



# MEMO

**TO:** Kirstie Houston, Environmental Planner, Ministry of Transportation, Ontario (MTO)  
**FROM:** Brandon Fox, RPP, MCIP, Dillon Consulting Limited (Dillon)  
**cc:** Adele Mochrie, B.Sc., Dillon  
Tanya Cross, P.Eng., Dillon  
Colton Horan, P.Eng., MTO  
**DATE:** June 28, 2021  
**SUBJECT:** Highway 401 Interchange Reconstruction at Highbury Avenue (GWP 3032-11-00)  
Transportation Environmental Study (TESR) Addendum  
Five Year TESR Review  
**OUR FILE:** 12-7110

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Dillon Consulting Limited (Dillon) was retained by the Ministry of Transportation, Ontario (MTO) to conduct a five year review of the Highway 401 Interchange Reconstruction at Highbury Avenue Transportation Environmental Study Report (TESR) Addendum (2012).

This five year review was conducted to identify any significant changes that have taken place since publication of the 2012 TESR Addendum.

## Background

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In 2004, MTO completed the Class Environmental Assessment (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 (approximately 14 km) in the City of London. The purpose of this study was to address short, medium and long-term needs within the study area associated with traffic operations, capacity and safety. The study identified the need to widen Highway 401 to eight lanes by 2021. It also identified improvements to the existing interchanges within the study area, including the Highbury Avenue Interchange. Improvements to the Highbury Avenue interchange included upgrading the geometric design of the ramps, constructing a new underpass to accommodate future widening of Highway 401, and upgrading existing illumination along Highway 401 to high-mast lighting. The Class EA was completed following the requirements of a Group "B" Class EA under *MTO's Class EA for Provincial Transport Facilities (2000)* and the study was documented in a TESR (2004).

In 2008, MTO and the City of London completed a Detailed Design Study to address interim improvements at the Highbury Avenue interchange. The interim improvements included:

- Rehabilitate the existing underpass, including deck and soffit repairs, median island repairs, barrier wall repairs, and concrete overlay
- Reconstruct and widen the Highway 401 off-ramps
- Reconstruct Highbury Avenue pavement in the vicinity of the interchange
- Replace existing traffic signals and illumination at the interchange ramp terminals
- Rehabilitate Highbury Avenue pavement:
  - Northbound lanes from the Highway 401 interchange to Commissioners Road

- Southbound lanes from the Highway 401 interchange to the Thames River (completed in 2010)
- Bradley Avenue and Commissioners Road interchange ramps.

The 2008 work was completed as an interim solution to address structural deficiencies and provide immediate capacity on the interchange ramps. This work was completed under MTO Contract No. 2008-3011.

In May 2012, MTO initiated a study at the Highway 401 and Highbury Avenue interchange to review and update the approved 2004 Preliminary Design for the Highway 401 Interchange Reconstruction at Highbury Avenue and complete the initial Detailed Design. The study included work at the interchange as well as on Highbury Avenue, but did not include widening of Highway 401. The study identified improvements at the interchange to accommodate future traffic on Highbury Avenue based on background traffic growth, and the City's plans to increase industrial development along the Highway 401 corridor. The 2012 study identified an updated design for the Highway 401 interchange at Highbury Avenue. A TESR Addendum was prepared to document this study and published for 30-day public review from October 24, 2012, to November 22, 2012. The project received Environmental Clearance – Environmental Clearance – Right-of-Way Designation and Property Expropriation on April 4, 2013.

### **Five Year Transportation Environmental Study Report Review**

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As outlined in Section 6.4.3 of the MTO Class Environmental Assessment (EA) for Provincial Transportation Facilities (2000), any portion of a Group 'B' project for which construction has not commenced and a Design and Construction Report (DCR) has not been prepared within five years of the Notice of Submission requires a review.

Environmental Clearance – Right-of-Way Designation and Property Expropriation was issued for the Highway 401 Interchange Reconstruction at Highbury Avenue (GWP 3032-11-00) on April 4, 2013. Since 2013, construction of the proposed improvements has not commenced and more than five years have passed without preparation of a DCR. This five year TESR Review is required to review potential changes to the project Study Area or with respect to applicable legislation, policies or standards that could impact the technically preferred alternative for the project. If significant changes are identified, another TESR Addendum may be required.

The following sections of this memo review the corresponding sections of the 2012 TESR. If changes have been identified since 2012 that impact the proposed project, those changes are noted and summarized below. If changes to specific sections of the 2012 TESR have not been identified, those sections have not been discussed in this memo.

## 2012 Transportation Environmental Study Report Review

### 2012 Existing Conditions Update

#### Natural Environment

#### Terrestrial Ecosystem

##### Species at Risk and Provincially Rare Species

Since 2012, there have been no changes to the Ontario *Endangered Species Act, 2007* or the federal *Species at Risk Act, 2002*. However, regulations under each act have been amended. The schedules of extirpated, endangered, threatened and special concern species are amended regularly to reflect the status of species in Ontario and nationally.

Several updates to Species at Risk in Ontario (SARO) and Species at Risk Act (SARA) lists have been completed since the 2012 TESR Addendum was published. As part of this review, a desktop SAR review was completed. Background information was collected from the following sources:

- MNR's Species at Risk by Area Online Mapping Tool
- MNR's Natural Heritage Information Centre (NHIC)
- Various wildlife atlases, including:
  - Ontario Breeding Bird Atlas (Squares #17MH85)
  - Ontario Butterfly Atlas (Squares #17MH85)
  - Ontario Herpetofaunal Atlas (Ontario Nature, 2016, Square #17MH85)
  - Ontario Odonata Atlas (NHIC)
  - Atlas of the Mammals of Ontario (Dobbyn at al., 1994).

Since publication of the 2012 TESR Addendum, the following additional SAR (listed as Threatened or Endangered under the *Ontario Endangered Species Act (ESA, 2007)* were identified as having potential to occur in the vicinity of the Study Area based on historical occurrence records:

- Eastern Flowering Dogwood (*Cornus florida*), (Endangered)
- American Badger (Southwestern Ontario population) (*Taxidea taxus jacksoni*) (Endangered)
- Tri-colored Bat (*Pipistrellus subflavus*), (Endangered)
- Eastern Small-footed Bat (*Myotis leibii*) (Endangered).

A vegetation survey was conducted as a part of the 2012 TESR Addendum. Eastern Flowering Dogwood was not observed during the survey.

The study area has very little naturalized area that provides habitat for wildlife. Based on a review of the 2012 field investigation notes and ELC mapping, the Study Area is not believed to support suitable habitat of a sufficient size for American Badger.

The Poplar Mineral Deciduous Swamp and Dry-Fresh Upland Deciduous Forest communities identified during the 2012 ELC have the potential to provide habitat for SAR bats. There are no impacts to the Poplar Mineral Deciduous Swamp anticipated as a result of this project. However, it is anticipated that approximately 600 m<sup>2</sup> of the deciduous forest will be permanently removed. During detail design, the extent of impacts should be reviewed to confirm the edge removals are minor and would not constitute

a contravention of the ESA given the habitat is not limiting on the landscape and the tree removals can be completed outside of the active bat season (April 1 – September 30).

### **Source Water Protection**

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The Thames Sydenham Source Water Protection Plan was approved in September 2015. The Source Protection Plan was not discussed in the 2012 TESR, because it was under development and not completed at that time.

The Highbury Avenue interchange is located within the Thames-Sydenham Source Protection Region as identified in the Thames-Sydenham Source Protection Plan. Lands south of the Highbury Avenue interchange, within the project Study Area, are located within a highly vulnerable aquifer. While project activities pose a low risk to local groundwater and surface water quality, mitigation measures should be developed during detail design to mitigate potential impacts to this policy area. Mitigation measures may include a robust spills management plan and spill containment materials required to be kept on site.

### **Socio-Economic Environment**

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Since publication of the 2012 TESR Addendum there have been changes to the socio-economic environment surrounding the project Study Area.

Similar to 2012, there are currently no residential developments within the project Study Area. On January 30, 2019, Dillon reviewed the City of London land use applications database and aerial photographs of the Study Area. Currently the City has identified active development applications on file for subdivision development north of Bradley Avenue, approximately 1 km north of the Highbury Avenue interchange. Additionally, five properties have been developed in the general area surrounding the Highbury Avenue interchange since completion of the 2012 TESR Addendum, including:

- 3800 Highbury Avenue South : United Brotherhood of Carpenters and Joiners of American – Local 1946
- 3700 Highbury Avenue South: Expansion of Flying J Travel Plaza to include independently owned Truck Wash Facility
- 1420 Global Drive: Sleep Country Distribution Centre
- 3851 Commerce Road: Southwest Doors and Hardware (1995) Ltd.
- 1605 Max Brose Drive: ATS Healthcare
- 1650 Wilton Grove Drive: FedEx Ground Terminal.

The changes in land use noted above will not significantly impact existing conditions in the Study Area. None of the new business operations have accesses or entrances directly onto Highbury Avenue and the size of businesses are not large trip generator facilities. No changes to the 2012 TESR Addendum are required.

### **Utilities**

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Since publication of the 2012 TESR Addendum a Union Gas main has been installed in the southeast quadrant of the Highbury Avenue interchange. Based on the location of the new gas main and proximity of previously known utilities, there are no anticipated impacts as a result of this project.

## Cultural Environment

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### Archaeological Resources

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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 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.

### 2012 Design Changes

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No changes are proposed to the 2012 design, as approved in the 2012 TESR Addendum. However, there have been additional engineering standards developed since 2012 which require discussion, as summarized below.

### Geometric Design Standards for Ontario Highways

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Since publication of the 2012 TESR Addendum, MTO has adopted the Transportation Association of Canada's Geometric Design Guidelines for Canadian Roads, 2017 (TAC-GDG, 2017) and introduced the MTO Design Supplement to the TAC-GDG, 201. Based on an engineering review of the technically preferred alternative, there are no changes to the proposed design as a result of the implementation of the TAC-GDG, 2017.

### Highway Access Management Guidelines

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In December 2013, MTO published the Highway Access Management (HAM) Guidelines which guide the planning and design of highways. Upon review of the HAM guidelines, no changes are recommended to the technically preferred alternative for the project.

### Permits and Approvals Required

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The 2012 TESR identified two permits/approvals as required prior to construction, including:

- A Class 2 Temporary Noise Permit from the City of London was not anticipated however, consultation with the City during detail design was recommended and discussion is required in the DCR
  - It is noted that since public of the 2012 TESR, MTO legal has completed a review to determine if municipal noise by-laws apply to provincial transportation undertakings. Based on MTO's legal review, MTO is not subject to municipal by-laws and therefore is not required to obtain noise exemption permits. As a result of this change, it is recommended that consultation with the City of London be completed during the next design phase to advise the City of London of this change and works that are contrary to the noise by-law
- Ministry of Tourism, Culture and Sport acceptance of the archaeological assessment prior to construction
  - MTCS acceptance of the Stage I and II Archaeology Assessment was received on January 17, 2013. This requirement is deemed to have been met and no additional work is required.

### Future Consultation and Commitments

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The 2012 TESR Addendum identified the need for a Public Information Centre during detail design to present the proposed improvements and detailed mitigation measures. There are no anticipated

changes to this need, however, it is recommended that additional consultation be completed with the City of London regarding works that are contrary to the municipal noise by-law.

These additional, recommended, consultation activities are not anticipated to result in significant changes to the proposed improvements, as identified in the 2012 TESR Addendum.

### **Five Year TESR Review Conclusion**

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Legislative, policy and engineering standards have changed since 2012. Those changes do impact the findings from the 2012 TESR Addendum. However, the impacts to the TESR are considered minor in nature and not significant; a TESR Addendum is not recommended if appropriate mitigation measures (described below) are developed and consultation activities are completed prior to construction start.

Based on the changes since 2012, the following additional measures are recommended:

- Review and confirmation that the removal of approximately 600 m<sup>2</sup> of candidate bat roosting habitat within the significant woodlot south of Highway 401 along the west side of Highbury Avenue does not constitute a contravention of the ESA given the habitat is not limiting on the landscape and assuming tree removals can be completed outside of the active bat season (April 1 – September 30)
- Consultation, during detail design, with the City of London regarding changes to legal interpretations regarding works that may be contrary to the noise by-law prior to construction
- Development of mitigation measures, during detail design, to mitigate potential impacts to the highly vulnerable aquifer south of Highway 401 in the Thames-Sydenham Source Protection Plan. These mitigation measures should be developed and included in the Project Design and Construction Report.

DILLON CONSULTING LIMITED  
LONDON, ONTARIO