations. Post-construction condition surveys shall be undertaken within two months of the completion of the installation of the deep foundations. The requirements for the surveys will be outlined in the Contract Documents.



DESIGN AND CONSTRUCTION REPORT

Highway 401 Five Structure Replacements, Highbury Avenue Interchange Improvements, and Highway 401 Pavement Rehabilitation and Reconstruction (G.W.P. 3032-11-00)

January 2023

4.4 Active Transportation, Traffic, and Emergency Services

There are no designated active transportation routes in the Study Area. As such, impacts to active transportation are not anticipated as a result of construction.

Construction staging and traffic management will be required for the construction of the proposed improvements, as described in Section 3.2.

Motorists and commercial haulers travelling through the Study Area may experience temporary delays or disruptions during construction. Detour routes will be provided during temporary full closures of Highway 401 and roads in the Study Area, as specified in the contract documents. Advanced signing of construction and detour routes will be used during construction.

The Design Builder will monitor traffic conditions to ensure that unreasonable delays and backups are not occurring. Corrective action will be taken, as required, to remedy potentially unsafe situations. These measures are expected to keep traffic delays to the travelling public and commercial truck traffic to a minimum, while maintaining safety through the Study Area.

The City of London, local student transportation services, and emergency services will be advised of construction start at least two weeks prior to the implementation of construction staging and/or temporary highway/road closures.

The project website (www.hwy401highbury.ca) will provide a link to the Ontario 511 – Traveler Information Services website, which provides access to MTO road information on provincially maintained highways.

4.5 Utilities

A number of utilities exist within the highway right-of-way, including Bell Canada underground cable and fibre optics lines, Hydro One distribution lines, London Hydro underground plant and aerial distribution services, a City of London watermain, sewer main, illumination, and traffic signals, Enbridge Gas mains, and Rogers Communication Inc. underground plant. There are no pipelines within the project limits.

Several utilities have been relocated within the project limits, including those of London Hydro, Bell Canada, and Enbridge Gas to accommodate the grade raise and widening of Highway 401, west of Highbury Avenue. All relocations required to accommodate the proposed work have been completed or will be completed in advance of construction in that area. Where located under or near hydro transmission lines, clearance of the grade



DESIGN AND CONSTRUCTION REPORT

Highway 401 Five Structure Replacements, Highbury Avenue Interchange Improvements, and Highway 401 Pavement Rehabilitation and Reconstruction (G.W.P. 3032-11-00)

January 2023

raises on Highway 401 and Highbury Avenue, as well as the location of high mast lights, conventional lights, traffic signals and overhead signs has been requested from Hydro One and is currently under review. Construction will not proceed on this work until clearance is obtained.

4.6 Climate Change

Highway 401 is a critical component of the Provincial highway system, providing for the efficient movement of people and goods across Ontario. Maintenance of and improvements to the highway and its associated infrastructure are periodically required to continue its safe and efficient operation. Several structures within the Study Area are nearing the end of their service life and require replacement, including the Tributary to Murray Drain Culvert, CNR Overhead Structure, Pond Mills Road Overpass, Highbury Avenue Underpass, and Elliot-Laidlaw Drain Culvert. In addition, rehabilitation of the Highway 401 pavement and improvements to the Highway 401/ Highbury Avenue Interchange will provide improved traveling conditions through the Study Area. The proposed improvements for the project will be undertaken in a manner that is as efficient as possible to reduce the overall duration of construction.

To facilitate the proposed improvements, removal of vegetation from the Study Area is required. Mitigation measures will be implemented to protect adjacent vegetation from potential impacts during clearing and construction, and tree removals will be limited, to the extent possible. Roadside areas disturbed by construction will be re-seeded with native seed mix to promote recolonization by native vegetation species. A Landscape Plan has also been produced for plantings of shrubs and deciduous and coniferous trees within the Study Area to replace trees removed at a ratio of 1:1.

Drainage improvements are also proposed throughout the Study Area to replace or improve deficient infrastructure. Proposed improvements include the replacement of structural and non-structural culverts with culverts that will meet or exceed hydraulic requirements up to and including a 100-year storm event, and replacement of the median storm sewer to provide for additional capacity. Ditches in the Study Area are also proposed to be enhanced to provide for additional attenuation of flows, mitigating impacts on downstream receiving watercourses. To accommodate the proposed improvements and to provide for additional stormwater quantity control, construction of a stormwater management facility dry pond is proposed on the south side of Highway 401 between Pond Mills Road and the CNR Overhead Structure, within the MTO right-of-way. These improvements are proposed to control the anticipated peak stormwater flows within the Study Area, which will provide resilience to the associated infrastructure.



DESIGN AND CONSTRUCTION REPORT

Highway 401 Five Structure Replacements, Highbury Avenue Interchange Improvements, and Highway 401 Pavement Rehabilitation and Reconstruction (G.W.P. 3032-11-00)

January 2023

Should the Design Builder identify any efficiencies and/or mitigation measures that can be implemented to reduce the overall impact that the project has on climate change, they will take the necessary steps to implement the efficiencies/measures, where appropriate.

5.0 Summary of Environmental Effects, Mitigation and Commitments

As shown in **Table 1**, the proposed improvements will not have significant impacts on the natural, cultural, or socio-economic environment. To the extent possible, adverse impacts can be avoided or mitigated by the measures and provisions included in the Contract Documents. The table forms a comprehensive checklist of the commitments made to external agencies, the public, and other stakeholders during this Design Build study.



DESIGN AND CONSTRUCTION REPORT

Highway 401 Five Structure Replacements, Highbury Avenue Interchange Improvements, and Highway 401 Pavement Rehabilitation and Reconstruction (G.W.P. 3032-11-00)

January 2023

Table 1: Summary of Environmental Effects, Proposed Mitigation, and Commitments for Future Work

LEGEND

DFO	Fisheries and Oceans Canada	MCM	Ministry of Citizenship and Multiculturalism	STS	Student Transportation Services
MTO	Ontario Ministry of Transportation	UTRCA	Upper Thames River Conservation Authority	PUB	General Public
MNRF	Ministry Natural Resources and Forestry	CITY	City of London	RES/BUS	Residents/Businesses
MECP	Ministry of the Environment, Conservation and Parks	EMERG	Emergency Services	UTIL	Utilities

ID #	Environmental Effect/ Concern and Potential Impact	Concerned Agencies	ID #	Mitigation/Commitment for Future Work
1.0	Environmentally Sensitive Areas			
1.1	Potential for direct and indirect impacts to the Significant Woodland to the southwest of the Highway 401/Highbury Avenue Interchange, beyond the areas to be cleared to facilitate construction.	MTO MNRF MECP UTRCA	1.1.1	The area of the Significant Woodland to the southwest of the Highway 401/Highbury Avenue Interchange that is to be retained will be identified as an Environmentally Sensitive Area in the Contract Documents. Entry onto or use of the area for any purpose is prohibited, except for the specific, limited purposes specified within the Contract Documents. Areas to be cleared of existing vegetation should be clearly marked to prevent unnecessary clearing. Areas to be retained will be protected with tree protection barrier. <i>Special Provision – Environmentally Sensitive Areas</i> <i>OPSS.PROV 801 – Construction Specification for the Protection of Trees</i> <i>Ontario Provincial Standard Drawing 220.010 – Barrier for Tree Protection</i> <i>Operational Constraint – Erosion and Sedimentation Control</i>
2.0	Vegetation (Section 4.1.1.1)			
2.1	Temporary and permanent disturbance to vegetation cover and terrestrial habitat. Approximately 0.2 hectares of vegetation cover and terrestrial habitat will be permanently disturbed during construction.	MTO MNRF	2.1.1	Minimize encroachment and vegetation disturbance to that necessary for construction, and implement standard measures to protect adjacent vegetation, including erosion and sediment control measures to protect adjacent habitats. Areas to be cleared of existing vegetation should be clearly marked to prevent unnecessary clearing. <i>Operational Constraint – Erosion and Sedimentation Control</i>
			2.1.2	Care is to be exercised in avoiding fuel, lubricants, and fluid spills resulting from construction activities. <i>OPSS.PROV 100 – MTO General Conditions of Contract</i>
			2.1.3	Post-construction seeding of the disturbed rights-of-way shall be completed using a suitable native seed mix. <i>OPSS.PROV 803 – Construction Specification for Vegetative Cover</i> <i>Non-Standard Special Provision – Amendment to OPSS 804, November 2014 (Seed)</i>
2.2	Potential for the spread of invasive Phragmites during construction, due to disturbance of existing colonies.	MTO MNRF MECP	2.2.1	Notwithstanding the locations to be treated by herbicide spraying as specified in the Contract Documents, herbicides shall not be sprayed where Phragmites is located in standing water. Buffer zones, as recommended on herbicide manufacturers’ labels, shall always be maintained around these areas. All herbicide spraying shall be completed in specified areas in a manner that avoids vapour and/or physical drift of herbicides from coming into contact with vehicles travelling on the roadway. All herbicide spraying shall comply with directions specified on herbicide manufacturers’ labels, the exterminator’s license, and according to the <i>Pesticides Act</i> and Regulation. Only herbicides approved for use in the Province of Ontario in accordance with the <i>Pesticides Act</i> and Regulation shall be used. <i>Special Provision – Invasive and Noxious Vegetation Spraying and Invasive and Noxious Vegetation Cutting</i> <i>Pesticides Act</i>



DESIGN AND CONSTRUCTION REPORT

Highway 401 Five Structure Replacements, Highbury Avenue Interchange Improvements, and Highway 401 Pavement Rehabilitation and Reconstruction (G.W.P. 3032-11-00)

January 2023

ID #	Environmental Effect/ Concern and Potential Impact	Concerned Agencies	ID #	Mitigation/Commitment for Future Work
			2.2.2	<p>Soil from areas impacted by Phragmites shall not be stockpiled for reuse. Debris including earth clods and Phragmites material attached to the outside of the equipment is prohibited from entering the Working Area. Equipment coming on site shall be inspected as close to the site entrance as possible for debris, and if present, debris shall be completely removed and shall be collected and managed as specified in the Contract Documents prior to the equipment proceeding to the Working Area. Equipment shall also be inspected for debris prior to leaving the Working Area. Any debris shall be removed and managed as specified in the Contract Documents, and in a manner that prevents equipment from coming into further contact with standing, sprayed, or cut Phragmites.</p> <p><i>Special Provision – Invasive and Noxious Vegetation Spraying and Invasive and Noxious Vegetation Cutting</i></p>
			2.2.3	<p>Locations to be sprayed with herbicide as specified in the Contract Documents shall be visually inspected for the presence of standing water. All locations identified to have standing water present shall be reviewed on a weekly basis and documented for the life of the contract or until the standing water is no longer present and herbicide spraying can commence. Accurate records of all locations where the presence of standing water has been identified during inspection shall be maintained and submitted to the Contract Administrator on a weekly basis.</p> <p>Any areas that have standing water present throughout the life of the contract shall be deemed unsprayable and shall not be subject to quality assurance inspections other than to verify that standing water is still present.</p> <p><i>Special Provision – Invasive and Noxious Vegetation Spraying and Invasive and Noxious Vegetation Cutting</i></p>
			2.2.4	<p>Only trained and qualified personnel with a valid Industrial Vegetation Exterminator’s license issued by the MECP according to the <i>Pesticides Act</i> and Regulation, and accredited by the IPM Council of Canada shall be employed to complete the work pertaining to Phragmites treatment. Proof of the valid license of all personnel who will operate any and all of the herbicide spraying equipment shall be provided to the Contract Administrator prior to commencement of the work.</p> <p><i>Special Provision – Invasive and Noxious Vegetation Spraying and Invasive and Noxious Vegetation Cutting</i> <i>Pesticides Act</i></p>
			2.2.5	<p>Accurate records of herbicide spraying shall be maintained and submitted to the Contract Administrator on a weekly basis. For each location records shall include: date; highway number; specified spraying location; type of vegetation sprayed; herbicide name, application rate, quantity and additives used; square metres treated; weather at time of spraying; name of applicator(s) and their exterminator’s license number; and any general comments relating to the herbicide spraying.</p> <p><i>Special Provision – Invasive and Noxious Vegetation Spraying and Invasive and Noxious Vegetation Cutting</i></p>
			2.2.6	<p>Locations to be treated by cutting, as specified in the Contract Documents, shall be cut to a height of 30 cm or less, unless otherwise specified or directed by the Contract Administrator.</p> <p><i>Special Provision – Invasive and Noxious Vegetation Spraying and Invasive and Noxious Vegetation Cutting</i></p>
			2.2.7	<p>All treated vegetation shall be left within the Working Area as close to where it was sprayed and/or cut as possible. When sprayed or cut vegetation and underlying soil and root mass must be removed from the site, it shall be managed as specified in the Contract Documents.</p> <p><i>Special Provision – Invasive and Noxious Vegetation Spraying and Invasive and Noxious Vegetation Cutting</i></p>
			2.2.8	<p>Equipment may be inspected by the Contract Administrator upon entry to or exit from the Working Area for evidence of debris attached to the outside surfaces of the equipment.</p>



DESIGN AND CONSTRUCTION REPORT

Highway 401 Five Structure Replacements, Highbury Avenue Interchange Improvements, and Highway 401 Pavement Rehabilitation and Reconstruction (G.W.P. 3032-11-00)

January 2023

ID #	Environmental Effect/ Concern and Potential Impact	Concerned Agencies	ID #	Mitigation/Commitment for Future Work
				All locations to be treated by spraying and/or cutting as specified in the Contract Documents will be inspected by the Contract Administrator to verify that treatment has been completed as evidenced by plant necrosis for herbicide spraying and/or plant height for cutting, and that areas identified to have standing water present remain unsprayable at Contract Completion. <i>Special Provision – Invasive and Noxious Vegetation Spraying and Invasive and Noxious Vegetation Cutting</i>
			2.2.9	Phragmites propagates through the spread of root fragments and seeds. All vehicles and equipment exposed to invasive Phragmites shall be cleaned prior to leaving the construction site to control the spread of the plant. All equipment coming from outside of the contract limits to work on the job shall be clean of seeds and plant material. The Design Builder shall follow all Best Management Practices set forth in the <i>Clean Equipment Protocol for Industry (Halloran et. al, 2013)</i> , which was prepared by the Peterborough Stewardship Council and the Ontario Invasive Plant Council for the Canada-Ontario Invasive Species Centre and the Ministry of Natural Resources and Forestry. No invasive species shall be in the topsoil. <i>Operational Constraint – Cleaning of Equipment and Invasive Species Protection</i>
3.0	Tree Inventory (Section 4.1.1.2)			
3.1	Approximately 200 trees will be removed to facilitate the proposed improvements. Portions of the Significant Woodland to the southwest of the Highway 401/Highbury Avenue Interchange will be retained; however, this portion is likely to experience edge effects caused by the adjacent tree clearing.	MTO MNRF MECP CITY	3.1.1	Tree protection barrier shall be installed to protect trees identified for preservation in the project's <i>Tree Inventory Report</i> . Tree protection will be undertaken according to OPSS.PROV 801 and Ontario Provincial Standard Drawing 220.010. The Tree Protection Zone will be protected and is delineated by tree protection barrier on Contract drawings. <i>OPSS.PROV 801 – Construction Specification for the Protection of Trees</i> <i>Ontario Provincial Standard Drawing 220.010 – Barrier for Tree Protection</i>
			3.1.2	Vegetation removal will occur outside of the migratory bird window (April 1 to August 31) and the period when bats use trees for maternity roosts (May 1 to September 31).
4.0	Wildlife and Wildlife Habitat (Section 4.1.1.3)			
4.1	No migratory bird nests were found on culvert or underpass structures within the Study Area; however, there is the potential for migratory birds, including Barn Swallow and Cliff Swallow, to build nests in/on structures within the Study Area prior to the start of construction. Work near active bird nests has the potential to disturb behaviour and/or to damage/destroy the nests.	MTO MNRF	4.1.1	The Design Builder shall not destroy the active nests (nests with eggs or young birds), or wound or kill birds, of species protected under the <i>Migratory Birds Convention Act, 1994</i> and/or Regulations under that Act. When nests are encountered, the Contract Administrator must be contacted. Clearing and removal of trees and shrubs shall not occur between April 1 st and August 31 st of any calendar year to avoid the usual nesting period for birds. <i>Operational Constraint – Migratory Bird Protection</i> <i>Operational Constraint – Timing Constraint for Clearing</i> <i>Migratory Birds Convention Act</i>
			4.1.2	The Design Builder shall inspect the structures no later than April 1 in the year of construction and remove all inactive nest(s). The Contract Administrator will be contacted if active nest(s) are found. The Design Builder shall undertake bird nesting preventative measures (e.g., exclusionary tarping, daily mechanical removal) prior to April 1 of any Contract year only after all inactive nests have been removed.



DESIGN AND CONSTRUCTION REPORT

Highway 401 Five Structure Replacements, Highbury Avenue Interchange Improvements, and Highway 401 Pavement Rehabilitation and Reconstruction (G.W.P. 3032-11-00)

January 2023

ID #	Environmental Effect/ Concern and Potential Impact	Concerned Agencies	ID #	Mitigation/Commitment for Future Work
				<p>No work shall be permitted to proceed that would result in the destruction of active nests, or the wounding or killing of birds protected under the MBCA and/or any regulations therein. In the event that measures are not successful in preventing nesting of migratory birds in proposed work areas, the work may not proceed, and the Design Builder shall advise the Contract Administrator and await further direction.</p> <p>Excess materials resulting from performing the work required shall be removed and managed as specified elsewhere in the Contract Documents.</p> <p><i>OPSS.PROV 180 – Management of Excess Materials</i></p>
4.2	Potential for impacts to Monarch and their habitat during construction.	MTO MECP MNRF	4.2.1	<p>It is recommended that vegetation clearing in meadow areas be avoided during the larval period for monarch, which is approximately from May 1 to September 30. Seed mixes for the project will include milkweed and nectar producing plants.</p> <p><i>Non-Standard Special Provision – Amendment to OPSS 804, November 2014 (Seed)</i></p>
4.3	Potential for impacts to roosting bats and bat maternity roost habitat during tree removals.	MTO MECP MNRF	4.3.1	<p>Removal of trees with a diameter at breast height of 10 cm or greater should not occur between April 1 to September 30. If tree clearing is required within this window, bat maternity exit surveys may be conducted prior to the tree removals to determine if bats are using the trees. Maternity exit surveys are conducted during the evening and should include visual and acoustic surveys using accepted protocols.</p> <p><i>Operational Constraint (Environmental) – Protection of Wildlife</i></p>
4.4	Potential for impacts to Terrestrial Crayfish and their habitat during construction.	MTO MECP MNRF	4.4.1	<p>To reduce interaction with Terrestrial Crayfish, installation of sediment fencing will be undertaken as per the contract documents in the area where observations of Terrestrial Crayfish chimneys were made during field investigations in 2012. Additionally, it is recommended that vegetation be retained adjacent to Terrestrial Crayfish habitat, to the extent possible, as this habitat is important for forging. Likewise, spraying of pesticides to control roadside vegetation should be avoided in the area, as this can impact food supply. It is also recommended that surface water runoff be directed away from Terrestrial Crayfish habitat to avoid sedimentation, if possible, and that de-icing compounds other than salt be used near Crayfish Habitat, if possible.</p> <p><i>Operational Constraint (Environmental) – Protection of Wildlife</i></p>
4.5	<p>The interaction of reptiles with construction activities could result in direct mortality. There is limited suitable habitat within the rights-of-way, but individuals may travel through construction areas when seeking nesting sites, such as the sand/gravel road shoulder.</p> <p>MTO has stockpiled excess material from a previous project at the Highway 401/ Westchester Bourne Interchange. This stockpiled</p>	MTO MECP MNRF	4.5.1	<p>Installation of temporary wildlife fencing, as identified elsewhere in the Contract Documents, shall occur prior to April 1 or after November 31 to avoid the turtle nesting season. If the installation of fencing occurs during turtle nesting season, it is recommended that the fencing installation areas be searched by a Qualified Biologist for the presence of reptiles or nests prior to the installation of fencing. The Qualified Biologist shall direct installation of wildlife exclusion fence whereby all nests found are avoided.</p> <p>The Design Builder shall provide the name and credentials of a Qualified Biologist to the Contract Administrator a minimum of ten (10) Business Days prior to the commencement of work.</p> <p><i>Operational Constraint (Environmental) – Protection of Wildlife</i></p>
			4.5.2	<p>To avoid interactions with reptiles, the Design Builder shall conduct a thorough visual search of machinery, equipment, and the work area prior to starting equipment and commencing work each day during the active reptile season (i.e., April 1 to November 1). If reptiles are encountered during construction, they will be permitted reasonable time to leave the area. Individuals shall not be handled, chased, or harassed. If an active turtle nest (with eggs or young) is encountered within the work zone, appropriate measures shall be taken to avoid disturbance to the nest and the Contract Administrator will be contacted.</p>



DESIGN AND CONSTRUCTION REPORT

Highway 401 Five Structure Replacements, Highbury Avenue Interchange Improvements, and Highway 401 Pavement Rehabilitation and Reconstruction (G.W.P. 3032-11-00)

January 2023

ID #	Environmental Effect/ Concern and Potential Impact	Concerned Agencies	ID #	Mitigation/Commitment for Future Work
	material will be used for the project, and there is the potential for turtles to enter the stockpile area for nesting purposes.		4.5.3	<p><i>Operational Constraint (Environmental) – Protection of Wildlife</i></p> <p>Temporary Wildlife Fence shall be installed within a trench excavated along the contour of the ground such that the elevation of the above ground portion of the fence is the same along its entire length except at the ends. Temporary wildlife fence shall be installed without breaks or gaps along their entire length. The completed fence shall have a minimum height of 800 mm above the ground surface. Fencing shall be removed immediately after site specific work has been completed or by direction from the Contract Administrator. Removals shall be according to OPSS.PROV 510.</p> <p>A trench measuring 200 mm wide by 200 mm deep shall be excavated to anchor the geotextile along its entire length. The trench shall be backfilled and compacted to existing grade to hold the base of the geotextile firmly in place. The stakes shall be spaced a maximum of 2.3 m apart, and shall be driven vertically into the ground to a minimum depth of 600 mm. Where the geotextile is joined to provide a continuous run, the ends shall be overlapped a minimum of 500 mm and securely fastened to the stakes using cable ties or soft wire at the top of the geotextile only. The geotextile shall be attached firmly, without sagging, to the habitat side of the stakes (stakes on the non-habitat side). Stakes shall be spaced to ensure the geotextile remains vertical.</p> <p>The temporary wildlife fence shall be maintained vertical, without tears and without sagging for the duration of the period from April 1 to November 31. The Design Builder shall inspect regularly and repair the fence immediately if found to be deficient.</p> <p><i>Special Provision – Temporary Wildlife Fence – Reptiles</i></p>
4.6	Potential interactions with wildlife and SAR during construction.	MTO MECP MNR	4.6	<p>No person shall kill, harm, harass, capture or take a living member of a species that is listed on the Species at Risk in Ontario List as an extirpated, endangered, or threatened species.</p> <p>If the Design Builder encounters species at risk as defined in paragraph GC 3.07.01 (OPSS.PROV 100) within the Working Area not otherwise identified in the Contract Documents, and that are likely to be impacted by the Design Builder’s operations, the Design Builder shall immediately notify the Contract Administrator and suspend operations within the area identified by the Contract Administrator. Work shall remain suspended within that area until otherwise directed by the Contract Administrator in writing, according to subsection GC 7.11, Suspension of Work.</p> <p><i>Endangered Species Act</i> <i>OPSS.PROV 100 – MTO General Conditions of Contract</i></p>
5.1	Fish and Fish Habitat (Section 4.1.2)			
5.1	The Tributary to Murray Drain Culvert (Site 19X-0650/C0) and Elliot-Laidlaw Drain Culvert (Site 19X-0651/C0) will be replaced with new concrete box culverts. Other improvements, including grading, ditching, and installation of rock protection will be undertaken within 30 m of watercourses in the Study Area, including the Tributary to	DFO MTO MNR	5.1.1	<p>In-water construction activities are permitted in watercourses where fish habitat was identified from July 16 to March 14. The timing window does not apply to work above the high-water level.</p> <p><i>Special Provision – Timing of In-Water Works, Oversight Requirements, and Measures to Avoid Harm to Fish</i></p>
			5.1.2	<p>The Design Builder will reduce the duration of in-water work to the extent possible. In-water work will be conducted during periods of low flow, if possible, to facilitate the isolation of work in water from creek flows. When practicable, work shall be scheduled to avoid wet or windy periods that may increase erosion and sedimentation.</p> <p><i>Special Provision – Timing of In-Water Works, Oversight Requirements and Measures to Avoid Harm to Fish</i> <i>OPSS.PROV 182 – General Specification for Environmental Protection for Construction in Waterbodies and on Waterbody Banks</i></p>
			5.1.3	<p>Fish and fish habitat mitigation measures, as outlined in relevant BMPs, OPSSs and the Contract Documents, must be implemented during flow diversion/dewatering.</p>



DESIGN AND CONSTRUCTION REPORT

Highway 401 Five Structure Replacements, Highbury Avenue Interchange Improvements, and Highway 401 Pavement Rehabilitation and Reconstruction (G.W.P. 3032-11-00)

January 2023

ID #	Environmental Effect/ Concern and Potential Impact	Concerned Agencies	ID #	Mitigation/Commitment for Future Work
	<p>Murray Drain, Murray Drain, Elliot-Laidlaw Drain, and Hampton-Scott Drain.</p> <p>There is the potential risk of death to fish or the harmful alteration, disruption or destruction (HADD) of fish habitat at the watercourses listed above.</p>			<p><i>Operational Constraint (Environmental) – Erosion and Sedimentation Control</i> <i>Special Provision – Timing of In-Water Works, Oversight Requirements and Measures to Avoid Harm to Fish</i> <i>OPSS.PROV 182 – General Specification for Environmental Protection for Construction in Waterbodies and on Waterbody Banks</i> <i>OPSS.PROV 517 – Construction Specification for Dewatering</i></p>
			5.1.4	<p>Use of aggregates in waterbodies shall be undertaken according to OPSS.PROV 825 and OPSS.PROV 1005. <i>OPSS.PROV 825 – Construction Specification for Placement of Aggregates in Waterbodies</i> <i>OPSS.PROV 1005 – Material Specification for Aggregates - Waterbody</i></p>
			5.1.5	<p>The Design Builder will follow measures outlined in the BMP for <i>Ditch Maintenance Within 30 Metres of a Waterbody</i> for ditch cleanouts proposed within 30 m of the Tributary to Murray Drain Culvert (Site 19X-0650/C0) and Elliot-Laidlaw Drain Culvert (Site 19X-0651/C0). <i>BMP for Ditch Maintenance Within 30 Metres of a Waterbody</i></p>
			5.1.6	<p>The Design Builder will follow measures outlined in the BMP for <i>Like-for-Like Culvert Replacement</i> for culvert replacement work at Elliot-Laidlaw Drain Culvert. <i>BMP for Like-for-Like Culvert Replacement</i></p>
5.2	<p>Entry of sediment, debris, and deleterious substances (i.e., fuel, equipment fluids, etc.) into watercourses during operations around water.</p>	<p>MTO MNR MECP UTRCA</p>	5.2.1	<p>Provisions are included in the Contract Documents for work near watercourses and for prevention of dust, debris, and deleterious materials from entering the watercourses. <i>Operational Constraint (Environmental) – Erosion and Sedimentation Control</i> <i>OPSS.PROV 100 – MTO General Conditions of Contract</i> <i>OPSS.PROV 182 – General Specification for Environmental Protection for Construction in Waterbodies and on Waterbody Banks</i></p>
			5.2.2	<p>All stockpiled materials, including, but not limited to, excavated overburden and topsoil, excess materials, construction debris and containers, shall be stored and stabilized in a manner that prevents them from entering any waterbody. All materials such as paint, primers, blasting abrasives, concrete, rust, solvents, degreasers, grout, or other chemicals shall not enter a waterbody. All building materials used in and around a waterbody or on waterbody banks shall be handled and treated in a manner to prevent the release or leaching of substances into a waterbody that may be deleterious to fish. All waste materials (e.g., dredging spoils, construction waste and materials, commercial logging waste, uprooted or cut aquatic plants, accumulated debris, etc.) shall be contained and stabilized above the high water level of nearby waterbodies to prevent re entry. <i>OPSS.PROV 182 – General Specification for Environmental Protection for Construction in Waterbodies and on Waterbody Banks</i></p>
			5.2.3	<p>Equipment shall arrive on site in clean condition and is to be maintained free of fluid leaks. Equipment refueling and maintenance shall take place at locations as far away as practicable from a waterbody and in a manner that prevents any</p>



DESIGN AND CONSTRUCTION REPORT

Highway 401 Five Structure Replacements, Highbury Avenue Interchange Improvements, and Highway 401 Pavement Rehabilitation and Reconstruction (G.W.P. 3032-11-00)

January 2023

ID #	Environmental Effect/ Concern and Potential Impact	Concerned Agencies	ID #	Mitigation/Commitment for Future Work
				sediment or other deleterious substances from entering into a waterbody. An emergency spill kit shall be kept on site to address any fluid leaks or spills from equipment. <i>OPSS.PROV 182 – General Specification for Environmental Protection for Construction in Waterbodies and on Waterbody Banks</i>
			5.2.4	All disturbed areas shall be restored and re-stabilized after a disturbance or upon completion of the work in or around waterbodies, waterbody banks, and riparian vegetation areas within a maximum of 45 days in graded areas and maximum 15 days within 200m of a watercourse. All cover must be completed no later than October 30. The disturbed areas shall be restored to an equivalent or better condition than existed prior to the commencement of construction, including restoration of the original contour and gradient to the extent possible, restoration of morphological elements (e.g., pools and riffles), and restoration of substrates to the extent possible (which may include salvage and re-instatement of native materials). All disturbed areas on waterbody banks and riparian vegetation areas shall be stabilized with effective temporary erosion and sedimentation control measures, as specified in the Contract Documents, and maintained until vegetation is established. Vegetation and restoration of disturbed areas shall be implemented in accordance with OPSS.PROV 182, 803, and 804. Materials for the restoration of streambeds (i.e., natural woody debris, rocks, etc.) shall not be obtained from below the high water level of any waterbody unless specified in the Contract Documents. Where possible, the substrate type shall be matched with previous or adjacent types removed, altered, or disturbed during construction. Removal of natural woody debris, rocks, and other materials from the banks or the shoreline of watercourses shall be minimized to the extent possible. <i>Operational Constraint (Environmental) – Erosion and Sedimentation Control</i> <i>Special Provision – Timing of In-Water Works, Oversight Requirements, and Measures to Avoid Harm to Fish</i> <i>OPSS.PROV 182 – General Specification for Environmental Protection for Construction in Waterbodies and on Waterbody Banks</i> <i>OPSS.PROV 803 – Construction Specification for Vegetative Cover</i> <i>OPSS.PROV 804 – Construction Specification for Temporary Erosion Control</i> <i>OPSS.PROV 805 – Construction Specification for Temporary Sediment Control</i>
6.0	Erosion and Sediment Control (Section 4.1.3)			
6.1	Construction activities have the potential to create sources of erosion and sedimentation, which have the potential to impact watercourses, drainage ditches, and other sensitive features within the Study Area.	MTO MNRF UTRCA	6.1.1	An Erosion and Sediment Control Plan has been developed to protect receiving watercourses and wetlands from sediment-laden water and erosion potential during and following construction. The Design Builder shall follow all measures outlined in the project’s Erosion and Sediment Control Plan. <i>Notice to Design Builder (General) – Construction Notification and Update</i>
			6.1.2	The time interval between the commencement and completion of any Work that disturbs earth surfaces shall be a maximum of 45 days in graded areas, and a maximum of 15 days within 200 m of a watercourse. All cover must be completed no later than October 30. OPSS 803 Modified Native Standard Roadside Mix shall be used, Commencement of such work shall be considered to have occurred when the original stabilizing ground cover has been removed, including grubbing, or has been covered with fill material. Completion of such work shall be considered to have occurred when the specified cover material has been applied. <i>Operational Constraint – Erosion and Sedimentation Control</i>



DESIGN AND CONSTRUCTION REPORT

Highway 401 Five Structure Replacements, Highbury Avenue Interchange Improvements, and Highway 401 Pavement Rehabilitation and Reconstruction (G.W.P. 3032-11-00)

January 2023

ID #	Environmental Effect/ Concern and Potential Impact	Concerned Agencies	ID #	Mitigation/Commitment for Future Work
			6.1.3	<p>A 200 m stand-by supply of prefabricated light duty silt fence barrier, in addition to silt fence barrier which may be specified elsewhere in the Contract Documents, shall be maintained at the Contract site prior to commencement of grading operations and throughout the duration of the Contract.</p> <p><i>Operational Constraint – Erosion and Sedimentation Control</i></p>
7.0	Groundwater Resources (Section 4.1.5)			
7.1	<p>The Study Area is not located within, or adjacent to any Wellhead Protection Areas, Intake Protection Zones, or Significant Groundwater Recharge Areas. A small area that is designated as a Highly Vulnerable Aquifer is located near Elliot-Laidlaw Drain Culvert (Site 19X-0651/C0). Based on the <i>Clean Water Act</i> (2006), there are no significant chemical, pathogen, or dense non-aqueous phase liquids source water threats to municipal supply sources due to the proposed improvements. Ancillary project activities may post a low risk to local groundwater and surface water quality.</p>	MTO MECP	7.1.1	<p>A Permit to Take Water (PTTW) for construction dewatering will be obtained by the Design Builder prior to construction commencing and is intended to cover unexpected conditions and account for precipitation events. It is the Design Builder’s responsibility to design and implement a dewatering strategy for groundwater dewatering in the Study Area. During groundwater dewatering, it is the Design Builder’s responsibility to document pumping rates, as daily records will be required to be reported annually to MECP for the PTTW. The Design Builder will be responsible for determining the appropriate discharge locations during dewatering. The Design Builder shall adhere to all relevant regulations and shall ensure that appropriate mitigation, contingency, and monitoring measures are implemented during dewatering. The Design Builder shall also obtain any relevant agreements, approvals, permits, etc. required for their selected method of discharging during dewatering. Finally, the Design Builder must follow any and all conditions imposed by the PTTW.</p> <p>A PTTW is not required for the active in-stream diversion for the proposed culvert replacements, as long as the conditions in Ontario Regulation 64/16 are complied with.</p>
			7.1.2	<p>Various mitigation measures will be employed during construction to reduce the risk of impacts to groundwater quality:</p> <ul style="list-style-type: none"> • Re-fuel equipment away from watercourses whenever possible • Store all oils, lubricants, and other chemicals in suitable containers and handle them in accordance with applicable regulators • Implement best management protocols, such as secondary containment of any temporary fuel storage and prepare a Spill Response Plan • Keep spill response measures/contingency kits on site • Clean up all spills immediately, dispose of contaminated materials in an approved manner, and inform MECP Spills Action Centre of reportable spills • Apply current BMPs (e.g., Salt Management Plan) and adhere to established Ministry plans and policies, special contract provisions, OPSSs, and contract monitoring <p><i>OPSS.PROV 100 – MTO General Conditions of Contract</i> <i>OPSS.PROV 182 – General Specification for Environmental Protection for Construction in Waterbodies and on Waterbody Banks</i> <i>Thames-Sydenham and Region Source Protection Plan</i> <i>Ontario Regulation 287/07</i></p>
8.0	Landscape Plan (Section 4.1.6)			
8.1	Impacts to vegetation within the Highway 401/Highbury Avenue Interchange will occur during construction.	MTO	8.1.1	<p>A Landscape Design Plan was developed for the Highway 401/Highbury Avenue Interchange and Pond Mills area. The plan includes plantings of shrubs, and deciduous and coniferous trees within the Study Area. The Landscape Design Plan will be implemented by the Design Builder.</p>



DESIGN AND CONSTRUCTION REPORT

Highway 401 Five Structure Replacements, Highbury Avenue Interchange Improvements, and Highway 401 Pavement Rehabilitation and Reconstruction (G.W.P. 3032-11-00)

January 2023

ID #	Environmental Effect/ Concern and Potential Impact	Concerned Agencies	ID #	Mitigation/Commitment for Future Work
9.0	Management of Excess Materials (Section 4.1.7)			
9.1	It is anticipated that excess material generated during construction will be reused within the limits of the project.	MTO MECP	9.1.1	The Design Builder shall maintain the Working Area in a tidy condition free from the accumulation of debris. OPSS.PROV 100 – MTO General Conditions of Contract
			9.1.2	Excess materials generated during construction will be managed by the Design Builder in accordance with Ontario Regulation 406/19, OPSS.PROV 180, and the amendments indicated in the Contract Documents. <i>OPSS.PROV 180 – General Specification for the Management of Excess Materials</i> <i>Special Provision – Compliance with Ontario Regulation for On-Site and Excess Soil Management</i> <i>Ontario Regulation 406/19 – On-Site and Excess Soil Management</i>
10.0	Property Contamination (Section 4.1.8)			
10.1	No exceedances of Table 3 Site Condition Standards for petroleum hydrocarbons, volatile organic compounds, polycyclic aromatic hydrocarbons, or Ontario Regulation 153/04 metals were detected during investigations undertaken by WSP in 2022; however, there is the potential to encounter contaminated materials while undertaking the proposed improvements.	MTO MECP	10.1.1	Excess earth from highway construction projects may contain elevated concentrations of chloride and sodium and may have elevated values for Electrical Conductivity and Sodium Adsorption Ratio. Excess earth with salt impacts is not considered to be “contaminated” within the meaning of Table 1 in OPSS.PROV 180. <i>Operational Constraint (Environmental) – Management of Excess Earth with Salt Impacts</i> <i>OPSS.PROV 180 – General Specification for the Management of Excess Materials</i>
			10.1.2	Inspection staff will be notified immediately if contaminated soils (soils that exhibit visual or olfactory evidence of petroleum or other contamination) are encountered. <i>Operational Constraint – Management of Excess Earth with Salt Impacts</i> <i>OPSS.PROV 180 – General Specification for the Management of Excess Materials</i> <i>OPSS.PROV 100 – MTO General Conditions of Contract</i>
10.2	Improper handling and disposal of operating fluids from equipment and machinery may result in spills, which may impact the environment.	MTO MECP MNRF UTRCA	10.2.1	All spills will be immediately controlled and reported to the Contract Administrator, and contact will be made with the MECP Spills Action Centre. The Spills Action Centre Hotline number (1-800-268-6060) shall be posted at the work zones. The Design Builder shall follow the process for environmental incident management and all applicable legislation, as outlined in OPSS.PROV 100. <i>OPSS.PROV 100 – MTO General Conditions of Contract</i>
			10.2.2	A spill prevention and response contingency plan will be prepared prior to construction and will be included in the Environmental Management Plan. <i>OPSS.PROV 100 – MTO General Conditions of Contract</i>
11.0	Archaeological Resources (Section 4.2.2)			
11.1	The Study Area has been cleared of archaeological potential; however, previously unknown/deeply buried artifacts/human remains could	MTO MTCS	11.1.1	If the Design Builder’s operations expose any items which may indicate an archaeological find, such as building remains, hardware, accumulations of bones, pottery, or arrowheads, the Design Builder shall immediately notify the Contract Administrator and suspend operations within the area identified by the Contract Administrator. Work shall remain suspended within that area until otherwise directed by the Contract Administrator in writing, according to subsection GC 7.11, Suspension of Work.



DESIGN AND CONSTRUCTION REPORT

Highway 401 Five Structure Replacements, Highbury Avenue Interchange Improvements, and Highway 401 Pavement Rehabilitation and Reconstruction (G.W.P. 3032-11-00)

January 2023

ID #	Environmental Effect/ Concern and Potential Impact	Concerned Agencies	ID #	Mitigation/Commitment for Future Work
	be uncovered during construction.			<i>OPSS.PROV 100 – MTO General Conditions of Contract</i>
12.0	Adjacent Land Use and Property Access (Section 4.3.1)			
12.1	Potential indirect impacts to adjacent properties.	MTO RES/BUS	12.1.1	Advance notice of construction start will be provided in writing to all properties adjacent to the site. <i>OPSS.PROV 100 – MTO General Conditions of Contract</i>
13.0	Air Quality (Section 4.3.3)			
13.1	Potential for dust from construction activities to affect nearby land uses, watercourses, and other sensitive environmental features.	MTO MECP RES/BUS PUB	13.1.1	The Design Builder shall take such steps as may be necessary to control dust resulting from the Design Builder’s operations or by public traffic, where it is the Design Builder’s responsibility to maintain a road through the Work, such that it does not: a) affect traffic; b) enter surface waters; or c) escape beyond the right-of-way to cause a nuisance to residents, businesses, or utilities. <i>OPSS.PROV 100 – MTO General Conditions of Contract</i>
			13.1.2	The Design Builder shall institute dust control measures during the demolition process. As a minimum, the Design Builder shall have available water pumper trucks that will keep the concrete rubble wet so that the creation of dust is kept to a minimum. Cut water and/or dust resulting from concrete cutting operations shall be collected and managed according to the Contract Documents. <i>Special Provision – Removal of Bridge Structure</i>
14.0	Construction Noise (Section 4.3.4)			
14.1	Potential for change in noise level during construction; however, minimal impacts to adjacent land-uses are anticipated given the existing noise levels on Highway 401 and the industrial nature of the surrounding land uses.	MTO CITY RES/BUS PUB	14.1.1	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. Idling of equipment shall be restricted to the minimum necessary to perform the specified work. Operation of equipment shall be restricted to the minimum necessary to perform the specified work so as to prevent the unnecessary disruption of adjacent property owners. <i>Special Provision – Construction Noise Constraints</i> <i>OPSS. PROV 100 – MTO General Conditions of Contract</i>
15.0	Construction Vibration (Section 4.3.5)			
15.1	Vibrations are anticipated as a result of the proposed work, including during demolition of existing structures and installation of foundations for the new structures.	MTO RES/BUS CITY UTL	15.1.1	The Design Builder will undertake vibration monitoring during deep foundation installations at all three bridges. Additionally, pre- and post-construction condition surveys will be undertaken for all buildings, utilities, structures, water wells, and facilities within a 100 m radius of each structure, and the City of London watermain near the Pond Mills Road Overpass. Pre-construction condition surveys shall be completed a minimum of two weeks prior to commencement of the installation of the deep foundations. Post-construction condition surveys shall be undertaken within two months of the completion of the installation of the deep foundations. Further requirements for vibration monitoring and associated surveys are outlined in the Contract Documents. <i>Special Provision – Vibration Monitoring</i>



DESIGN AND CONSTRUCTION REPORT

Highway 401 Five Structure Replacements, Highbury Avenue Interchange Improvements, and Highway 401 Pavement Rehabilitation and Reconstruction (G.W.P. 3032-11-00)

January 2023

ID #	Environmental Effect/ Concern and Potential Impact	Concerned Agencies	ID #	Mitigation/Commitment for Future Work
16.0	Traffic, and Emergency Services (Section 4.4)			
16.1	Motorists and commercial haulers traveling through the Study Area may experience temporary delays or disruptions during construction. Detour routes will be provided during temporary full closures of Highway 401 and roads in the Study Area.	MTO EMERG CITY STS RES/BUS PUB	16.1.1	The Design Builder shall provide written notice to the City of London, Emergency Service Providers, Local Businesses and Southwestern Ontario Student Transportation Services at least two weeks in advance of construction start regarding the construction schedule. The notification shall be in writing and submitted to the Contract Administrator for approval before distribution. The Contactor shall also keep these contacts notified and updated regarding construction activities. <i>Notice to Design Builder (General) – Construction Notification and Update</i> <i>OPSS.PROV 100 – MTO General Conditions of Contract</i>
17.0	Utilities (Section 4.5)			
17.1	Utility relocations have been or will be undertaken prior to construction; however, unexpected impacts to utilities could occur.	MTO UTL	17.1.1	All existing utilities will be protected, as required, to avoid conflicts or impacts during construction.



DESIGN AND CONSTRUCTION REPORT

Highway 401 Five Structure Replacements, Highbury Avenue Interchange Improvements, and Highway 401 Pavement Rehabilitation and Reconstruction (G.W.P. 3032-11-00)

January 2023

6.0 Environmental Clearances, Approvals and Permits

No formal clearances are required under the *EA Act* since the project has been “screened”, as required by MTO’s Class EA for a Group ‘B’ project.

MTO is not required to obtain a Noise By-Law exemption.

A Category 3 PTTW is required to complete the 5 structure replacements.

Approval from the City of London is required to remove the trees along Highbury Avenue South.

Approval from Hydro One is required for pavement grade raises, and placement of high mast lights, conventional lights, traffic signals and overhead signs under or near Hydro One transmission lines and towers.

7.0 Environmental Monitoring

7.1 Environmental Management Plan

An Environmental Management Plan (EMP) has been developed to ensure that the Contract Administrator and the Design Builder are made aware of and are prepared to deal with all environmental issues that may arise during construction. Specific environmental controls based on these detailed mitigation measures will be included in the Contract Documents to address specific environmental concerns during the construction phase.

The environmental monitoring/inspection plan for this Design-Build project has the following components:

- Environmental monitoring plans
- Pre-construction notifications
- Pre-construction environmental monitoring/inspections
- Environmental monitoring during construction
- Post-construction environmental monitoring/inspection



DESIGN AND CONSTRUCTION REPORT

Highway 401 Five Structure Replacements, Highbury Avenue Interchange Improvements, and Highway 401 Pavement Rehabilitation and Reconstruction (G.W.P. 3032-11-00)

January 2023

7.2 Environmental Monitoring/Inspections

7.2.1 Project-Specific Technical Monitoring

During construction, environmental protection activities outlined in the EMP will be implemented and seamlessly integrated with the rest of the construction process. Monitoring will be conducted by an on-site construction supervisory staff member to ensure that environmental protection measures, as outlined in this report and in the Contract Documents, are being implemented and are effective. This includes ensuring that the implementation of mitigation measures and key design features is consistent with commitments made to external agencies prior to construction.

In the event that protective measures do not address concerns identified or if major problems develop, the appropriate agency will be contacted to provide additional input.

Periodic site visits by environmental staff will occur during construction. The timing and frequency of such site visits are determined by the schedule of construction operations, the sensitivity of environmental concerns and the development of any unforeseen environmental issues during construction.

In the event that the impacts of construction are different than anticipated, or that the method of construction is such that there are greater than anticipated impacts, the Design Builder's method of operation will be modified to reduce those impacts.

7.2.2 Post-Construction

Following project completion, it is anticipated that monitoring will be conducted by maintenance staff to ensure erosion and sedimentation control measures and stabilization measures for new or modified earthworks are effective. The health and effectiveness of the landscaping components will also be monitored. In the event that problems are identified, remedial action will be initiated, as appropriate.

The post-construction monitoring and environmental inspection program will ensure, to the extent possible, that lands disturbed as a result of construction activities will be restored to their original use and condition as soon as possible after construction.



DESIGN AND CONSTRUCTION REPORT

Highway 401 Five Structure Replacements, Highbury Avenue Interchange Improvements, and Highway 401 Pavement Rehabilitation and Reconstruction (G.W.P. 3032-11-00)

January 2023

8.0 References

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DESIGN AND CONSTRUCTION REPORT

Highway 401 Five Structure Replacements, Highbury Avenue Interchange Improvements, and Highway 401 Pavement Rehabilitation and Reconstruction (G.W.P. 3032-11-00)

January 2023

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DESIGN AND CONSTRUCTION REPORT

Highway 401 Five Structure Replacements, Highbury Avenue Interchange Improvements, and Highway 401 Pavement Rehabilitation and Reconstruction (G.W.P. 3032-11-00)

January 2023

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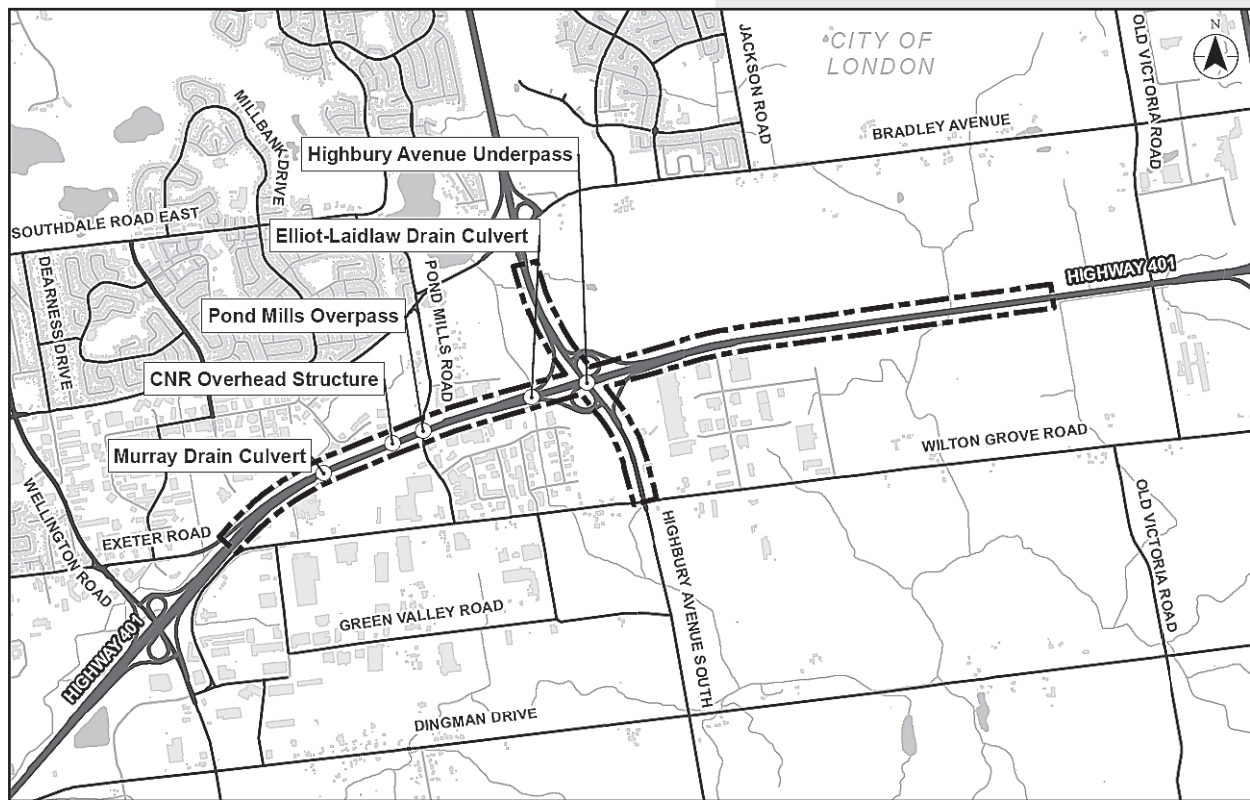


APPENDIX A: Notification Materials



Notice of Study Commencement

Highway 401 Five Structure Replacements, Highbury Avenue Interchange Improvements, and Highway 401 Pavement Rehabilitation from 0.7 km east of Wellington Road South easterly to 0.6 km west of Old Victoria Road (Contract 2022-3004)



Key Map

THE STUDY

The Ontario **Ministry of Transportation (MTO)** has retained **Stantec Consulting Ltd.** and **Dufferin Construction Company** to complete the Design-Build (DB) contract for the Class Environmental Assessment (EA), detail design and construction of five Highway 401 structure replacements, Highbury Avenue interchange improvements, and Highway 401 pavement rehabilitation, in the City of London, Middlesex County.

Highway 401 detail design work will be initiated in 2022 with a planned construction duration of approximately 4 years starting in 2023, subject to approvals. Additional project information and construction updates will be posted on the project website at www.Hwy401highbury.ca. The website will be updated as the project progresses.

THE PROCESS

The project is being completed following the MTO *Class EA for Provincial Transportation Facilities* (2000) for a Group "B" undertaking. Group "B" projects are considered major improvements to existing transportation facilities. This project will include a review of the previously completed Preliminary Design documented in the August 2017 Transportation Environmental Study Report (TESR) for Highway 401, Tributary to Murray Drain Culvert, CNR Overhead and Pond Mills Road Overpass Replacements. This project will also advance the June 2021 Transportation Environmental Study Report (TESR) Addendum for Highway 401 Interchange Reconstruction at Highbury Avenue.

Prior to the start of construction, a Design and Construction Report (DCR) will be prepared to further document the scope of

work, potential impacts, and mitigation measures. A Notice of Study Completion will be issued for the DCR, advising of the start of the 30-day public review period.

COMMENTS

As part of this project, the project team is requesting your comments on the proposed work. All comments are requested by **July 4, 2022**. If you would like to speak with a project team member directly, please contact one of the team members listed below.

Stantec Consulting Ltd.

Dave Emery, P.Eng.
Design Manager
tel: 905-381-3221
e-mail: comments@hwy401highbury.ca

Ontario Ministry of Transportation

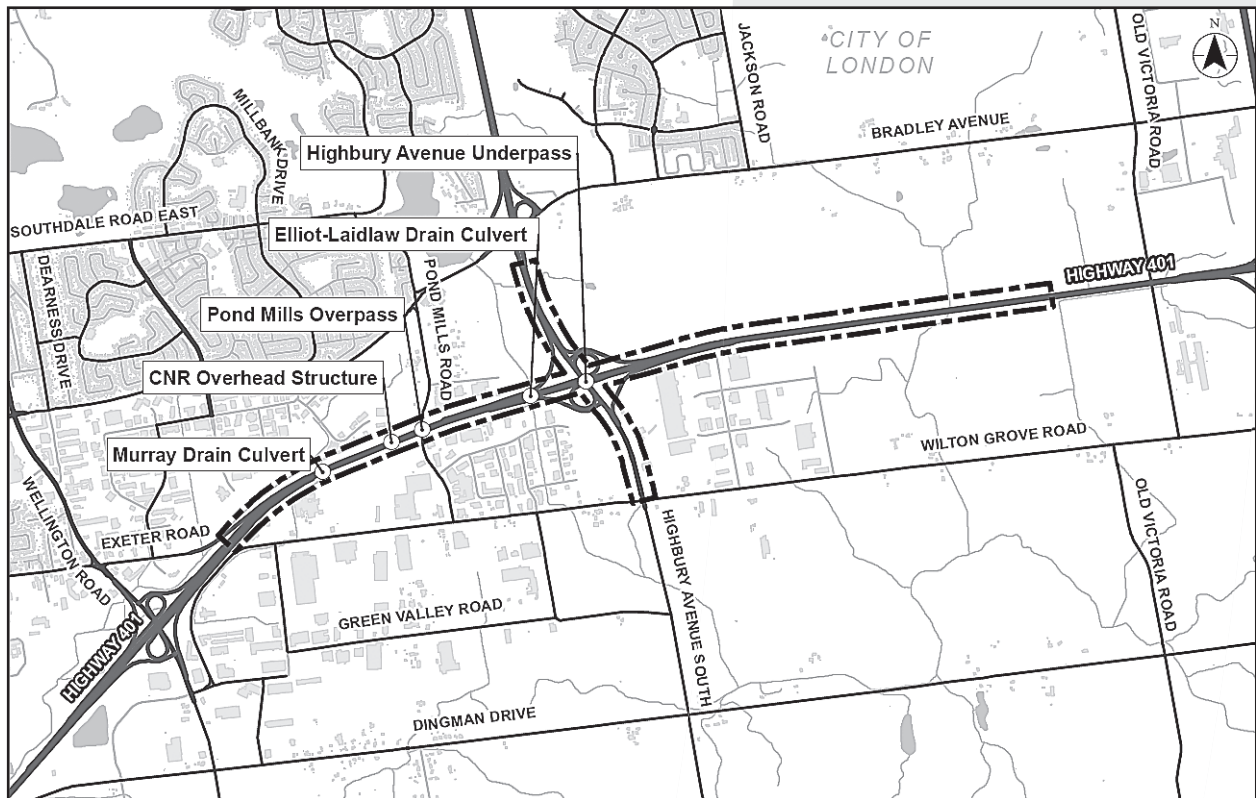
Colton Horan, P. Eng.
Senior Project Engineer
tel: 519-860-3787
e-mail: comments@hwy401highbury.ca

We are committed to ensuring that government information and services are accessible for all Ontarians. For communication supports or to request project information in an alternate format, please contact one of the preceding Study Team members.

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. Version française disponible en composant le 613 722-4420, (Angelo Renon).

Avis de début d'étude

Remplacement de cinq structures sur l'autoroute 401, amélioration de l'échangeur de l'avenue Highbury et réfection des chaussées de l'autoroute 401 à partir de 0,7 km à l'est de la route Wellington Sud, vers l'est, jusqu'à 0,6 km à l'ouest du chemin Old Victoria (contrat 2022-3004)



Localisation du projet

L'ÉTUDE

Le **ministère des Transports de l'Ontario (MTO)** a retenu les services des entreprises **Stantec Consulting Ltd.** et **Dufferin Construction** pour réaliser le mandat de construction-conception, lequel comprend l'évaluation environnementale de portée générale, la conception détaillée et la construction, pour le remplacement de cinq structures de l'autoroute 401, l'amélioration de l'échangeur de l'avenue Highbury et la réfection des chaussées de l'autoroute 401, dans la ville de London, située dans le comté Middlesex.

La conception détaillée des travaux sur l'autoroute 401 commencera en 2022 et la construction, d'une durée prévue de quatre semaines, sera entreprise en 2023, sous réserve de l'obtention des approbations. Des renseignements supplémentaires sur le projet et les mises à jour sur la construction seront publiés sur le site Web du projet à l'adresse www.Hwy401highbury.ca. Le site Web sera mis à jour au fur et à mesure de l'avancement du projet.

LE PROCESSUS

Le projet est réalisé conformément aux exigences des projets de groupe « B » mentionnées dans *L'évaluation environnementale de portée générale pour les installations provinciales de transport (2000)* du MTO. Les projets apportant des améliorations majeures aux infrastructures de transport existantes sont classés dans le groupe « B ». Le projet comprendra une revue de la conception préliminaire déjà réalisée et documentée dans le rapport d'étude environnementale sur les transports (TESR) produit en 2017 dans le cadre des travaux d'amélioration de l'autoroute 401, tributaires du remplacement du pont Murray et des ponts d'étagement du CN et du chemin Pond Mills. Ce projet contribuera aussi à faire progresser l'addenda au TESR produit en juin 2021 concernant la reconstruction de l'échangeur de l'avenue Highfield et de l'autoroute 401.

Avant le début de la construction, un rapport de conception et de construction (RCC) sera rédigé pour documenter plus amplement la portée des travaux, les incidences potentielles et les mesures d'atténuation. Un avis d'achèvement du RCC sera publié pour informer le public du début de la période d'examen de 30 jours.

COMMENTAIRES

L'équipe de projet sollicite les commentaires sur les travaux proposés. Les personnes intéressées sont invitées à formuler leurs commentaires d'ici le **4 juillet 2022**. Pour discuter directement avec un membre de l'équipe de projet, veuillez contacter l'une des personnes nommées ci-dessous.

Stantec Consulting Ltd.
Dave Emery, P. Eng.
Responsable de la conception
tél. : 905 381-3221
courriel : comments@hwy401highbury.ca

Ministère des Transports de l'Ontario
Colton Horan, P. Eng.
Ingénieur de projet principal
tél. : 519 860-3787
courriel : comments@hwy401highbury.ca

L'équipe de projet s'est engagée à ce que l'information et les services gouvernementaux soient accessibles à tous les Ontariens. Pour obtenir du soutien en matière de communication ou des renseignements sur le projet sous un autre format, veuillez contacter un des membres de l'équipe du projet nommés ci-dessus.

Les informations recueillies seront utilisées en conformité avec la *Loi sur l'accès à l'information et la protection de la vie privée*. À l'exception des renseignements personnels, tous les commentaires feront partie des archives publiques.

Ministry of Transportation

Design and Engineering Branch
Environmental Delivery West

659 Exeter Road
London, Ontario N6E 1L3
Telephone: (226) 980-9751
Email: Emily.Roadhouse@ontario.ca

Ministère des Transports

Direction de conception et d'ingénierie
Section de livraison environnementale de l'Ouest

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



July 5, 2022

Attention: Chief Chris Plain

Aamjiwnaang First Nation
978 Tashmoo Avenue
Sarnia, ON
N7T 7H5

Sent Via Email: chief.plain@aamjiwnaang.ca

Reference: NOTICE OF STUDY COMMENCEMENT

**Highway 401 Five Structure Replacements, Highbury Avenue
Interchange Improvements, and Highway 401 Pavement
Rehabilitation from 0.7 km east of Wellington Road South easterly to
0.6 km west of Old Victoria Road
(Contract 2022-3004)
Detail Design and Class Environmental Assessment Study**

Dear Chief Chris Plain,

The Ontario Ministry of Transportation (MTO) has retained Stantec Consulting Ltd. and Dufferin Construction Company to complete the Design-Build (DB) contract for the Class Environmental Assessment (EA), detail design and construction of five Highway 401 structure replacements, Highbury Avenue interchange improvements, and Highway 401 pavement rehabilitation, from 0.7 km east of Wellington Road South easterly to 0.6 km west of Old Victoria Road, in the City of London, Middlesex County.

Construction is anticipated to start in 2023 with a duration of approximately 4 years, subject to approvals.

This project is being completed in accordance with the MTO Class EA for Provincial Transportation Facilities (2000) as a Group 'B' project. Group "B" projects are considered major improvements to existing transportation facilities.

This project will include a review of the previously completed Preliminary Design documented in the August 2017 Transportation Environmental Study Report (TESR) for Highway 401, Tributary to Murray Drain Culvert, CNR Overhead and Pond Mills Road Overpass Replacements. This project will also advance the June 2021 Transportation Environmental Study Report (TESR) Addendum for Highway 401 Interchange Reconstruction at Highbury Avenue.

Prior to the start of construction, a Design and Construction Report (DCR) will be prepared to further document the scope of work, potential impacts, and mitigation measures.

The Ministry of Transportation recognizes that Indigenous partners are prioritizing COVID-19 responses to protect the health and well-being of their communities, and as a result, this may impact their ability to respond to ministry projects.

We are seeking your feedback as well as any questions or concerns you may have regarding the project. To provide comments or request additional information, please contact the project team as identified in the enclosed notice.

The ministry is open to innovative solutions to facilitate Indigenous communities' participation in MTO initiatives, such as virtual meetings. If you are interested in such a meeting, please contact me at (226) 980-9751 or Emily.Roadhouse@ontario.ca.

Yours truly,

A handwritten signature in brown ink that reads "em Rdh." with a flourish at the end.

Emily Roadhouse

Head (A), Environmental Delivery West
Ministry of Transportation

- c: C. Horan, Senior Project Engineer, MTO
- C. Evans, Senior Environmental Planner, MTO
- L. Fisher-Bloxam, Indigenous Liaison Specialist, MTO
- C. O'Brien, Environmental Coordinator, Aamjiwnaang First Nation

Attached: Notice of Study Commencement

Ministry of Transportation

Design and Engineering Branch
Environmental Delivery West

659 Exeter Road
London, Ontario N6E 1L3
Telephone: (226) 980-9751
Email: Emily.Roadhouse@ontario.ca

Ministère des Transports

Direction de conception et d'ingénierie
Section de livraison environnementale de l'Ouest

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



July 5, 2022

Attention: Michelle McCormack

Consultation Coordinator
Caldwell First Nation
14 Orange Street
Leamington, ON
N8H 1P5

Sent Via Email: ecc@caldwellfirstnation.ca and ecc2@caldwellfirstnation.ca

Reference: NOTICE OF STUDY COMMENCEMENT

**Highway 401 Five Structure Replacements, Highbury Avenue
Interchange Improvements, and Highway 401 Pavement
Rehabilitation from 0.7 km east of Wellington Road South easterly to
0.6 km west of Old Victoria Road
(Contract 2022-3004)
Detail Design and Class Environmental Assessment Study**

Dear Michelle McCormack,

The Ontario Ministry of Transportation (MTO) has retained Stantec Consulting Ltd. and Dufferin Construction Company to complete the Design-Build (DB) contract for the Class Environmental Assessment (EA), detail design and construction of five Highway 401 structure replacements, Highbury Avenue interchange improvements, and Highway 401 pavement rehabilitation, from 0.7 km east of Wellington Road South easterly to 0.6 km west of Old Victoria Road, in the City of London, Middlesex County.

Construction is anticipated to start in 2023 with a duration of approximately 4 years, subject to approvals.

This project is being completed in accordance with the MTO Class EA for Provincial Transportation Facilities (2000) as a Group 'B' project. Group "B" projects are considered major improvements to existing transportation facilities.

This project will include a review of the previously completed Preliminary Design documented in the August 2017 Transportation Environmental Study Report (TESR) for Highway 401, Tributary to Murray Drain Culvert, CNR Overhead and Pond Mills Road Overpass Replacements. This project will also advance the June 2021 Transportation Environmental Study Report (TESR) Addendum for Highway 401 Interchange Reconstruction at Highbury Avenue.

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Yours truly,

A handwritten signature in brown ink that reads "em Roadhouse". The signature is written in a cursive, lowercase style.

Emily Roadhouse

Head (A), Environmental Delivery West
Ministry of Transportation

- c: C. Horan, Senior Project Engineer, MTO
- C. Evans, Senior Environmental Planner, MTO
- L. Fisher-Bloxam, Indigenous Liaison Specialist, MTO
- T. Jolicoeur, (A) Administrative Services, Caldwell First Nation

Attached: Notice of Study Commencement

Ministry of Transportation

Design and Engineering Branch
Environmental Delivery West

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



July 5, 2022

Attention: Chief Jason Henry

Chippewas of Kettle and Stony Point First Nation
6247 Indian Lane
Lambton Shores, ON
N0N 1J1

Sent Via Email: Jason.Henry@kettlepoint.org

Reference: NOTICE OF STUDY COMMENCEMENT

**Highway 401 Five Structure Replacements, Highbury Avenue
Interchange Improvements, and Highway 401 Pavement
Rehabilitation from 0.7 km east of Wellington Road South easterly to
0.6 km west of Old Victoria Road
(Contract 2022-3004)
Detail Design and Class Environmental Assessment Study**

Dear Chief Jason Henry,

The Ontario Ministry of Transportation (MTO) has retained Stantec Consulting Ltd. and Dufferin Construction Company to complete the Design-Build (DB) contract for the Class Environmental Assessment (EA), detail design and construction of five Highway 401 structure replacements, Highbury Avenue interchange improvements, and Highway 401 pavement rehabilitation, from 0.7 km east of Wellington Road South easterly to 0.6 km west of Old Victoria Road, in the City of London, Middlesex County.

Construction is anticipated to start in 2023 with a duration of approximately 4 years, subject to approvals.

This project is being completed in accordance with the MTO Class EA for Provincial Transportation Facilities (2000) as a Group 'B' project. Group "B" projects are considered major improvements to existing transportation facilities.

This project will include a review of the previously completed Preliminary Design documented in the August 2017 Transportation Environmental Study Report (TESR) for Highway 401, Tributary to Murray Drain Culvert, CNR Overhead and Pond Mills Road Overpass Replacements. This project will also advance the June 2021 Transportation Environmental Study Report (TESR) Addendum for Highway 401 Interchange Reconstruction at Highbury Avenue.

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We are seeking your feedback as well as any questions or concerns you may have regarding the project. To provide comments or request additional information, please contact the project team as identified in the enclosed notice.

The ministry is open to innovative solutions to facilitate Indigenous communities' participation in MTO initiatives, such as virtual meetings. If you are interested in such a meeting, please contact me at (226) 980-9751 or Emily.Roadhouse@ontario.ca.

Yours truly,

A handwritten signature in brown ink that reads "em Roadhouse". The signature is written in a cursive, lowercase style.

Emily Roadhouse

Head (A), Environmental Delivery West
Ministry of Transportation

c: C. Horan, Senior Project Engineer, MTO
C. Evans, Senior Environmental Planner, MTO
L. Fisher-Bloxam, Indigenous Liaison Specialist, MTO

Attached: Notice of Study Commencement

Ministry of Transportation

Design and Engineering Branch
Environmental Delivery West

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London, Ontario N6E 1L3
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Email: Emily.Roadhouse@ontario.ca

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



July 5, 2022

Attention: Chief Jacqueline French
Chippewas of the Thames First Nation
320 Chippewa Road
Muncey, ON
N0L 1Y0

Sent Via Email: jfrench@cottfn.com

Reference: NOTICE OF STUDY COMMENCEMENT
Highway 401 Five Structure Replacements, Highbury Avenue
Interchange Improvements, and Highway 401 Pavement
Rehabilitation from 0.7 km east of Wellington Road South easterly to
0.6 km west of Old Victoria Road
(Contract 2022-3004)
Detail Design and Class Environmental Assessment Study

Dear Chief Jacqueline French,

The Ontario Ministry of Transportation (MTO) has retained Stantec Consulting Ltd. and Dufferin Construction Company to complete the Design-Build (DB) contract for the Class Environmental Assessment (EA), detail design and construction of five Highway 401 structure replacements, Highbury Avenue interchange improvements, and Highway 401 pavement rehabilitation, from 0.7 km east of Wellington Road South easterly to 0.6 km west of Old Victoria Road, in the City of London, Middlesex County.

Construction is anticipated to start in 2023 with a duration of approximately 4 years, subject to approvals.

This project is being completed in accordance with the MTO Class EA for Provincial Transportation Facilities (2000) as a Group 'B' project. Group "B" projects are considered major improvements to existing transportation facilities.

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Yours truly,

A handwritten signature in brown ink that reads "em Roadhouse". The signature is written in a cursive, lowercase style.

Emily Roadhouse

Head (A), Environmental Delivery West
Ministry of Transportation

- c: C. Horan, Senior Project Engineer, MTO
- C. Evans, Senior Environmental Planner, MTO
- L. Fisher-Bloxam, Indigenous Liaison Specialist, MTO
- K. Riley, (A) Lands and Environmental Director, COTTFN
- F. Burch, Consultation Coordinator, COTTFN

Attached: Notice of Study Commencement

Ministry of Transportation

Design and Engineering Branch
Environmental Delivery West

659 Exeter Road
London, Ontario N6E 1L3
Telephone: (226) 980-9751
Email: Emily.Roadhouse@ontario.ca

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Direction de conception et d'ingénierie
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659, rue Exeter
London (Ontario) N6E 1L3
Téléphone: (226) 980-9751
Courriel: Emily.Roadhouse@ontario.ca



July 5, 2022

Attention: Kimberly Snake

Director of Operations
Delaware Nation at Moraviantown
14760 School House Line RR #3
Thamesville, ON
N0P 2K0

Sent Via Email: Director.operations@delawarenation.on.ca

Reference: NOTICE OF STUDY COMMENCEMENT

**Highway 401 Five Structure Replacements, Highbury Avenue
Interchange Improvements, and Highway 401 Pavement
Rehabilitation from 0.7 km east of Wellington Road South easterly to
0.6 km west of Old Victoria Road
(Contract 2022-3004)
Detail Design and Class Environmental Assessment Study**

Dear Kimberly Snake,

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Construction is anticipated to start in 2023 with a duration of approximately 4 years, subject to approvals.

This project is being completed in accordance with the MTO Class EA for Provincial Transportation Facilities (2000) as a Group 'B' project. Group "B" projects are considered major improvements to existing transportation facilities.

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Yours truly,

A handwritten signature in brown ink that reads "em Roadhouse". The signature is written in a cursive, lowercase style.

Emily Roadhouse

Head (A), Environmental Delivery West
Ministry of Transportation

c: C. Horan, Senior Project Engineer, MTO
C. Evans, Senior Environmental Planner, MTO
L. Fisher-Bloxam, Indigenous Liaison Specialist, MTO
Chief Denise Stonefish, Delaware Nation at Moraviantown

Attached: Notice of Study Commencement

Ministry of Transportation

Design and Engineering Branch
Environmental Delivery West

659 Exeter Road
London, Ontario N6E 1L3
Telephone: (226) 980-9751
Email: Emily.Roadhouse@ontario.ca

Ministère des Transports

Direction de conception et d'ingénierie
Section de livraison environnementale de l'Ouest

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



July 5, 2022

**Attention: Chief Roger
Thomas**

Munsee-Delaware Nation 289
Jubilee Road, RR #1 Muncey,
ON
N0L 1Y0

Sent Via Email: chief@munsee.ca

Reference: NOTICE OF STUDY COMMENCEMENT

**Highway 401 Five Structure Replacements, Highbury Avenue
Interchange Improvements, and Highway 401 Pavement
Rehabilitation from 0.7 km east of Wellington Road South easterly to
0.6 km west of Old Victoria Road
(Contract 2022-3004)
Detail Design and Class Environmental Assessment Study**

Dear Chief Roger Thomas,

The Ontario Ministry of Transportation (MTO) has retained Stantec Consulting Ltd. and Dufferin Construction Company to complete the Design-Build (DB) contract for the Class Environmental Assessment (EA), detail design and construction of five Highway 401 structure replacements, Highbury Avenue interchange improvements, and Highway 401 pavement rehabilitation, from 0.7 km east of Wellington Road South easterly to 0.6 km west of Old Victoria Road, in the City of London, Middlesex County.

Construction is anticipated to start in 2023 with a duration of approximately 4 years, subject to approvals.

This project is being completed in accordance with the MTO Class EA for Provincial Transportation Facilities (2000) as a Group 'B' project. Group "B" projects are considered major improvements to existing transportation facilities.

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Prior to the start of construction, a Design and Construction Report (DCR) will be prepared to further document the scope of work, potential impacts, and mitigation measures.

The Ministry of Transportation recognizes that Indigenous partners are prioritizing COVID-19 responses to protect the health and well-being of their communities, and as a result, this may impact their ability to respond to ministry projects.

We are seeking your feedback as well as any questions or concerns you may have regarding the project. To provide comments or request additional information, please contact the project team as identified in the enclosed notice.

The ministry is open to innovative solutions to facilitate Indigenous communities' participation in MTO initiatives, such as virtual meetings. If you are interested in such a meeting, please contact me at (226) 980-9751 or Emily.Roadhouse@ontario.ca.

Yours truly,

A handwritten signature in brown ink that reads "em Roadhouse". The signature is written in a cursive, lowercase style.

Emily Roadhouse

Head (A), Environmental Delivery West
Ministry of Transportation

c: C. Horan, Senior Project Engineer, MTO
C. Evans, Senior Environmental Planner, MTO
L. Fisher-Bloxam, Indigenous Liaison Specialist, MTO

Attached: Notice of Study Commencement

Ministry of Transportation

Design and Engineering Branch
Environmental Delivery West

659 Exeter Road
London, Ontario N6E 1L3
Telephone: (226) 980-9751
Email: Emily.Roadhouse@ontario.ca

Ministère des Transports

Direction de conception et d'ingénierie
Section de livraison environnementale de l'Ouest

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



July 5, 2022

Attention: Chief Adrian Chrisjohn

Oneida Nation of the Thames
2210 Elm Avenue
Southwold, ON
N0L 2G0

Sent Via Email: Adrian.Chrisjohn@oneida.on.ca

Reference: NOTICE OF STUDY COMMENCEMENT

**Highway 401 Five Structure Replacements, Highbury Avenue
Interchange Improvements, and Highway 401 Pavement
Rehabilitation from 0.7 km east of Wellington Road South easterly to
0.6 km west of Old Victoria Road
(Contract 2022-3004)
Detail Design and Class Environmental Assessment Study**

Dear Chief Adrian Chrisjohn,

The Ontario Ministry of Transportation (MTO) has retained Stantec Consulting Ltd. and Dufferin Construction Company to complete the Design-Build (DB) contract for the Class Environmental Assessment (EA), detail design and construction of five Highway 401 structure replacements, Highbury Avenue interchange improvements, and Highway 401 pavement rehabilitation, from 0.7 km east of Wellington Road South easterly to 0.6 km west of Old Victoria Road, in the City of London, Middlesex County.

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Yours truly,

A handwritten signature in brown ink that reads "em Rdh." with a period at the end.

Emily Roadhouse

Head (A), Environmental Delivery West
Ministry of Transportation

c: C. Horan, Senior Project Engineer, MTO
C. Evans, Senior Environmental Planner, MTO
L. Fisher-Bloxam, Indigenous Liaison Specialist, MTO
C. Hill, Oneida Nation of the Thames

Attached: Notice of Study Commencement

Ministry of Transportation

Design and Engineering Branch
Environmental Delivery West

659 Exeter Road
London, Ontario N6E 1L3
Telephone: (226) 980-9751
Email: Emily.Roadhouse@ontario.ca

Ministère des Transports

Direction de conception et d'ingénierie
Section de livraison environnementale de l'Ouest

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



July 5, 2022

Attention: Chief Charles Sampson

Walpole Island First Nation
117 Tahgahoning Road, RR #3
Wallaceburg, ON
N8A 4K9

Sent Via Email: Charles.sampson@wifn.org and alicia.black eagle@wifn.org

Reference: NOTICE OF STUDY COMMENCEMENT

**Highway 401 Five Structure Replacements, Highbury Avenue
Interchange Improvements, and Highway 401 Pavement
Rehabilitation from 0.7 km east of Wellington Road South easterly to
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Ministry of Transportation

c: C. Horan, Senior Project Engineer, MTO
C. Evans, Senior Environmental Planner, MTO
L. Fisher-Bloxam, Indigenous Liaison Specialist, MTO
D. Jacobs, Consultation Manager, WIFN
J. Macbeth, Project Review Coordinator, WIFN

Attached: Notice of Study Commencement

YAO lance son nouvel album : Kintsugi

Après une attente de plus de cinq ans depuis la sortie de l'album *Lapsus*, YAO a lancé le 27 mai son quatrième album solo : *Kintsugi*. Un projet résolument plus personnel, à la démarche mature et assumée, qui a permis à l'artiste d'offrir un résultat plus près de lui-même.

Dans la conception de ce projet, YAO met de l'avant ses peines et ses angoisses, et puise à même sa pluralité identitaire (Franco-Ontarien d'adoption, originaire du Togo et de la Côte d'Ivoire), avec l'ambition d'en faire ressortir des vérités universelles.

Entre slam, soul, funk et hip-hop alternatif, le tout infusé de sonorités afro, sa démarche créative évoque toutefois le processus réparateur du Kintsugi, cet art traditionnel japonais qui préconise l'usage d'un métal précieux pour rassembler les pièces d'une poterie cassée et, en même temps, rehausser les fissures de celle-ci.

« Dans cet album, j'explore les thèmes de la peine, de la résilience et de l'espoir en utilisant la poésie comme une lentille pour mettre en lumière mes propres « fractures » et transformer celles-ci par l'entremise de l'art. L'objectif final : créer de la beauté dans le chaos. Si le rôle de l'artiste est de questionner et de repousser les limites, il y va aussi de repousser ses propres limites. Il y va d'un développement artistique, certes, mais aussi d'un développement personnel. D'ailleurs, Émile Cioran disait : « La création est une préservation temporaire des griffes de la mort », explique YAO.

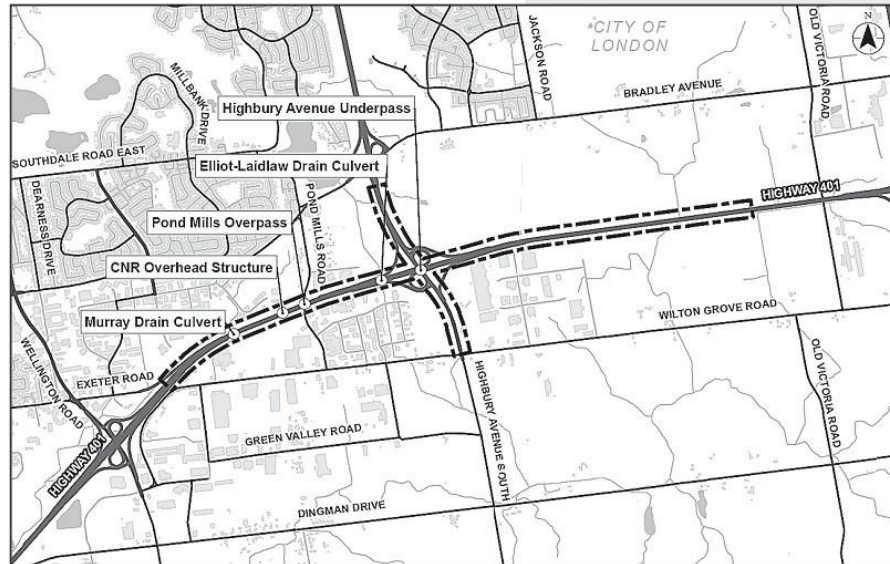
L'approche Kintsugi a été structurante pour l'artiste, surtout au cours des trois dernières années, sous le signe du chamboulement et de la reconstruction pour plusieurs. Derrière ce « Kintsugi de l'homme » se trouve un profond exercice de réflexion pour YAO; une façon de recoller les morceaux, une chanson à la fois. « *Kintsugi*, c'est 11 titres, oui; mais c'est surtout 11 états d'âme », révèle l'artiste.

Dans les derniers mois, il a sillonné l'Europe, de la Suisse à la France en passant par la Belgique, ainsi que l'Ontario et le Québec pour proposer cette nouvelle offrande puisée à même ses propres failles.

Source : Marie-Christine Houle

Avis de début d'étude

Remplacement de cinq structures sur l'autoroute 401, amélioration de l'échangeur de l'avenue Highbury et réfection des chaussées de l'autoroute 401 à partir de 0,7 km à l'est de la route Wellington Sud, vers l'est, jusqu'à 0,6 km à l'ouest du chemin Old Victoria (contrat 2022-3004)



Localisation du projet

L'ÉTUDE

Le ministère des Transports de l'Ontario (MTO) a retenu les services des entreprises **Stantec Consulting Ltd.** et **Dufferin Construction** pour réaliser le mandat de construction-conception, lequel comprend l'évaluation environnementale de portée générale, la conception détaillée et la construction, pour le remplacement de cinq structures de l'autoroute 401, l'amélioration de l'échangeur de l'avenue Highbury et la réfection des chaussées de l'autoroute 401, dans la ville de London, située dans le comté Middlesex.

La conception détaillée des travaux sur l'autoroute 401 commencera en 2022 et la construction, d'une durée prévue de quatre semaines, sera entreprise en 2023, sous réserve de l'obtention des approbations. Des renseignements supplémentaires sur le projet et les mises à jour sur la construction seront publiés sur le site Web du projet à l'adresse www.Hwy401highbury.ca. Le site Web sera mis à jour au fur et à mesure de l'avancement du projet.

LE PROCESSUS

Le projet est réalisé conformément aux exigences des projets de groupe « B » mentionnées dans *L'évaluation environnementale de portée générale pour les installations provinciales de transport (2000)* du MTO. Les projets apportant des améliorations majeures aux infrastructures de transport existantes sont classés dans le groupe « B ». Le projet comprendra une revue de la conception préliminaire déjà réalisée et documentée dans le rapport d'étude environnementale sur les transports (TESR) produit en 2017 dans le cadre des travaux d'amélioration de l'autoroute 401, tributaires du remplacement du ponton Murray et des ponts d'étagement du CN et du chemin Pond Mills. Ce projet contribuera aussi à faire progresser l'addenda au TESR produit en juin 2021 concernant la reconstruction de l'échangeur de l'avenue Highfield et de l'autoroute 401.

Avant le début de la construction, un rapport de conception et de construction (RCC) sera rédigé pour documenter plus amplement la portée des travaux, les incidences potentielles et les mesures d'atténuation. Un avis d'achèvement du RCC sera publié pour informer le public du début de la période d'examen de 30 jours.

COMMENTAIRES

L'équipe de projet sollicite les commentaires sur les travaux proposés. Les personnes intéressées sont invitées à formuler leurs commentaires d'ici le **4 juillet 2022**. Pour discuter directement avec un membre de l'équipe de projet, veuillez contacter l'une des personnes nommées ci-dessous.

Stantec Consulting Ltd.
Dave Emery, P. Eng.
Responsable de la conception
tél. : 905 381-3221
courriel : comments@hwy401highbury.ca

Ministère des Transports de l'Ontario
Colton Horan, P. Eng.
Ingénieur de projet principal
tél. : 519 860-3787
courriel : comments@hwy401highbury.ca

L'équipe de projet s'est engagée à ce que l'information et les services gouvernementaux soient accessibles à tous les Ontariens. Pour obtenir du soutien en matière de communication ou des renseignements sur le projet sous un autre format, veuillez contacter un des membres de l'équipe du projet nommés ci-dessus.

Les informations recueillies seront utilisées en conformité avec la *Loi sur l'accès à l'information et la protection de la vie privée*. À l'exception des renseignements personnels, tous les commentaires feront partie des archives publiques.

Marcel Lopez de London termine deuxième au championnat national d'ÉMC

(R.M.) Le championnat national du concours d'Épelle-Moi Canada (ÉMC) a eu lieu à Richmond Hill, au nord de Toronto, le dimanche 29 mai et les finalistes régionaux s'y sont affrontés pour déterminer des gagnants en épellation des cycles primaire, moyen et intermédiaire.

Innovier, découvrir, apprendre et s'amuser, c'est en ces mots que la fondatrice et directrice générale d'ÉMC, Dorine Tcheumeleu, a décrit la nouvelle approche mise en place par l'organisme pour que les jeunes développent leur plein potentiel.

« Nous sommes fiers de vous, dit-elle aux finalistes. Malgré

toutes les adaptations et les changements auxquels vous avez dû faire face durant la pandémie de COVID-19, vous avez choisi de ne pas abandonner, mais plutôt de continuer à travailler très fort afin de démontrer votre amour et votre engagement envers la langue française pour continuer de la préserver et assurer ainsi sa pérennité. Bravo pour cette belle preuve de leadership! Nous avons confiance en votre capacité à prendre votre place dans ce monde. Vous devenez de fiers ambassadeurs de cet héritage culturel. »

L'événement devant parents et amis des participants était animé par Fayza Abdalaoui et

Hervé Zambou. Dans la matinée, les élèves de 6 à 8 ans des régions de Cambridge, London, Durham, York, Simcoe, Toronto, Halton-Peel, Niagara, Nouvelle-Écosse, Lasalle et Côte-des-Neiges au Québec, Orléans, Ottawa Ouest et Gatineau, Prescott-Russell, Saint-Laurent et Windsor-Essex ont compétitionné pour déterminer des cinq meilleurs élèves du cycle primaire en épellation.

Puis, ce fut le tour des jeunes de 9 à 11 ans pour le cycle moyen et, en après-midi, ceux de 12 à 14 ans ont démontré leur talent pour conquérir le titre du cycle intermédiaire.

Cette dernière compétition

a été très serrée, nécessitant de nombreuses rondes qui ont mené à une finale enlevante entre Marcel Lopez, de l'école secondaire Monseigneur-Bruyère de London, et Pythagore Mbougang Sieyoji de la polyvalente Le Carrefour à Gatineau. L'élève de London a terminé au deuxième rang au niveau national. Un bel exploit!

Les cinq meilleurs élèves de chaque cycle ont reçu des prix en argent pour les trois premiers, accompagné d'un trophée commandité par TFO, un certificat de participation, des articles promotionnels d'ÉMC, un dictionnaire Larousse junior et, entre autres articles, un sac de sport commandité par le Collège Boréal.

Félicitations à tous les participants qui sont tous ressortis gagnants de cette expérience!

FINALISTES

Cycle primaire

Charles Allen
(Nouvelle-Écosse)
Viviane Dragnea (Maple, ON)
Olivia Anciaux (Orléans, ON)

Cycle moyen

Astrid Jérémie Echao
(Orléans, ON)
Anne-Christelle Hopogap
(Windsor, ON)
Sophie Wilson (Toronto, ON)

Cycle intermédiaire

Pythagore Mbougang Sieyoji
(Gatineau, QC)
Marcel Lopez (London, ON)
Sujash Dewanjee
(Montréal, QC)



Les finalistes et les organisateurs ont conclu la présentation avec la prise de photos pour l'album-souvenir d'ÉMC.



Les juges ont eu fort à faire pour déterminer les gagnants.

Le Holy Roller est de retour au parc Victoria



Le parc Victoria, site permanent du char d'assaut Holy Roller
Photo : Facebook Ville de London

Un char d'assaut de plus de 80 ans, qui est devenu le monument le plus emblématique de la Seconde Guerre mondiale à London, a sorti de sa restauration après une période d'un an devant une foule enthousiaste.

Le Holy Roller est l'un des deux chars de combat canadiens de la Seconde Guerre mondiale à avoir survécu à l'assaut du jour J jusqu'à la fin de la guerre en Europe. Il a été exposé dans le parc Victoria en 1956 et est devenu un monument durable du plus grand conflit du XX^e siècle.

Alors que les canons allemands ne pouvaient pas détruire le Holy Roller, plus d'un demi-siècle de conditions météorologiques canadiennes commençaient à faire des ravages sur l'ancien cheval de bataille dont

la restauration avait commencé l'année dernière.

Lors de son dévoilement officiel le 30 mai, le « Memorial Day » aux États-Unis, l'ancienne machine de guerre a attiré une centaine de personnes parmi lesquelles se trouvaient des volontaires, d'anciens militaires et des dignitaires qui ont applaudi alors que le véhicule vacillait lentement, allant de l'avant, se déplaçant par ses propres moyens pour la première fois depuis la fin des années 1940.

Le samedi 4 juin, l'histoire du Holy Roller était expliquée par des bénévoles au parc Victoria, site permanent du char d'assaut. Le 6 juin marquait le 78^e anniversaire de l'invasion en Normandie.

Jury finds murder ranked second degree

Chad Reu-Waters found guilty in trial over body found in freezer after 17 years

JANE SIMS

ST. THOMAS When it came time to make a decision, the jury at Chad Reu-Water's trial believed he killed Ashley Pereira — they just weren't convinced he had a plan to do it.

Reu-Waters, 48, of Haldimand County, was found not guilty of first-degree murder, but guilty of second-degree murder in the death of the 33-year-old Mississauga man, who was missing for 17 years before his remains were found in a discarded chest freezer that had been tossed over a Lake Erie bluff near Port Burwell.

Reu-Waters also was found guilty of indecently offering an indignity to human remains by concealing them in a freezer.

The decisions reflected key challenges in the Crown's case, which had circumstantial evidence, but lacked eyewitness accounts.

First-degree murder is a killing that primarily shows a level

of planning and deliberation. All other murder is second-degree.

Reu-Waters faces a mandatory life sentence, but his parole ineligibility can be set between 10 and 25 years. Superior Court Justice Kirk Munroe asked the jury for recommendation on when Reu-Waters can seek parole. Four gave no recommendation, two said 10 years, one said 20 years, while five recommended the maximum 25 years.

Defence lawyer Andy Rady asked for a pre-sentence report, which pushes sentencing weeks into the future. The case returns to Superior Court assignment court June 13, when a date will be set for sentencing submissions and victim impact statements from Pereira's family.

Reu-Waters, who has a long criminal history, has been in custody on the charges for 34 months.

Reu-Waters and Pereira had met in jail at Milton's Maplehurst Correctional Complex in 2001. In 2002, they started a business to-

gether involving computer parts.

Pereira vanished in March 2002. A year later, Reu-Waters told his wife at the time he had killed him.

He would brag about killing him many times over the next 17 years to his ex-wife and ex-girlfriend, often threatening to implicate them in the murder if they told anyone. He also mentioned killing someone to his ex-girlfriend's best friend.

More details came out every time he bragged about it: that he killed Pereira in a Guelph storage unit by strangling him with a wire cord, then put the body in the freezer, which had been moved several times before he hid it at a Simcoe hobby shop.

In March 2019, Reu-Waters' girlfriend told police what Reu-Waters claimed. He was in jail at the time, but there was evidence his son, Sam Waters, 26, had visited him in jail hours before he and two buddies retrieved the freezer from the hobby shop's basement, drove it to the cliff and dumped it.

South Coast Hobbies & Rides was founded by Reu-Waters, but his son was operating it at the

time the freezer, concealed under a homemade workbench, was moved. Sam Waters did not testify at his father's trial.

The freezer was found by a hiker on May 6, 2019. Curious why a locked freezer was halfway down the bluff, the hiker used a brick to open the padlock and found the body inside.

Earlier in the day, Crown and defence lawyers gave closing arguments.

Assistant Crown attorney Meredith Gardiner asked the jury to look at the case as a jigsaw puzzle and not make a decision based on just one piece, but to put all the facts together.

"From April 2002 to May 6, 2019, this was the perfect murder," Gardiner said. "There was no body, there was just a missing man whose family and loved ones hadn't seen him for almost two decades. In the end, this was not the perfect murder because Chad (Reu-)Waters just can't help himself. He can't stop talking. He brags, he blusters."

While the exact details of what happened to Pereira were lacking,

"there's an eyewitness to how Ashley was killed, when he was killed, where he was killed and why he was killed. And that eyewitness has given that evidence, telling the same story to multiple different people since 2003, just one year after Ashley went missing," Gardiner said.

"The eyewitness is Chad (Reu-) Waters."

Rady reminded jurors that Reu-Waters was a habitual braggart, car thief, drug user and drinker. He falsely told people he had a university degree and was a lawyer. He bragged of Mafia and Hells Angels connections. He was, Rady said, routinely "full of baloney."

There was no DNA or fingerprints to tie Reu-Waters to the killing. "All we really have and that the Crown can go on in this case are some statements made by my client," he said. "But physical evidence and other evidence going to show his guilt does not exist."

Rady noted even the pathologist said cause of death would have been inconclusive if not for a ligature around Pereira's neck.

jsims@postmedia.com

'Duplicitous' charges dropped for parents in baby's death

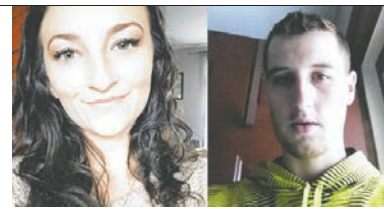
TERRY BRIDGE

Manslaughter charges have been dropped against the parents of a Lambton County infant who died in the fall of 2020, but they're both still facing charges of criminal negligence causing death.

Police and paramedics were called to a home on Penrise Street in Mooretown for an unresponsive infant on Nov. 20, 2020. Nine-

month-old Tressa MacPherson died that day.

Nearly one year later, the Lambton County OPP said they charged Brock MacPherson, 30, of St. Clair Township and 30-year-old Sarnia resident Elizabeth Kathleen McPhail — Katie McPhail on social media — with manslaughter and criminal negligence causing death. After roughly nine months and half a dozen court appearanc-



Elizabeth Kathleen McPhail and Brock MacPherson FACEBOOK

es, regional Crown counsel Brian White asked a Sarnia justice of the peace to withdraw the manslaughter charges against both parents.

"The Crown takes the position that these charges are duplicitous. We don't need both charges. They cover after the same conduct," he said Monday in Sarnia's case man-

agement court.

Justice of the peace Kelly Jackson withdrew the manslaughter charges and adjourned the criminal negligence charges — tied to an allegation of failing to provide the necessities of life, according to court documents — to June 27. In the meantime, White will have a pre-trial with local criminal defence lawyers Sarah Donohue, who is representing McPhail, and David Stoesser or Joseph Stoesser, who are representing MacPherson.

Police did not specify the relationship between the accused and the baby when they announced the charges, but an online obituary

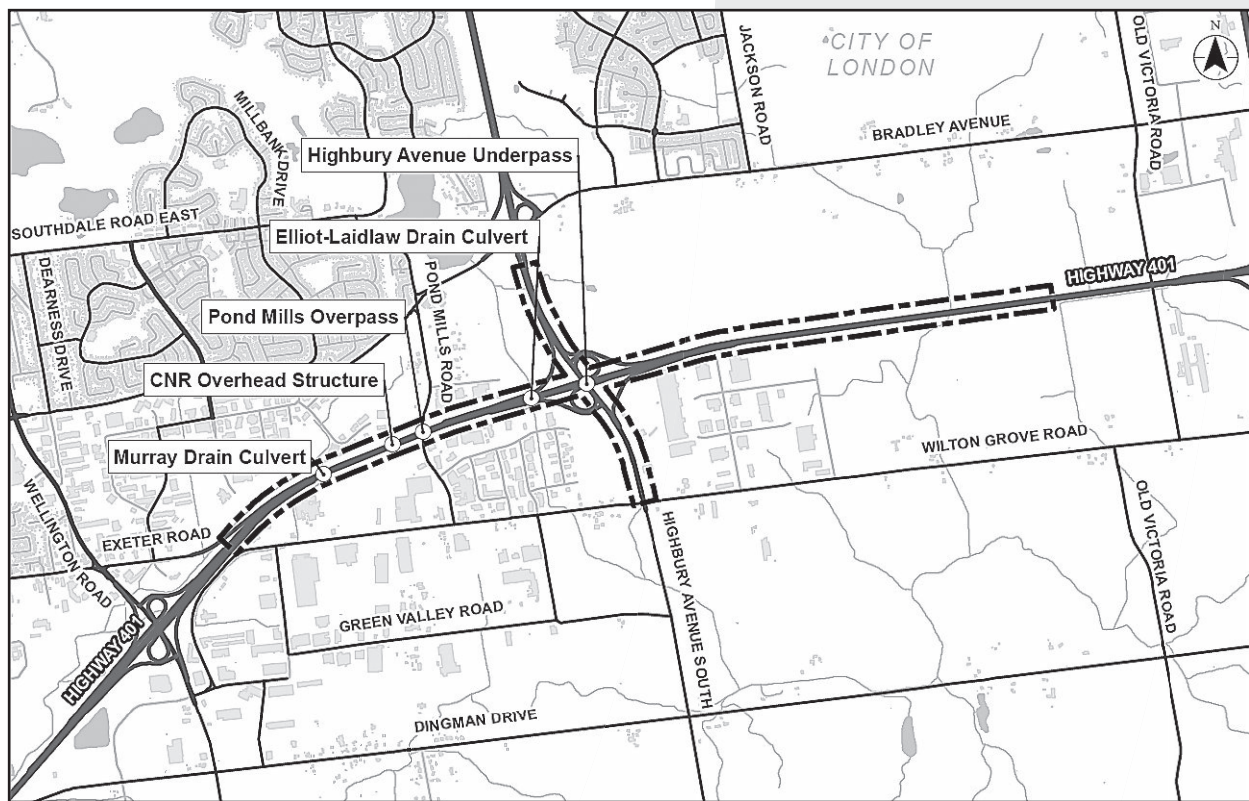
from December 2020 indicated they were her parents.

Lambton provincial police announced the charges on Sept. 17, 2021, about 10 months after the baby died and two days after both suspects were released on \$5,000 bail. Their releases included conditions such as a ban on communicating with each other except through the Sarnia-Lambton Children's Aid Society — they have another child, according to the obit — or their lawyers.

They also can't speak to a handful of other people named in the court documents and banned from weapons and illegal drugs.

Notice of Study Commencement

Highway 401 Five Structure Replacements, Highbury Avenue Interchange Improvements, and Highway 401 Pavement Rehabilitation from 0.7 km east of Wellington Road South easterly to 0.6 km west of Old Victoria Road (Contract 2022-3004)



Key Map

THE STUDY

The Ontario Ministry of Transportation (MTO) has retained Stantec Consulting Ltd. and Dufferin Construction Company to complete the Design-Build (DB) contract for the Class Environmental Assessment (EA), detail design and construction of five Highway 401 structure replacements, Highbury Avenue interchange improvements, and Highway 401 pavement rehabilitation, in the City of London, Middlesex County.

Highway 401 detail design work will be initiated in 2022 with a planned construction duration of approximately 4 years starting in 2023, subject to approvals. Additional project information and construction updates will be posted on the project website at www.Hwy401highbury.ca. The website will be updated as the project progresses.

THE PROCESS

The project is being completed following the MTO Class EA for Provincial Transportation Facilities (2000) for a Group "B" undertaking. Group "B" projects are considered major improvements to existing transportation facilities. This project will include a review of the previously completed Preliminary Design documented in the August 2017 Transportation Environmental Study Report (TESR) for Highway 401, Tributary to Murray Drain Culvert, CNR Overhead and Pond Mills Road Overpass Replacements. This project will also advance the June 2021 Transportation Environmental Study Report (TESR) Addendum for Highway 401 Interchange Reconstruction at Highbury Avenue.

Prior to the start of construction, a Design and Construction Report (DCR) will be prepared to further document the scope of

work, potential impacts, and mitigation measures. A Notice of Study Completion will be issued for the DCR, advising of the start of the 30-day public review period.

COMMENTS

As part of this project, the project team is requesting your comments on the proposed work. All comments are requested by July 4, 2022. If you would like to speak with a project team member directly, please contact one of the team members listed below.

Stantec Consulting Ltd.

Dave Emery, P.Eng.
Design Manager
tel: 905-381-3221
e-mail: comments@hwy401highbury.ca

Ontario Ministry of Transportation

Colton Horan, P. Eng.
Senior Project Engineer
tel: 519-860-3787
e-mail: comments@hwy401highbury.ca

We are committed to ensuring that government information and services are accessible for all Ontarians. For communication supports or to request project information in an alternate format, please contact one of the preceding Study Team members.

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. Version française disponible en composant le 613 722-4420, (Angelo Renon).

'Nauseating' Sarnia smell traced to sewage lagoon

PAUL MORDEN

Complaints heard by Sarnia officials on the weekend and Monday morning about a "nauseating" odour in parts of the city are believed to be connected to a lagoon facility on Scott Road, where a company stores sewage sludge from wastewater treatment before it's spread on farm fields as fertilizer.

Brantford-based Wessuc purchased the lagoons from the city in 2020 and indicated in a letter to Sarnia council last week it had been dealing with odour complaints for the past two months.

"In the last six to eight weeks, there have been many complaints about the odour from the site," Mayor Mike Bradley said.

He said he noticed the odour downtown Sunday morning, and later received calls and emailed complaints from residents from as far across the city as the Sherwood Village subdivision in the east end.

"It was just strong and severe," with some residents described it as "nauseating," Bradley said.

"We do not take these complaints lightly and apologize for odours caused by our operations," Wessuc vice-president Hank VanVeen wrote in the letter to the mayor and council.

"We know it needs to be resolved," VanVeen added Monday. "It's definitely not what we wanted to see happen."

The letter outlines steps the company is taking to mitigate the stink, including the removal of 11,000 cubic metres of material, covering the lagoons with odour-absorbing material and treating them with an organic deodorizing solution.

"These initiatives have drastically reduced the odour at the site," the letter stated. "In addition, we have installed two air-monitoring stations, and are awaiting new unloading equipment expected in the next two weeks, which will further reduce odour potential."

VanVeen said Monday a piece of unloading equipment for which the company has been waiting will be available sooner than expected and could be in place some time this week. Wessuc is also working to place a "water cap" over the lagoons.

Highway 401 Highbury

Highway 401 Five Structure Replacements, Highbury Avenue Interchange Improvements, and Highway 401 Pavement Rehabilitation

Contract 2022-3004

[HOME](#)

[CLASS EA PROCESS](#)

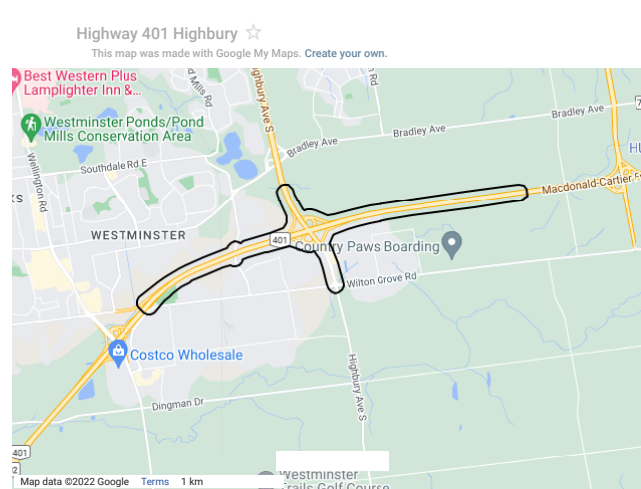
[PROJECT SCHEDULE](#)

[DOCUMENTATION](#)

[ACCESSIBILITY](#)

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Welcome



The Ontario Ministry of Transportation (MTO) has retained Stantec Consulting Ltd. and Dufferin Construction Company to complete the Design-Build (DB) contract for the Class Environmental Assessment (EA), detail design and construction of five Highway 401 structure replacements, Highbury Avenue interchange improvements, and Highway 401 pavement rehabilitation, in the City of London, Middlesex County.

The project is being completed following the MTO Class EA for Provincial Transportation Facilities (2000) for a Group “B” undertaking. Group “B” projects are considered major improvements to existing transportation facilities. This project will include a review of the previously completed Preliminary Design documented in the August 2017 Transportation Environmental Study Report (TESR) for Highway 401, Tributary to Murray Drain Culvert, CNR Overhead and Pond Mills Road Overpass Replacements. This project will also advance the June 2021 Transportation Environmental Study Report (TESR) Addendum for Highway 401 Interchange Reconstruction at Highbury Avenue.

Prior to the start of construction, a Design and Construction Report (DCR) will be prepared to further document the scope of work, potential impacts, and mitigation measures. A Notice of Study Completion will be issued for the DCR, advising of the start of the 30-day public review period.

From: [Werner-Hill, Julie](#)
Cc: [Hohner, Paula](#); [Welker, Kevin](#); [Emery, Dave](#); [Paslawski, Steve \(MTO\)](#); g.jackson@ca.crh.com; [Bridger, Drew \(CRH Canada Group Inc.\)](#); [McKerracher, Ryan \(MTO\)](#); [Barber, Dan \(MTO\)](#); [Kaira, Karn \(MTO\)](#); [Horan, Colton \(MTO\)](#); [Evans, Chris \(MTO\)](#)
Subject: Notice of Study Commencement - Highway 401 Highbury, City of London
Date: Tuesday, June 7, 2022 12:36:04 PM
Attachments: [Ontario Government NOSC - Highway 401 Highbury \(2022-3004\).pdf](#)

Good afternoon,

The Ontario **Ministry of Transportation (MTO)** has retained **Stantec Consulting Ltd.** and **Dufferin Construction Company** to complete the Design-Build (DB) contract for the Class Environmental Assessment (EA), detail design and construction of five Highway 401 structure replacements, Highbury Avenue interchange improvements, and Highway 401 pavement rehabilitation, in the City of London, Middlesex County.

The purpose of this email is to introduce the project, seek your input, and to identify any issues, concerns, or approval requirements that your organization may have. This study is following the approved environmental planning process for a Group 'B' project under the *Class Environmental Assessment (Class EA) for Provincial Transportation Facilities (2000)*, as described in the attached Notice.

Please communicate any concerns or questions related to this project to the team listed in the Notice and return any comments by July 4, 2022.

Regards,

Julie Werner-Hill B.A., GISP
Environmental Planner, GIS Analyst

Direct: 905 381-3245

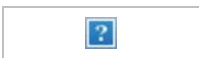
Mobile: 905 928-9240

Julie.Werner-Hill@stantec.com

Stantec

200-835 Paramount Drive

Stoney Creek ON L8J 0B4



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Notice of Study Commencement

FirstName	LastName	JobTitle	Company	Branch	Address1	Address2	City	Prov	PostalCode	Phone	Eaddress
Federal Agencies											
			Department of Fisheries and Oceans Canada								fisheriesprotection@dfo-mpo.gc.ca
Provincial Agencies											
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Sarah	Kielek-Caster	Regional Land Use Planning Team	Ministry of Northern Development, Mines, Natural Resources and Forestry	Field Services, South Region	667 Exeter Road					437-882-1128	sarah.kielek-caster@ontario.ca
Karina	Cerniavskaja	District Planner	Ministry of Northern Development, Mines, Natural Resources and Forestry	Southern Region - Aylmer District	615 John St. N		Aylmer	ON	N5H 2S8	519-200-2276	karina.cerniavskaja@ontario.ca
Dana	Kieffer	Rural Planner, Western Ontario	Ministry of Agriculture, Food and Rural Affairs	Land Use Policy & Stewardship	6484 Wellington Rd 7		Elora	ON	N0B 1S0	226-962-8933	dana.kieffer@ontario.ca
			Ministry of Agriculture, Food and Rural Affairs								omafra.eanotices@ontario.ca
Mark	Badali	Regional Environmental Assessment Coordinator	Ministry of the Environment, Conservation and Parks	Southwestern Region	733 Exeter Road		London	ON	N63 1L3	519-675-7742	mark.badali1@ontario.ca
EA Notification		Regional Environmental Assessment Coordinator	Ministry of the Environment, Conservation and Parks	Southwestern Region							eanotification@ontario.ca
Karla	Barboza	Team Lead, Heritage	Ministry of Heritage, Sport, Tourism and Culture Industries	Heritage Planning Unit	400 University Ave	5th Floor	Toronto	ON	M7A 2R9		karla.barboza@ontario.ca
Joseph	Harvey	Heritage Planner	Ministry of Heritage, Sport, Tourism and Culture Industries	Heritage Planning Unit	400 University Ave	5th Floor	Toronto	ON	M7A 2R9	613-242-3743	joseph.harvey@ontario.ca
Contini	Rachel	Planning Coordinator, Development Planning	Infrastructure Ontario								rachel.contini@infrastructureontario.ca
											noticereview@infrastructureontario.ca
Conservation Authorities											
Mark	Shifflett	Senior Water Resources Engineer	Upper Thames River Conservation Authority		1424 Clarke Road		London	ON	N5V 5B9	519-451-2800 ext. 239	shifflettm@thamesriver.on.ca
Planning Inquiries		Planning Inquiries	Upper Thames River Conservation Authority		1424 Clarke Road		London	ON	N5V 5B9		planning@thamesriver.on.ca
Jenna	Allain	Manager, Environmental Planning and Regulations	Upper Thames River Conservation Authority		1424 Clarke Road		London	ON	N5V 5B9	519-451-2800 ext. 223	allainj@thamesriver.on.ca
MPP											
		MPP Elgin-Middlesex-London	MPP Elgin-Middlesex-London		750 Talbot Street, Suite 215		St. Thomas	ON	N5P 1E2	519-637-2255	Karen.Vecchio@parl.gc.ca
Municipal											
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Elizabeth	Pelozo	Councilor Ward 12	City of London		300 Dufferin Avenue, Suite 314		London	ON	N6B 1Z2	519-661-2489 ext. 4012	epelozal@london.ca
Ed	Holder	Mayor	City of London				London	ON		519-661-4920	mayor@london.ca
Katie	Burns	Director of Transportation and Planning	London Transit Commission		450 Highbury Avenue North		London	ON	N5W 5L2		kburns@londontransit.ca
Karl	Grabowski	Transportation Design Engineer	City of London	EES - Roads and Transportation/Transportation Planning and Design	P.O. Box 5035		London	ON	N6A 4L9	519-661-2489 x 5071	kgrabows@london.ca
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Michael	Schulthess	City Clerk	City of London		300 Dufferin Avenue, 3rd Floor		London	ON	N6A 4L9		mschulthess@london.ca
Garfield	Dales	Manager, Transportation Planning & Design	City of London		P.O. Box 5035		London	ON	N6A 4L9	519-661-2489 x 4936	gdales@london.ca
Mary Lou	Albanese	Manager, Environmental Health and Infectious Disease	Middlesex-London Health Unit		50 King Street		London	ON	N6A 5L7	519-663-5317 x 2358	marylou.albanese@mlhu.on.ca
Emergency Services											
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Dean	Crocker	Detachment Commander	Ontario Provincial Police	Middlesex Detachment, London Office	823 Exeter Road		London	ON	N6E 1W1	519-681-0300	dean.crocker@opp.ca
Jennifer	Davey	Administrative Assistant	Ontario Provincial Police	Facilities Section	777 Memorial Avenue	2nd Floor	Orillia	ON	L3V 7V3	705-309-2621	jennifer.davey@opp.ca
Abisola	Akinwumi	Administrative Assistant	Ontario Provincial Police	Facilities Section	777 Memorial Avenue	2nd Floor	Orillia	ON	L3V 7V3	705-329-6825	abisola.akinwumi@opp.ca
School Boards and Transportation											
Rebecca	McLean	Supervisor of Planning	London District Catholic School Board	Catholic Education Centre	P.O. Box 5474	5200 Wellington Road S	London	ON	N6A 4X5		rmclean@ldcsb.ca
Carol	Rossi	Secretary	Southwestern Ontario Student Transportation Services		557 Southdale Road East, Suite 201	557 Southdale Road East, Suite 201	London	ON	N6E 1A2	519-649-1160	crossi@mybigyellowbus.ca
Ben	Puzanov	Manager of Planning	Thames Valley District School Board		PO Box 5888, 1250 Dundas Street	PO Box 5888, 1250 Dundas Street	London	ON	N6A 5L1	519-452-2000	bpuzanov@tvdsb.ca
Stakeholders											
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Julianne	Meijaard	Public Works Project Manager	CN Rail							416-550-9325	julianne.meijaard@cn.ca
Davor	Javorac	PM, Design and Construction, Eastern Regional Engineering	CN Rail							416-697-5660	davor.javorac@cn.ca
			CN Rail								ER-Public-Works@cn.ca

From: Werner-Hill, Julie
To: eanotification.swregion@ontario.ca
Cc: [Evans, Chris \(MTO\); Hohner, Paula; Welker, Kevin; Emery, Dave; Paslawski, Steve \(MTO\); g.jackson@ca.crh.com; Bridger, Drew \(CRH Canada Group Inc.\); McKerracher, Ryan \(MTO\); Barber, Dan \(MTO\); Kalra, Karn \(MTO\); Horan, Colton \(MTO\)](mailto:Evans, Chris (MTO); Hohner, Paula; Welker, Kevin; Emery, Dave; Paslawski, Steve (MTO); g.jackson@ca.crh.com; Bridger, Drew (CRH Canada Group Inc.); McKerracher, Ryan (MTO); Barber, Dan (MTO); Kalra, Karn (MTO); Horan, Colton (MTO))
Subject: Notice of Study Commencement - Highway 401 Highbury, City of London
Date: Tuesday, June 7, 2022 3:34:00 PM
Attachments: [pif_1239_hwy401_five_structures_highbury_MTO_ClassEA.xlsx](#)
[Ontario Government NOSC - Highway 401 Highbury \(2022-3004\).pdf](#)

Good afternoon,

Please find attached the Project Information Form and Notice of Study Commencement for the Highway 401 Five Structure Replacements, Highbury Ave Interchange Improvements, and Highway 401 Pavement Rehabilitation Design-Build contract in the City of London, Middlesex County (Contract 2022-3004).

Thank you,

Julie Werner-Hill B.A., GISP
Environmental Planner, GIS Analyst

Direct: ~~905-381-3245~~

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Design Build; Detail Design and Class Environmental Assessment of Highway 401 Five Structure Replacements, Interchange Improvements, Pavement Rehabilitation and Reconstruction
Contract 2022-3004

Project Mailing List

FirstName	LastName	JobTitle	Company	Branch	Address1	Address2	City	Prov	PostalCode	Phone	Address
Federal Agencies											
			Department of Fisheries and Oceans Canada								fisheriesprotection@dfo-mpo.gc.ca
Provincial Agencies											
Tyler	Shantz	Team Lead, Planning	Ministry of Municipal Affairs and Housing	Community Planning and Development	659 Exeter Road, 2nd Floor		London	ON	N6E 1L3	519-873-4695	tyler.shantz@ontario.ca
			Ministry of Northern Development, Mines, Natural Resources and Forestry		659 Exeter Road, 2nd Floor		London	ON	N6E 1L3		omafra.eanotices@ontario.ca
Karina	Cerniavskaja	District Planner	Ministry of Northern Development, Mines, Natural Resources and Forestry	Southern Region - Aylmer District	615 John St. N		Aylmer	ON	N5H 2S8	519-200-2276	karina.cerniavskaja@ontario.ca
Dana	Kieffer	Rural Planner, Western Ontario	Ministry of Agriculture, Food and Rural Affairs	Land Use Policy & Stewardship	6484 Wellington Rd 7		Elora	ON	N0B 1S0	226-962-8933	dana.kieffer@ontario.ca
Mark	Badali	Regional Environmental Assessment Coordinator	Ministry of the Environment, Conservation and Parks	Southwestern Region	733 Exeter Road		London	ON	N63 1L3	519-675-7742	mark.badali1@ontario.ca
EA Notification		Regional Environmental Assessment Coordinator	Ministry of the Environment, Conservation and Parks	Southwestern Region							eanotification@ontario.ca
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Joseph	Harvey	Heritage Planner	Ministry of Heritage, Sport, Tourism and Culture Industries	Heritage Planning Unit	400 University Ave	5th Floor	Toronto	ON	M7A 2R9	613-242-3743	joseph.harvey@ontario.ca
Contini	Rachel	Planning Coordinator, Development Planning	Infrastructure Ontario								rachel.contini@infrastructureontario.ca
Conservation Authorities											
Mark	Shifflett	Senior Water Resources Engineer	Upper Thames River Conservation Authority		1424 Clarke Road		London	ON	N5V 5B9	519-451-2800 ext. 239	shifflettm@thamesriver.on.ca
Planning Inquiries		Planning Inquiries	Upper Thames River Conservation Authority		1424 Clarke Road		London	ON	N5V 5B9		planning@thamesriver.on.ca
Jenna	Allain	Manager, Environmental Planning and Regulations	Upper Thames River Conservation Authority		1424 Clarke Road		London	ON	N5V 5B9	519-451-2800 ext. 223	allainj@thamesriver.on.ca
Jessica	Schnaithmann	Land Use Regulations Officer	Upper Thames River Conservation Authority		1424 Clarke Road		London	ON	N5V 5B9	519-451-2800 ext 307	schnaithmannj@thamesriver.on.ca
MPP											
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Elizabeth	Peloza	Councillor Ward 12	City of London		300 Dufferin Avenue, Suite 314		London	ON	N6B 1Z2	519-661-2489 ext. 4012	epeloza@london.ca
Ed	Holder	Mayor	City of London				London	ON		519-661-4920	mayor@london.ca
Katie	Burns	Director of Transportation and Planning	London Transit Commission		450 Highbury Avenue North		London	ON	N5W 5L2		kburns@londontransit.ca
Karl	Grabowski	Transportation Design Engineer	City of London	EES - Roads and Transportation/Transportation Planning and Design	P.O. Box 5035		London	ON	N6A 4L9	519-661-2489 x 5071	kgrabows@london.ca
Doug	MacRae	Director of Roads and Transportation	City of London	Transportation Planning and Design	P.O. Box 5035		London	ON	N6A 4L9	519-661-2489 x4637	dmacrae@london.ca
Michael	Schulthess	City Clerk	City of London		300 Dufferin Avenue, 3rd Floor		London	ON	N6A 4L9		mschulthess@london.ca
Garfield	Dales	Manager, Transportation Planning & Design	City of London		P.O. Box 5035		London	ON	N6A 4L9	519-661-2489 x 4936	gdales@london.ca
Mary Lou	Albanese	Manager, Environmental Health and Infectious Disease	Middlesex-London Health Unit		50 King Street		London	ON	N6A 5L7	519-663-5317 x 2358	marylou.albanese@mlhu.on.ca
Emergency Services											
Lori	Hamer	Fire Chief	London Fire Department		400 Horton St E		London	ON	N6B 1L7	519-661-2489 ext. 4785	lhamer@london.ca
		Office of the Chief	London Police Department	London Police Department	601 Dundas St		London	ON	N6B 1X1	519-661-5665	eoc@londonpolice.ca
Adam	Bennett	Deputy Chief, Operations	Middlesex-London EMS		340 Waterloo Street		London	ON	N6B 2N6	519-679-5466 Ext. 1150	abennett@mlems.ca
Kyler	Cole-Megar	Operations Superintendent	Middlesex-London Paramedic Service		1035 Adelaide St South		London	ON	N6E 1R4	519-808-2227	kcolemegar@mlems.ca
Jennifer	Davey	Administrative Assistant	Ontario Provincial Police	Facilities Section	777 Memorial Avenue	2nd Floor	Orillia	ON	L3V 7V3	705-309-2621	jennifer.davey@opp.ca
Duncan	McLelland	Facilities Management Consultant	Ontario Provincial Police								Duncan.McLelland@opp.ca
Calum	Rankin		Ontario Provincial Police								Calum.Rankin@opp.ca
School Boards and Transportation											
Rebecca	McLean	Supervisor of Planning	London District Catholic School Board	Catholic Education Centre	P.O. Box 5474	5200 Wellington Road S	London	ON	N6A 4X5		rmclean@ldcsb.ca
Carol	Rossi	Secretary	Southwestern Ontario Student Transportation Services		557 Southdale Road East, Suite 201	557 Southdale Road East, Suite 201	London	ON	N6E 1A2	519-649-1160	crossi@mybigyellowbus.ca
Stakeholders											
Sandy	Levin	Chair	Nature London		Box 24008		London	ON	N6H 5C4	519-457-4593	info@naturelondon.ca
Robert	Versteegen	Senior Design and Construction Officer	CN Rail							905-669-3157	Robert.Versteegen@cn.ca
			CN Rail								ER-Public-Works@cn.ca
Jamie	MacPherson	Engineering Technologist	London Hydro								macpherj@londonhydro.com
Sebastian	Fardella	Engineering Technologist	London Hydro								fardells@londonhydro.com
Rod	Doyle	Distribution Engineer	London Hydro								doyler@londonhydro.com
Jaoda	Borovickic	Manager, Design Engineer	London Hydro								borovicj@londonhydro.com
Gelber	Vargas	Business System Analyst	London Hydro								vargasg@londonhydro.com
Rob	Elliott	Construction Project Manager	Enbridge								rob.elliott@enbridge.com
Jake	Van Ryn	Construction Project Manager	Enbridge								jake.vanryn@enbridge.com
Jim	Walker	Trade Supervisor & Locate Contact	Hydro One								jim.walker@hydroone.com
Todd	Govier	Trade Supervisor	Hydro One								todd.govier@hydroone.com
			Bell Canada								bell.moc@telecom.ca

Design Build; Detail Design and Class Environmental Assessment of Highway 401 Five Structure Replacements, Interchange Improvements, Pavement Rehabilitation and Reconstruction
 Contract 2022-3004

Project Mailing List

FirstName	LastName	JobTitle	Company	Branch	Address1	Address2	City	Prov	PostalCode	Phone	Eaddress
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Diego	Tobias	Engineering	Bell Canada								pucc.circulations.gt@bell.ca
Scott	Shepley		Bell Canada								scott.shepley@bell.ca
Jeff	Soetemans	Operations Supervisor	Execulink Telecom								jeff.soetemans@execulink.com
Quinten	Wilson	Planning and Engineering Coordinator	Execulink Telecom								quinten.wilson@execulink.com
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Tim	Walach	Plant Manager	London District Energy								tim.walach@enwave.com
			Rogers Communications								swogr.permits@rci.rogers.com
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			Zayo Canada Ltd.								utility.circulations@zayo.com
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Mohammad	Al-Hatoum	Junior Fibre Planner	Start Communications								malhatoum@start.ca
Darryl	Adams	Operations	Epcor								dadams2@epcor.com
Frederic	Sua	C.Tech	TELUS Communications								frederick.sua@telus.com
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Wendy	Sutherland	Field Support Coordinator Technologist	Sun-Canadian Pipe Line Co. Ltd.								wsutherland@sun-canadian.com
Companies											
Robyn	Gaudet	GM	Flying J Truck Stop		3700 Highbury Ave South		London	ON	N6N 1P3	519-686-9154	Store789@pilottravelcenters.com
Tim	Mahoney	Owner	Tim Hortons (Wilton Grove Dr)		1445 Wilton Grove Road		London	ON	N6N 1M3	519-680-2128	admin@mahoneygroup.ca
James	Hueston	Local Coordinator	Carpenters Union Local 1946		3800 Highbury Ave South		London	ON	N6N 1P3	226-927-8224	james@local1946.ca

APPENDIX B: Select Correspondence



External Agencies / Municipalities

Highway 401 Five Structures, Highbury Avenue Interchange Improvements, and Highway 401 Pavement Rehabilitation and Reconstruction (G.W.P 3032-11-00)
 Comment Table

Contact Information	Issue/Concern	Action Taken by Project Team
<p>Infrastructure Ontario Co-op, Environmental Management</p> <p>Rachael Contini</p>	<ul style="list-style-type: none"> Email (June 7, 2022) identified property owned by the Ministry adjacent to the study area. If the Infrastructure Ontario property was required for the project to contact the Ministry for information about requirements for obtaining government property. If the property was not required to continue to consult with the Ministry as they are a directly affected stakeholder. Ministry provided a dedicated email address for notices. 	<ul style="list-style-type: none"> Sent (June 7, 2022) Notice of Study Commencement email Sent email (August 25, 2022) acknowledging property information. Updated contact list with notice email address
<p>City of London</p> <p>Karl Grabowski, P.Eng., Manager, Transportation & Design Transportation Planning & Design</p> <p>Adrienne Sones, P.Eng Environmental Services Engineer Stormwater Engineering Division</p>	<ul style="list-style-type: none"> Email (June 9, 2022) provided main contact information at the City of London Email (September 9, 2022) requesting a copy of the notice of study commencement Email (September 16, 2022) requesting design information for the Murray Drain Culvert to be used in the City's Dingman Creek Floodplain assessment modelling. Email (October 3, 2022) confirming if there are any additional culverts to be replaced/ upsized as part of this study 	<ul style="list-style-type: none"> Sent (June 7, 2022) Notice of Study Commencement email A response email (August 25, 2022) indicating the mail list had been updated with the City of London's primary contact. A response email (September 12, 2022) providing a copy of the Notice of Study Commencement and a link to the project website. A response email (September 30, 2022) providing the pdf drawings of the existing and proposed design plan for the Tributary to Murray Creek Drain culvert. A response email (October 6, 2022) indicating the only other culvert to be replaced is Elliot-Laidlaw Drain which is being upsized.
<p>City of Toronto</p> <p>Sara Little Site Contract Manager Transfer Stations & Landfill Operations, Solid Waste Management</p>	<ul style="list-style-type: none"> Email (June 21, 2022, August 25, 2022) requesting information about expected closures along Highway 401 and Highway 4 (Colonel Tablet Road) in the future Concerns with closures due to their Site that requires tractor trailer access as part of their route. May need to make alternate route plans. 	<ul style="list-style-type: none"> Sent (June 7, 2022) Notice of Study Commencement email Email forwarded along to MTO for a response as the area in question is not included as part of this project Email sent by MTO (June 28, 2022) with closure information as requested and other project contacts provided
<p>Ministry of Heritage, Sport, Tourism and Cultural Industries</p> <p>Laura Romeo, Heritage Planner (A) Heritage, Tourism and Culture Divisions Programs and Services Branch Heritage Planning Unit</p>	<ul style="list-style-type: none"> Email (June 28, 2022). Provided information about standards and guidelines for Conservation of Provincial Heritage Properties, Cultural Heritage Resources, Archaeological Resources, Built Heritage Resources and Cultural Heritage Landscapes. Requested to be included in further consultation throughout the EA process. 	<ul style="list-style-type: none"> Sent (June 7, 2022) Notice of Study Commencement email Response sent (August 25, 2022) indicating what work was previously done for this project which addressed the Ministry's standards and guidelines provided. Committed to sharing the DCR with the Ministry once it is available during the 30-day review period. Contact list updated
<p>Ministry of the Environment, Conservation and Parks</p> <p>Mark Badali Regional Environmental Planner, Southwest Region</p>	<ul style="list-style-type: none"> Email (July 4, 2022) with a letter of acknowledgement. Request to send the final notice to the MECP's Southwest Region EA notification email account. Request to send a copy of the DCR to Mark Badali for download. 	<ul style="list-style-type: none"> Sent (June 7, 2022) Notice of Study Commencement and Project Information Form Response sent (August 25, 2022) sharing information of previous studies associated with this project. Committed to sending the DCR to MECP for review upon completion of the 30-day public review period.

Comment Table

Contact Information	Issue/Concern	Action Taken by Project Team
<p>Upper Thames River Conservation Authority</p> <p>Jessica Schnaithman Land Use Regulations Officer</p>	<ul style="list-style-type: none"> • Email (November 9, 2022) with letter of acknowledgement. UTRCA regulation limit mapping provided. Hydraulic considerations provided for Dingman Creek Watershed. • Dingman Creek flood modelling is ongoing by the UTRCA and portions of this are within the study area. Request to consider increased pressure from the Hwy 401 corridor on the Dingman Watershed. • Recommendation to identify opportunities for improving flood conveyance for all culverts in the study area. The evaluation should consider the benefit of reducing flood risk/damages with respect to the hydraulic capacity. 	<ul style="list-style-type: none"> • Sent (June 7, 2022) Notice of Study Commencement email • Response sent (October 17, 2022) thanking the UTRCA for the information they provided. • Regarding the hydrology/ hydraulic considerations, all culverts are designed to meet MTO standard which include providing dry access during the Check flow event (130% of the 100-year event) which exceeds the 250-year event. • Drainage improvements will be made within the Highway 401 right-of-way including replacing Elliot-Laidlaw Drain culvert and tributary to Murray Drain culvert with new culverts that exceed hydraulic criteria. • Ditching along Highway 401 and Highbury Avenue will be enhanced within the limits of the right-of-way, two additional non-structural pipe culverts will be added to the S-W and N-E ramps, and the median storm sewer on Highway 401 and Highbury Avenue will be replaced/ improved to meet the hydraulic requirements in accordance with the MTO Gravity Pipe Design Guidelines and Highway Detail Design Standards. • The Notice of Completion and Design and Construction Report (DCR) will be sent to UTRCA as requested.

From: [Werner-Hill, Julie](#)
To: [Contini, Rachael \(IO\)](#)
Cc: [Emery, Dave](#); [Welker, Kevin](#); [Renaud, Adam](#); [Hohner, Paula](#); [Jackson, Geoff \(CRH Canada Group Inc.\)](#); [Bridger, Drew \(CRH Canada Group Inc.\)](#); [Lawson, Julien \(CRH Canada Group Inc.\)](#); [Paslawski, Steve \(MTO\)](#); [Ryan.McKerracher@ontario.ca](#); [Karn.Kalra@ontario.ca](#); [Horan, Colton \(MTO\)](#); [Evans, Chris \(MTO\)](#)
Subject: RE: EA Notice Response - Notice of Study Commencement - Highway 401 Highbury, City of London
Date: Thursday, August 25, 2022 10:20:56 AM
Attachments: [image001.png](#)

Ms. Contini,

Thank you for your interest in the Highway 401 Five Structure Replacements, Highbury Avenue Interchange Improvements and Highway 401 Pavement Rehabilitation and Reconstruction Design Build Project.

Your comments regarding Infrastructure Ontario (IO) properties (Pins: 084850167; 084850083; 084850184; 084850134; 084850135; 094850188; 084850155; 084850280; 084850148; 084830069) within the study area have been noted. The proposed work will be completed within the Ministry of Transportation right-of-way.

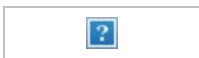
IO will continue to be consulted directly and will be notified if there are any changes to the rehabilitation and reconstruction plans that potentially result in impacts to the identified properties using the noticereview@infrastructureontario.ca email address provided.

Kind Regards,

Julie Werner-Hill B.A., GISP
Environmental Planner, GIS Analyst

Direct: 905 381-3245
Mobile: 905 928-9240
Julie.Werner-Hill@stantec.com

Stantec
200-835 Paramount Drive
Stoney Creek ON L8J 0B4



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From: Contini, Rachael (IO) <Rachael.Contini@infrastructureontario.ca>
Sent: Tuesday, June 7, 2022 4:44 PM
To: comments@hwy401highbury.ca
Subject: EA Notice Response - Notice of Study Commencement - Highway 401 Highbury, City of London

Good Afternoon,

Thank you for sending us the Notice of Commencement for the Notice of Study Commencement – Highway 401 Highbury in the City of London.

Our initial scan indicates that property owned by the Minister of Government and Consumer Services is within and adjacent to your project's study area. This property is identified by the following Pins:

- 084850167
- 084850083
- 084850184
- 084850083
- 084850134
- 084850135
- 094850188
- 084850155
- 084850280
- 084850148
- 084830069

While this was identified in our scan, it is ultimately the proponent's responsibility to verify if provincial government property is within the study area. Title documents may identify owners of provincial government property as any of the following:

- Her Majesty the Queen
- His Majesty the King
- Hydro One
- Hydro One Networks Inc.
- Management Board Secretariat (MBS)
- Minister of Economic Development, Employment and Infrastructure (MEDEI)
- Minister of Energy and Infrastructure (MEI)
- Minister of Government and Consumer Services (MGCS)
- Minister of Infrastructure (MOI)
- Minister of Natural Resources and Forestry (MNRF)
- Minister of Public Infrastructure Renewal (PIR)
- Minister of Public Works
- Minister of Transportation (MTO)
- Ontario Lands Corporation (OLC)
- Ontario Realty Corporation (ORC)

If provincial government property in the study area is not required for the project, please continue to consult us as a directly affected stakeholder. However, if government property is required for the project, the proponent should contact us so that we can advise about requirements for obtaining government property.

Additionally, please remember to send notices to our dedicated notice email address:

noticereview@infrastructureontario.ca

Kind regards,



Rachael Contini (she, her)
Infrastructure Ontario
Co-op, Environmental Management
rachael.contini@infrastructureontario.ca
Phone: +1 647-264-0969
www.infrastructureontario.ca

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From: [Horan, Colton \(MTO\)](#)
To: [Evans, Chris \(MTO\)](#); [Hohner, Paula](#); [Werner-Hill, Julie](#)
Subject: FW: Notice of Study Commencement - Highway 401 Highbury, City of London
Date: Thursday, December 8, 2022 11:06:39 AM
Attachments: [image001.png](#)

FYI – Response to Sara Little from the City of TO.

Thanks
Colton

From: Sara Little <Sara.Little@toronto.ca>
Sent: June 28, 2022 3:50 PM
To: Horan, Colton (MTO) <Colton.Horan@ontario.ca>
Cc: McKerracher, Ryan (MTO) <Ryan.McKerracher@ontario.ca>; Paslawski, Steve (MTO) <Steve.Paslawski@ontario.ca>; Kalra, Karn (MTO) <Karn.Kalra@ontario.ca>; Anne Hiscock <Anne.Hiscock@toronto.ca>; Neil Brown <Neil.Brown@toronto.ca>; Richard Todd <Richard.Todd@toronto.ca>; Alejandro Solsona <Alejandro.Solsona@toronto.ca>; Sybil Kyba <Sybil.Kyba@toronto.ca>
Subject: RE: Notice of Study Commencement - Highway 401 Highbury, City of London

CAUTION -- EXTERNAL E-MAIL - Do not click links or open attachments unless you recognize the sender.

Hi Colton,

Thank you for getting back to me. We were wondering if it was the larger resurfacing project that these signs were referring to and now we know. As for timing of closures, it would be helpful for us to know times of the ramps being closed as we have vehicles using those access points as early as 5:00 am and as late as 5:00 pm.

Also I would be very glad to be added to the distribution list for the exchange construction project as, again, we have multiple trucks per day that use that access route so we would appreciate notice of when we need to adjust our routing.

Thanks again!

Regards,

Sara Little
519-652-0909

From: Horan, Colton (MTO) [<mailto:Colton.Horan@ontario.ca>]
Sent: June 28, 2022 3:24 PM
To: Sara Little <Sara.Little@toronto.ca>
Cc: McKerracher, Ryan (MTO) <Ryan.McKerracher@ontario.ca>; Paslawski, Steve (MTO) <Steve.Paslawski@ontario.ca>; Kalra, Karn (MTO) <Karn.Kalra@ontario.ca>

Subject: RE: Notice of Study Commencement - Highway 401 Highbury, City of London

Hey Sara

Unclear if this message got to you, but one of our Contract Service Administrators, Ryan McKerracher, noted last week that there is a small short-term 401 resurfacing project through the Col Talbot interchange location. The signage you've noticed is for this smaller project and has caused some confusion with residents regarding the larger interchange project.

The signage being erected out around Colonel Talbot for this project shouldn't effect trucking access for more than a couple nights on the ramps, and alternative access via Wonderland interchange is available. Perhaps if you need any further information, please reach out to Ryan cc'd on this email.

I'm also wondering if you would like me to provide you contact information to the project managers on the larger Col Talbot project, for when that does proceed to construction?

For our other Hwy 401 project, located on Hwy 401 from Wellington to Old Victoria, the consultant has added you to the distribution list.

Thanks,

Colton Horan, P.Eng.
Area Manager, Construction(A)
Construction West, Capital Program Delivery Branch
Transportation Infrastructure Management Division
Ministry of Transportation
Colton.Horan@ontario.ca, 519-860-3787

From: Sara Little <Sara.Little@toronto.ca>

Sent: June 22, 2022 12:39 PM

To: 'Werner-Hill, Julie' <Julie.Werner-Hill@stantec.com>

Cc: Hohner, Paula <Paula.Hohner@stantec.com>; Welker, Kevin <Kevin.Welker@stantec.com>; Emery, Dave <dave.emery@stantec.com>; Renaud, Adam <Adam.Renaud@stantec.com>; Paslawski, Steve (MTO) <Steve.Paslawski@ontario.ca>; g.jackson@ca.crh.com; Bridger, Drew (CRH Canada Group Inc.) <drew.bridger@ca.crh.com>; McKerracher, Ryan (MTO) <Ryan.McKerracher@ontario.ca>; Barber, Dan (MTO) <Dan.Barber@ontario.ca>; Kalra, Karn (MTO) <Karn.Kalra@ontario.ca>; Horan, Colton (MTO) <Colton.Horan@ontario.ca>; Evans, Chris (MTO) <Chris.Evans@ontario.ca>

Subject: RE: Notice of Study Commencement - Highway 401 Highbury, City of London

CAUTION -- EXTERNAL E-MAIL - Do not click links or open attachments unless you recognize the sender.

Good afternoon,

Thank you for the update on the progression of this project.

It has been noticed that there are several signs along the Hwy 401 west from Wonderland Road indicating that construction is pending, including ramp closures. As a landfill with several inbound and outbound trucks travelling along Hwy 401 from Hwy 4 east we are looking to confirm timing or extent of these closures. We will need to plan alternate truck routes if we feel closures will affect our hauling vehicles' access.

Thank you in advance.

Regards,

Sara Little
Site Contract Manager
Transfer Stations & Landfill Operations, Solid Waste Management
City of Toronto
Phone: 519-652-0909



From: Werner-Hill, Julie [<mailto:Julie.Werner-Hill@stantec.com>]

Sent: June 10, 2022 1:09 PM

Cc: Hohner, Paula <Paula.Hohner@stantec.com>; Welker, Kevin <Kevin.Welker@stantec.com>; Emery, Dave <dave.emery@stantec.com>; Renaud, Adam <Adam.Renaud@stantec.com>; Paslawski, Steve (MTO) <steve.paslawski@ontario.ca>; g.jackson@ca.crh.com; Bridger, Drew (CRH Canada Group Inc.) <drew.bridger@ca.crh.com>; Ryan.McKerracher@ontario.ca; Barber, Dan (MTO) <Dan.Barber@ontario.ca>; Karn.Kalra@ontario.ca; Horan, Colton (MTO) <Colton.Horan@ontario.ca>; Evans, Chris (MTO) <Chris.Evans@ontario.ca>

Subject: Notice of Study Commencement - Highway 401 Highbury, City of London

Good afternoon,

The Ontario **Ministry of Transportation (MTO)** has retained **Stantec Consulting Ltd.** and **Dufferin Construction Company** to complete the Design-Build (DB) contract for the Class Environmental Assessment (EA), detail design and construction of five Highway 401 structure replacements, Highbury Avenue interchange improvements, and Highway 401 pavement rehabilitation, in the City of London, Middlesex County.

The purpose of this email is to introduce the project, as it advances the June 2021 Transportation Environmental Study Report (TESR) Addendum for Highway 401 Interchange Reconstruction at Highbury Avenue and Preliminary Design documented in the August 2017 Transportation Environmental Study Report (TESR) for Highway 401, Tributary to Murray Drain Culvert, CNR Overhead and Pond Mills Road Overpass Replacements. This study is following the approved environmental planning process for a Group 'B' project under the Class Environmental Assessment (Class EA) for Provincial Transportation Facilities (2000), as described in the attached Notice.

Please communicate any concerns or questions related to this project to the team listed in the Notice and return any comments by July 4, 2022.

Regards,

Julie Werner-Hill B.A., GISP
Environmental Planner, GIS Analyst

Direct: 905 381-3245

Mobile: 905 928-9240

Julie.Werner-Hill@stantec.com

Stantec
200-835 Paramount Drive
Stoney Creek ON L8J 0B4



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Attention: Ce courriel provient de l'extérieur de Stantec. Veuillez prendre des précautions supplémentaires.

Atención: Este correo electrónico proviene de fuera de Stantec. Por favor, tome precauciones adicionales.

From: [Werner-Hill, Julie](#)
To: [Grabowski, Karl](#)
Cc: [Emery, Dave](#); [Welker, Kevin](#); [Renaud, Adam](#); [Hohner, Paula](#); [Jackson, Geoff \(CRH Canada Group Inc.\)](#); [Bridger, Drew \(CRH Canada Group Inc.\)](#); [Lawson, Julien \(CRH Canada Group Inc.\)](#); [Paslowski, Steve \(MTO\)](#); [Ryan.McKerracher@ontario.ca](#); [Karn.Kalra@ontario.ca](#); [Horan, Colton \(MTO\)](#); [Evans, Chris \(MTO\)](#)
Subject: RE: Notice of Study Commencement - Highway 401 Highbury, City of London
Date: Thursday, August 25, 2022 10:01:27 AM
Attachments: [image001.png](#)

Mr. Grabowski,

Thank you for your interest in the Highway 401 Five Structure Replacements, Highbury Avenue Interchange Improvements and Highway 401 Pavement Rehabilitation and Reconstruction Design Build Project.

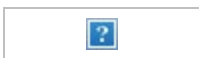
Your contact information has been added to the project mailing list and you will be notified of project updates and consultation opportunities as the study progresses.

Kind Regards,

Julie Werner-Hill B.A., GISP
Environmental Planner, GIS Analyst

Direct: 905 381-3245
Mobile: 905 928-9240
Julie.Werner-Hill@stantec.com

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From: Grabowski, Karl <kgrabows@London.ca>
Sent: Thursday, June 9, 2022 9:51 AM
To: Werner-Hill, Julie <Julie.Werner-Hill@stantec.com>
Cc: Horan, Colton (MTO) <Colton.Horan@ontario.ca>; Paslowski, Steve (MTO) <steve.paslowski@ontario.ca>; Hohner, Paula <Paula.Hohner@stantec.com>; Welker, Kevin <Kevin.Welker@stantec.com>
Subject: RE: Notice of Study Commencement - Highway 401 Highbury, City of London

Hi Julie

The Notice has been received by the City. In the future, please direct correspondence regarding this project to my attention, and I will be your primary

contact within the City.

Regards



Karl Grabowski, P.Eng. (he / him)
Manager, Transportation Design
Transportation Planning & Design
City of London

300 Dufferin Avenue, PO Box 5035, London On, N6A 4L9
P: 519.661.CITY (2489) x 5071 | Fax: 519.661.4734
kgrabows@london.ca | www.london.ca

From: Werner-Hill, Julie <Julie.Werner-Hill@stantec.com>

Sent: Tuesday, June 7, 2022 12:35 PM

Cc: Hohner, Paula <Paula.Hohner@stantec.com>; Welker, Kevin <Kevin.Welker@stantec.com>; Emery, Dave <dave.emery@stantec.com>; Paslawski, Steve (MTO) <steve.paslawski@ontario.ca>; g.jackson@ca.crh.com; Bridger, Drew (CRH Canada Group Inc.) <drew.bridger@ca.crh.com>; McKerracher, Ryan (MTO) <Ryan.McKerracher@ontario.ca>; Barber, Dan (MTO) <Dan.Barber@ontario.ca>; Kalra, Karn (MTO) <Karn.Kalra@ontario.ca>; Horan, Colton (MTO) <Colton.Horan@ontario.ca>; Evans, Chris (MTO) <Chris.Evans@ontario.ca>

Subject: [EXTERNAL] Notice of Study Commencement - Highway 401 Highbury, City of London

Good afternoon,

The Ontario **Ministry of Transportation (MTO)** has retained **Stantec Consulting Ltd.** and **Dufferin Construction Company** to complete the Design-Build (DB) contract for the Class Environmental Assessment (EA), detail design and construction of five Highway 401 structure replacements, Highbury Avenue interchange improvements, and Highway 401 pavement rehabilitation, in the City of London, Middlesex County.

The purpose of this email is to introduce the project, seek your input, and to identify any issues, concerns, or approval requirements that your organization may have. This study is following the approved environmental planning process for a Group 'B' project under the *Class Environmental Assessment (Class EA) for Provincial Transportation Facilities (2000)*, as described in the attached Notice.

Please communicate any concerns or questions related to this project to the team listed in the Notice and return any comments by July 4, 2022.

Regards,

Julie Werner-Hill B.A., GISP
Environmental Planner, GIS Analyst

Direct: 905 381-3245

Mobile: 905 928-9240

Julie.Werner-Hill@stantec.com

Stantec

200-835 Paramount Drive

Stoney Creek ON L8J 0B4

From: [Werner-Hill, Julie](#)
To: ["Sones, Adrienne"](#)
Subject: RE: [EXTERNAL] Re: Notice of Study Commencement - Highway 401 Highbury, City of London
Date: Thursday, October 6, 2022 4:35:00 PM
Attachments: [image001.png](#)
[image003.png](#)

Good afternoon Adriennee,

The only other culvert being replaced in this project is the Elliot-Laidlaw Drain culvert, which will be upsized.

We have more information and previous documentation shown on the project website as well (hwy401highbury.ca)

Please let me know if you require any further information.

Cheers,

Julie Werner-Hill

Direct: 905 381-3245

Mobile: 905 928-9240

Julie.Werner-Hill@stantec.com



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From: Sones, Adrienne <asones@london.ca>
Sent: Monday, October 3, 2022 10:02 AM
To: Werner-Hill, Julie <Julie.Werner-Hill@stantec.com>
Subject: RE: [EXTERNAL] Re: Notice of Study Commencement - Highway 401 Highbury, City of London

Hi Julie,

Thanks for sending this along. Can you confirm if there are any additional culverts to be replaced/upsized as part of this project?

Thank you,



Adrienne Sones, P.Eng
Environmental Services Engineer
Stormwater Engineering Division
City of London

From: Werner-Hill, Julie <Julie.Werner-Hill@stantec.com>
Sent: Friday, September 30, 2022 11:32 AM
To: Sones, Adrienne <asones@london.ca>
Cc: Grabowski, Karl <kgrabows@London.ca>; Fullick, Jane <jfullick@London.ca>; Chambers, Shawna

<schamber@London.ca>; Emery, Dave <dave.emery@stantec.com>; Welker, Kevin <Kevin.Welker@stantec.com>; Renaud, Adam <Adam.Renaud@stantec.com>; Hohner, Paula <Paula.Hohner@stantec.com>; Thornton, Cathy <Cathy.Thornton@stantec.com>; Jackson, Geoff (CRH Canada Group Inc.) <g.jackson@ca.crh.com>; Bridger, Drew (CRH Canada Group Inc.) <drew.bridger@ca.crh.com>; Lawson, Julien (CRH Canada Group Inc.) <Julien.Lawson@ca.crh.com>; Zhang, Ricky (CRH Canada Group Inc.) <Ricky.Zhang@ca.crh.com>; Paslawski, Steve (MTO) <steve.paslawski@ontario.ca>; Ryan.McKerracher@ontario.ca; Karn.Kalra@ontario.ca; Horan, Colton (MTO) <Colton.Horan@ontario.ca>; Evans, Chris (MTO) <Chris.Evans@ontario.ca>

Subject: RE: [EXTERNAL] Re: Notice of Study Commencement - Highway 401 Highbury, City of London

Hello Adrienne,

Please find attached pdfs showing the existing and proposed design plan of the Tributary to Murray Creek Drain culvert to be included in your floodplain model, as requested.

The new Tributary to Murray Drain Culvert will be a pre-cast concrete rigid frame box culvert with a span of 1.8m, a height of 2.1 m, and a length of 74m. The new culvert will be constructed on the same alignment as the existing culvert.

Regards,

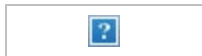
Julie Werner-Hill B.A., GISP
Environmental Planner, GIS Analyst

Direct: 905 381-3245

Mobile: 905 928-9240

Julie.Werner-Hill@stantec.com

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From: Sones, Adrienne <asones@london.ca>

Sent: Friday, September 16, 2022 11:53 AM

To: Werner-Hill, Julie <Julie.Werner-Hill@stantec.com>

Cc: Grabowski, Karl <kgrabows@london.ca>; Fullick, Jane <jfullick@london.ca>; Chambers, Shawna <schamber@London.ca>

Subject: FW: [EXTERNAL] Re: Notice of Study Commencement - Highway 401 Highbury, City of London

Hello Julie,

Our consultant for the Dingman Creek Floodplain assessment has noted that the Murray Drain culvert in the notice isn't included in our floodplain model. I don't have any design information on this culvert.

Can you please send any relevant design information you have that we could incorporate into our floodplain model? We are primarily interested in the culvert inverts, length, span and rise. Also if you know whether this culvert will remain in place, replaced, or rehabilitated it would also be helpful to consider in our floodplain modeling.

Please let me know if you have any questions or clarifications.

Thanks,
Adrienne



Adrienne Sones, P.Eng
Environmental Services Engineer
Stormwater Engineering Division
City of London

From: Sones, Adrienne
Sent: Monday, September 12, 2022 10:51 AM
To: Camilo Pinilla <CPinilla@kgsgroup.com>; fcuri@kgsgroup.com
Cc: Chambers, Shawna <schamber@London.ca>
Subject: FW: [EXTERNAL] Re: Notice of Study Commencement - Highway 401 Highbury, City of London

Hi Fuad and Camilo,

MTO is reconstructing two culverts along the 401 as part of a greater reconstruction project. Please review the floodplain conditions and confirm our approach at these locations. I'd like to provide feedback to MTO by the end of the month.

Thanks,
Adrienne



Adrienne Sones, P.Eng
Environmental Services Engineer
Stormwater Engineering Division
City of London

From: Werner-Hill, Julie <Julie.Werner-Hill@stantec.com>
Sent: Monday, September 12, 2022 10:39 AM
To: Sones, Adrienne <asones@london.ca>
Cc: Hohner, Paula <Paula.Hohner@stantec.com>; Welker, Kevin <Kevin.Welker@stantec.com>; Renaud, Adam <Adam.Renaud@stantec.com>; Emery, Dave <dave.emery@stantec.com>; Jackson, Geoff (CRH Canada Group Inc.) <g.jackson@ca.crh.com>; Bridger, Drew (CRH Canada Group Inc.) <drew.bridger@ca.crh.com>; Lawson, Julien (CRH Canada Group Inc.) <Julien.Lawson@ca.crh.com>; Ricky.Zhang@ca.crh.com; Paslawski, Steve (MTO) <steve.paslawski@ontario.ca>; Ryan.McKerracher@ontario.ca; Karn.Kalra@ontario.ca; Horan, Colton (MTO)

<Colton.Horan@ontario.ca>; Evans, Chris (MTO) <Chris.Evans@ontario.ca>

Subject: RE: [EXTERNAL] Re: Notice of Study Commencement - Highway 401 Highbury, City of London

Hi Adrienne,

Please find the notice of Study Commencement attached here. You can also review the project website (hwy401highbury.ca) for more information.

Cheers,

Julie Werner-Hill B.A., GISP
Environmental Planner, GIS Analyst

Direct: 905 381-3245

Mobile: 905 928-9240

Julie.Werner-Hill@stantec.com

Stantec
200-835 Paramount Drive
Stoney Creek ON L8J 0B4



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From: Sones, Adrienne <asones@london.ca>

Sent: Friday, September 9, 2022 4:00 PM

To: Werner-Hill, Julie <Julie.Werner-Hill@stantec.com>

Subject: RE: [EXTERNAL] Re: Notice of Study Commencement - Highway 401 Highbury, City of London

Hi Julie,

I'm involved with the Dingman Floodplain assessment that UTRCA refers to in their letter. Can you please send me the initial project notice? I'd like to review the culvert locations and provide you with any updated information we may have regarding flooding at these locations.

Thank you,



Adrienne Sones, P.Eng
Environmental Services Engineer
Stormwater Engineering Division
City of London

From: Jessica Schnaithmann <schnaithmannj@thamesriver.on.ca>

Sent: Friday, September 9, 2022 3:39 PM

To: comments@hwy401highbury.ca

Cc: Julie.Werner-Hill@stantec.com; Michael Funk <FunkM@thamesriver.on.ca>; Sones, Adrienne

<asones@london.ca>

Subject: [EXTERNAL] Re: Notice of Study Commencement - Highway 401 Highbury, City of London

Good afternoon Dave:

Please find attached comments provided by UTRCA regarding the Highway 401 Highbury, City of London (Contract 2022-3004) Notice of Study Commencement.

Thank you,

Jessica



Jessica Schnaithmann

Land Use Regulations Officer

1424 Clarke Rd, London, ON N5V 5B9

Tel: [519-451-2800](tel:519-451-2800) Ext. 307

Email: schnaithmannj@thamesriver.on.ca

Web: www.thamesriver.on.ca

I am working remotely during this time and will be monitoring all messages and emails. We apologize for any inconvenience this may cause.

>>> "Werner-Hill, Julie" <Julie.Werner-Hill@stantec.com> 6/7/2022 12:34 PM >>>

Good afternoon,

The Ontario **Ministry of Transportation (MTO)** has retained **Stantec Consulting Ltd.** and **Dufferin Construction Company** to complete the Design-Build (DB) contract for the Class Environmental Assessment (EA), detail design and construction of five Highway 401 structure replacements, Highbury Avenue interchange improvements, and Highway 401 pavement rehabilitation, in the City of London, Middlesex County.

The purpose of this email is to introduce the project, seek your input, and to identify any issues, concerns, or approval requirements that your organization may have. This study is following the approved environmental planning process for a Group 'B' project under the *Class Environmental Assessment (Class EA) for Provincial Transportation Facilities (2000)*, as described in the attached Notice.

Please communicate any concerns or questions related to this project to the team listed in the Notice and return any comments by July 4, 2022.

Regards,

Julie Werner-Hill B.A., GISP
Environmental Planner, GIS Analyst

Direct: 905 381-3245

Mobile: 905 928-9240

Julie.Werner-Hill@stantec.com

Stantec

From: [Werner-Hill, Julie](#)
To: [Romeo, Laura \(MHSTCI\)](#)
Cc: [Barboza, Karla \(MHSTCI\)](#); [Emery, Dave](#); [Welker, Kevin](#); [Renaud, Adam](#); [Hohner, Paula](#); [Jackson, Geoff \(CRH Canada Group Inc.\)](#); [Bridger, Drew \(CRH Canada Group Inc.\)](#); [Lawson, Julien \(CRH Canada Group Inc.\)](#); [Paslawski, Steve \(MTO\)](#); Ryan.McKerracher@ontario.ca; Karn.Kalra@ontario.ca; [Horan, Colton \(MTO\)](#); [Evans, Chris \(MTO\)](#)
Subject: RE: Notice of Study Commencement - Highway 401 Highbury, City of London
Date: Thursday, August 25, 2022 10:01:29 AM

Ms. Romeo,

Thank you for your interest in the Highway 401 Five Structure Replacements, Highbury Avenue Interchange Improvements and Highway 401 Pavement Rehabilitation and Reconstruction Design Build Project.

Your contact information has been added to the project mailing list and you will be notified of project updates and consultation opportunities as the study progresses. As part of the 2012 TESR Addendum, a Stage I and II Archaeology Assessment was completed for lands with archaeological potential in the project Study Area. The Stage I and II Archaeology Assessment found nothing of archaeological significance and concluded no further archaeological investigations are required. The Stage I and II Archaeology Assessment Report was accepted by the Ministry of Tourism, Culture and Sport on January 17, 2013.

The rehabilitation and reconstruction plans for this project will all take place within the MTO right-of-way (ROW) and within areas previously assessed for archaeological potential during the Preliminary Design study and 2012 TESR Addendum. The previous TESR and TESR Addendum reports can be found on the project website at: <https://hwy401highbury.ca/documentation.html>

The bridges and culverts included in the rehabilitation and reconstruction scope of work for this project have been pre-screened (or assessed as part of previous Preliminary Design and Class EA studies) for built heritage resource potential. Bridges and culverts within the study area are not listed on the Ontario Heritage Bridge list or the MTO *Heritage Bridges: Identification and Assessment Guide, Ontario 1945-1965* and are not identified as built heritage resources during the previous studies and reports (TESR, TESR Addendums).

The scope of work for this project will take place within the MTO ROW and will not impact any properties, landscapes or buildings outside of the ROW. You will continue to be notified as the study continues and will receive a Notice of Completion and the Design and Construction Report (DCR). The DCR will include a summary of past heritage and archaeology studies and will be available for a 30-day review period.

Kind Regards,

Julie Werner-Hill B.A., GISP

Environmental Planner, GIS Analyst

Direct: 905 381-3245

Mobile: 905 928-9240

Julie.Werner-Hill@stantec.com

Stantec

200-835 Paramount Drive

Stoney Creek ON L8J 0B4



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From: Romeo, Laura (MHSTCI) <Laura.Romeo@ontario.ca>

Sent: Tuesday, June 28, 2022 10:25 AM

To: comments@hwy401highbury.ca

Cc: Barboza, Karla (MHSTCI) <Karla.Barboza@ontario.ca>; Horan, Colton (MTO) <Colton.Horan@ontario.ca>

Subject: RE: Notice of Study Commencement - Highway 401 Highbury, City of London

Good morning Dave,

Please find attached MHSTCI's comments on the above referenced project. Please do not hesitate to contact me should you have any questions or concerns.

Kind regards,

Laura

Laura Romeo | Heritage Planner (A)

Heritage, Tourism and Culture Division | Programs and Services Branch | Heritage Planning Unit

Ministry of Tourism, Culture and Sport

Laura.Romeo@ontario.ca

From: Werner-Hill, Julie <Julie.Werner-Hill@stantec.com>

Sent: June-07-22 12:35 PM

Cc: Hohner, Paula <Paula.Hohner@stantec.com>; Welker, Kevin <Kevin.Welker@stantec.com>; Emery, Dave <dave.emery@stantec.com>; Paslawski, Steve (MTO) <Steve.Paslawski@ontario.ca>; g.jackson@ca.crh.com; Bridger, Drew (CRH Canada Group Inc.) <drew.bridger@ca.crh.com>; McKerracher, Ryan (MTO) <Ryan.McKerracher@ontario.ca>; Barber, Dan (MTO) <Dan.Barber@ontario.ca>; Kalra, Karn (MTO) <Karn.Kalra@ontario.ca>; Horan, Colton (MTO) <Colton.Horan@ontario.ca>; Evans, Chris (MTO) <Chris.Evans@ontario.ca>

Subject: Notice of Study Commencement - Highway 401 Highbury, City of London

CAUTION -- EXTERNAL E-MAIL - Do not click links or open attachments unless you recognize the sender.

Good afternoon,

The Ontario **Ministry of Transportation (MTO)** has retained **Stantec Consulting Ltd.** and **Dufferin Construction Company** to complete the Design-Build (DB) contract for the Class Environmental Assessment (EA), detail design and construction of five Highway 401 structure replacements, Highbury Avenue interchange improvements, and Highway 401 pavement rehabilitation, in the City of London, Middlesex County.

The purpose of this email is to introduce the project, seek your input, and to identify any issues, concerns, or approval requirements that your organization may have. This study is following the approved environmental planning process for a Group 'B' project under the *Class Environmental Assessment (Class EA) for Provincial Transportation Facilities (2000)*, as described in the attached Notice.

Please communicate any concerns or questions related to this project to the team listed in the Notice and return any comments by July 4, 2022.

Regards,

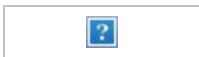
Julie Werner-Hill B.A., GISP
Environmental Planner, GIS Analyst

Direct: 905 381-3245

Mobile: 905 928-9240

Julie.Werner-Hill@stantec.com

Stantec
200-835 Paramount Drive
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From: [Werner-Hill, Julie](#)
To: [Badali, Mark \(MECP\)](#)
Cc: [Adrien, Pierre \(MECP\)](#); [Emery, Dave](#); [Welker, Kevin](#); [Renaud, Adam](#); [Hohner, Paula](#); [Jackson, Geoff \(CRH Canada Group Inc.\)](#); [Bridger, Drew \(CRH Canada Group Inc.\)](#); [Lawson, Julien \(CRH Canada Group Inc.\)](#); [Paslawski, Steve \(MTO\)](#); [Ryan.McKerracher@ontario.ca](#); [Karn.Kalra@ontario.ca](#); [Horan, Colton \(MTO\)](#); [Evans, Chris \(MTO\)](#)
Subject: RE: Notice of Study Commencement - Highway 401 Highbury, City of London
Date: Thursday, August 25, 2022 10:01:28 AM

Mr. Badali,

Thank you for your interest in the Highway 401 Five Structure Replacements, Highbury Avenue Interchange Improvements and Highway 401 Pavement Rehabilitation and Reconstruction Design Build Project.

Thank you for providing the project team with MECP's Areas of Interest.

This project will include a Design and Construction Report (DCR) that will address all the identified areas of interest in the EA documentation at an appropriate level for this EA study including source water protection, climate change, air quality, ecosystem protection and restoration, Species at Risk, surface water and groundwater, excess material management, contaminated sites, utilities, monitoring and mitigation, consultation, and the Class EA process.

Please also note that previous Preliminary Design Studies for this project included specialist studies and EA documentation that covered many of the identified areas of interest. The previous TESR and TESR Addendum reports can be found on the project website at: <https://hwy401highbury.ca/documentation.html>

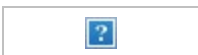
The Notice of Completion and the Design and Construction Report (DCR) will be sent to the MECP's Southwest Region EA notification email account. The notice and pdf of the DCR will be emailed to Mark Badali as requested.

Kind regards,

Julie Werner-Hill B.A., GISP
Environmental Planner, GIS Analyst

Direct: 905 381-3245
Mobile: 905 928-9240
Julie.Werner-Hill@stantec.com

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From: Badali, Mark (MECP) <Mark.Badali1@ontario.ca>
Sent: Monday, July 4, 2022 8:36 AM

To: comments@hwy401highbury.ca

Cc: Adrien, Pierre (MECP) <Pierre.Adrien@ontario.ca>

Subject: RE: Notice of Study Commencement - Highway 401 Highbury, City of London

Good morning,

Please find the attached letter of acknowledgement and supporting attachments in response to the Notice of Commencement of the City of London's Highway 401 Rehabilitation and Highbury Avenue Interchange Improvements project (Group B) under the MTO Class EA for Provincial Transportation Facilities.

Best regards,

Mark Badali ([he/him](#))

Regional Environmental Planner (REP) – Southwest Region

Project Review Unit | Environmental Assessment Branch

Ontario Ministry of the Environment, Conservation and Parks

Mark.Badali1@ontario.ca | (416) 457-2155



From: Werner-Hill, Julie <Julie.Werner-Hill@stantec.com>

Sent: June 7, 2022 3:37 PM

To: EA Notices to SWRegion (MECP) <eanotification.swregion@ontario.ca>

Cc: Evans, Chris (MTO) <Chris.Evans@ontario.ca>; Hohner, Paula <Paula.Hohner@stantec.com>; Welker, Kevin <Kevin.Welker@stantec.com>; Emery, Dave <dave.emery@stantec.com>; Paslawski, Steve (MTO) <Steve.Paslawski@ontario.ca>; g.jackson@ca.crh.com; Bridger, Drew (CRH Canada Group Inc.) <drew.bridger@ca.crh.com>; McKerracher, Ryan (MTO) <Ryan.McKerracher@ontario.ca>; Barber, Dan (MTO) <Dan.Barber@ontario.ca>; Kalra, Karn (MTO) <Karn.Kalra@ontario.ca>; Horan, Colton (MTO) <Colton.Horan@ontario.ca>

Subject: Notice of Study Commencement - Highway 401 Highbury, City of London

CAUTION -- EXTERNAL E-MAIL - Do not click links or open attachments unless you recognize the sender.

Good afternoon,

Please find attached the Project Information Form and Notice of Study Commencement for the Highway 401 Five Structure Replacements, Highbury Ave Interchange Improvements, and Highway 401 Pavement Rehabilitation Design-Build contract in the City of London, Middlesex County (Contract 2022-3004).

Thank you,

Julie Werner-Hill B.A., GISP

Environmental Planner, GIS Analyst

Direct: 905-381-3245

Mobile: 905 928-9240

Julie.Werner-Hill@stantec.com

Stantec

200-835 Paramount Drive

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From: [Werner-Hill, Julie](#)
To: [Jessica Schnaithmann](#)
Cc: [Michael Funk](#); [Sones, Adrienne](#); [Emery, Dave](#); [Welker, Kevin](#); [Renaud, Adam](#); [Hohner, Paula](#); [Jackson, Geoff \(CRH Canada Group Inc.\)](#); [Bridger, Drew \(CRH Canada Group Inc.\)](#); [Lawson, Julien \(CRH Canada Group Inc.\)](#); [Zhang, Ricky \(CRH Canada Group Inc.\)](#); [Paslawski, Steve \(MTO\)](#); [Ryan.McKerracher@ontario.ca](#); [Karn.Kalra@ontario.ca](#); [Horan, Colton \(MTO\)](#); [Evans, Chris \(MTO\)](#); [Riggs, John \[NN-CA\]](#); [Julia.maloney@parsons.com](#); ["marla.browning@parsons.com"](#); [Ronald, Jessica \[NN-CA\]](#)
Subject: RE: Notice of Study Commencement - Highway 401 Highbury, City of London
Date: Monday, October 17, 2022 4:34:25 PM
Attachments: [image002.png](#)

Thank you for your interest in the Highway 401 Five Structures Replacement, Highbury Avenue Interchange Improvements and Highway 401 Pavement Rehabilitation and Reconstruction Design Build Project. Your contact information has been added to the project mailing list and you will be notified of project updates and consultation opportunities as the study progresses.

Thank you for providing the UTRCA Regulation Limit mapping link our team will review these during our Detail Design EA. Regarding the hydrology/ hydraulic considerations there are 10 culverts on Highway 401 and additional interchange culverts within the Study limits. All culverts are designed to meet MTO standard which include providing dry access during the Check flow event (130% of the 100-year event) which exceeds the 250-year event.

Drainage improvements will be made within the Highway 401 right-of-way including replacing Elliot-Laidlaw Drain culvert and tributary to Murray Drain culvert with new culverts that exceed hydraulic criteria. Ditching along Highway 401 and Highbury Avenue will be enhanced within the limits of the right-of-way, two additional non-structural pipe culverts will be added to the S-W and N-E ramps, and the median storm sewer on Highway 401 and Highbury Avenue will be replaced/ improved to meet the hydraulic requirements in accordance with the MTO Gravity Pipe Design Guidelines and Highway Detail Design Standards.

We appreciate you raising concerns about the Dingman Creek watershed and the flood risk from increased development pressure. Stantec will continue to communicate with UTRCA and the City of London throughout the project.

The Notice of Completion and Design and Construction Report (DCR) will be sent to UTRCA as requested.

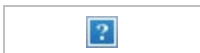
Regards,

Julie Werner-Hill B.A., GISP
Environmental Planner, GIS Analyst

Direct: 905 381-3245
Mobile: 905 928-9240

Julie.Werner-Hill@stantec.com

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From: Jessica Schnaithmann <schnaithmannj@thamesriver.on.ca>
Sent: Friday, September 9, 2022 3:39 PM

To: comments@hwy401highbury.ca

Cc: Werner-Hill, Julie <Julie.Werner-Hill@stantec.com>; Michael Funk <FunkM@thamesriver.on.ca>; Sones, Adrienne <asones@london.ca>

Subject: Re: Notice of Study Commencement - Highway 401 Highbury, City of London

Good afternoon Dave:

Please find attached comments provided by UTRCA regarding the Highway 401 Highbury, City of London (Contract 2022-3004) Notice of Study Commencement.

Thank you,

Jessica



Jessica Schnaithmann

Land Use Regulations Officer

1424 Clarke Rd, London, ON N5V 5B9

Tel: [519-451-2800](tel:519-451-2800) Ext. 307

Email: schnaithmannj@thamesriver.on.ca

Web: www.thamesriver.on.ca

I am working remotely during this time and will be monitoring all messages and emails. We apologize for any inconvenience this may cause.

>>> "Werner-Hill, Julie" <Julie.Werner-Hill@stantec.com> 6/7/2022 12:34 PM >>>

Good afternoon,

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Please communicate any concerns or questions related to this project to the team listed in the Notice and return any comments by July 4, 2022.

Regards,

Julie Werner-Hill B.A., GISP
Environmental Planner, GIS Analyst

Direct: 905 381-3245

Mobile: 905 928-9240

Julie.Werner-Hill@stantec.com

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Public Comments

Comment Table - Public

Date	Comment	Action Taken by Project Team
June 22, 2022	<ul style="list-style-type: none"> Requesting the project team to upload a copy of the <i>Highway 401 Interchange Reconstruction at Highbury Avenue Transportation Environmental Study Report (TESR) Addendum completed in 2012</i>, under the documentation section of the project website 	<ul style="list-style-type: none"> Uploaded the TESR Addendum, 2012 to the project website documentation tab Email (June 30, 2022) indicating the document had been uploaded to the project website

From: [Werner-Hill, Julie](#)
Cc: [Welker, Kevin](#); [Renaud, Adam](#); [Hohner, Paula](#); [Emery, Dave](#); g.jackson@ca.crh.com; [Bridger, Drew \(CRH Canada Group Inc.\)](#); Julien.Lawson@ca.crh.com; [Paslawski, Steve \(MTO\)](#); Ryan.McKerracher@ontario.ca; Karn.Kalra@ontario.ca; [Horan, Colton \(MTO\)](#); [Evans, Chris \(MTO\)](#)
Subject: RE: TESR Addendum (2012)
Date: Thursday, June 30, 2022 2:19:26 PM

Thank you for your interest in the Highway 401 Five Structure Replacements, Highbury Avenue Interchange Improvements and Highway 401 Pavement Rehabilitation and Reconstruction Design Build Project. We have added the *Highway 401 Interchange Reconstruction at Highbury Avenue Transportation Environmental Study Report (TESR) Addendum* report completed in 2012, to the Documentation tab under Previous Studies on the project website (www.hwy401highbury.ca). Should you have any comments and/or concerns please do not hesitate to contact us.

Sincerely,

Julie Werner-Hill B.A., GISP
Environmental Planner, GIS Analyst

Direct: 905 381-3245

Mobile: 905 928-9240

Julie.Werner-Hill@stantec.com

Stantec
200-835 Paramount Drive
Stoney Creek ON L8J 0B4



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Sent: Wednesday, June 22, 2022 10:00 AM

To: comments@hwy401highbury.ca

Subject: TESR Addendum (2012)

Hi there,

Thank you for creating a website for this upcoming construction project.

I am wondering if it is possible for the project team to upload a copy of the *Highway 401 Interchange Reconstruction at Highbury Avenue Transportation Environmental Study Report (TESR) Addendum* completed in 2012, under the documentation section of the project website or if it is easier, to email me a copy of it.

I noticed that the five year review of the study is posted, but not the actual study itself.

Thank you for your time.

