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Date: October 20, 2025

Project #: 60713279

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Memorandum

Subject: **Highway 11 2+1 Roadway Model Pilot Project: Natural Sciences Site Screening Memorandum for the Construction of “Building Ontario” Signs for GWP 5151-21-00 – GWP 5010-25-00**

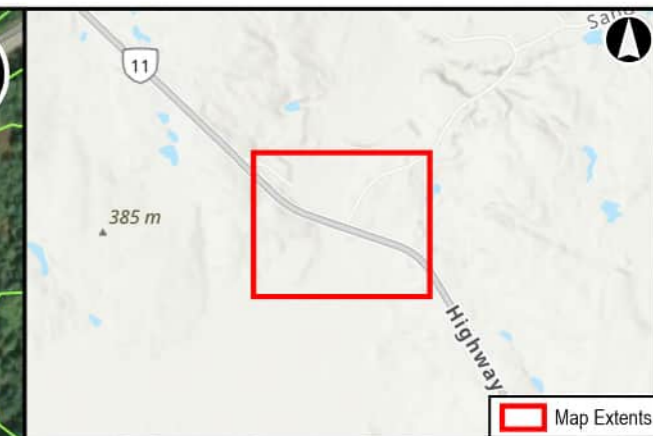
1. Introduction

AECOM Canada ULC (AECOM) has been retained by the Ontario Ministry of Transportation (MTO) to undertake the Detail Design activities and preparation of a separate stand-alone Minor Capital Contract Package under Agreement 5021-E-0038 for the construction of two new “Building Ontario” Signs along Highway 11. One sign will be installed in each direction of travel in the vicinity of the southerly and northerly Project limits of GWP 5151-21-00. One sign will be located on Highway 11 northbound, at the corner of the Sand Dam Road intersection (hereafter referred to as the northbound sign) and the other will be located on Highway 11 southbound approximately 0.54 km north of the Tilden Lake Road intersection (hereafter referred to as the southbound sign). Both signs will be location within the MTO right-of-way (ROW) with dimensions of 3,900 mm in height x 7,900 mm in width and will not conflict with the ultimate widening of Highway 11 and future construction of the 2+1 facility.

This Memorandum has been prepared to identify existing conditions of the terrestrial environment and provide avoidance/mitigation measures to address potential impacts for the sign construction including vegetation removal.

1.1 Study Area

The Study Area for the purposes of this Memorandum consists of a 120 metre (m) buffer area around each proposed sign location to allow for the identification of Natural Heritage Features on adjacent lands consistent with the *Environmental Reference for Highway Design* (MTO, 2013; ERD) and the *Natural Heritage Reference Manual* (Ministry of Natural Resources [MNR], 2010). The Study Area for each sign location is illustrated on **Figure 1** and **Figure 2**.



- Legend**
- ◆ Sign Location
 - Study Area (120m)
 - ~ Watercourse
 - Unevaluated Wetland
 - Wooded Area
 - Moose Aquatic Feeding Area
 - Ecological Land Classification (AECOM, 2024)

Code	ELC Description
G034Tt	Dry, Sandy Jack Pine – Black Spruce Dominated Swamp
G049Tt/Tt	Dry to Fresh, Coarse Jack Pine – Black Spruce Dominated Forest
G055Tt/Tt	Dry to Fresh, Coarse Aspen – Birch Hardwood Forest
G058Tt	Dry to Fresh, Coarse Maple Hardwood Forest
G128Tt	Organic Intermediate Conifer Swamp
G135S	Organic Thicket Swamp
G142N	Mineral Meadow Marsh
Water	Water

Aerial Imagery Credits: World Topographic Map: Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User

Highway 11 2+1

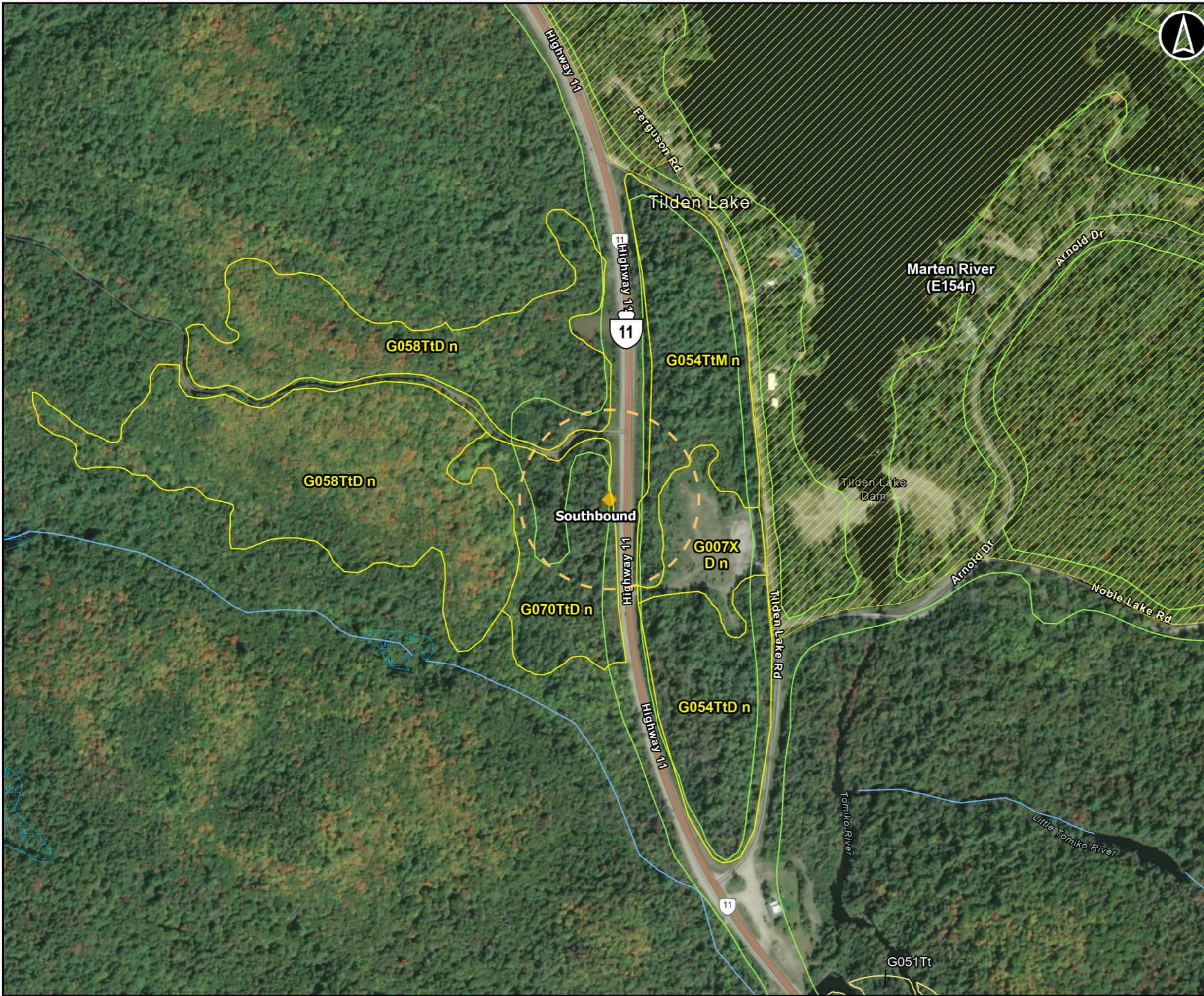
Sign Placement

0 0.03 0.06 0.11 0.17 0.22 0.28 0.33 0.39
Kilometers
DATUM: NAD 1983 UTM Zone 17N

May, 2025	1:5 000 <small>* when printed 11"x17"</small>	Data Sources: Forest Resource Inventory
P#:60713279	V#:01	

AECOM **Figure 1**

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- Legend**
- ◆ Sign Location
 - Study Area (120m)
 - ~ Watercourse
 - Unevaluated Wetland
 - Wooded Area
 - Enhanced Management Area - Marten River
 - Ecological Land Classification (FRI)
 - Ecological Land Classification (AECOM, 2024)

Code	ELC Description
G054Tt	Dry to Fresh, Coarse Aspen – Birch Hardwood Forest
G058Tt	Dry to Fresh, Coarse Maple Hardwood Forest
G070Tt	Moist, Coarse Aspen – Birch Hardwood Forest

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Highway 11 2+1

Sign Placement

Kilometers
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2. Background

A comprehensive review of secondary sources of background information, field investigations completed in summer 2024, and Species at Risk (SAR) habitat and Significant Wildlife Habitat assessments are documented in the *Preliminary Design of the Highway 11 2+1 Roadway Model Pilot Project: GWP 5151-21-00 – Natural Science Existing Conditions Report - Terrestrial Ecosystems* (hereafter referred to as the *Existing Conditions Report*; AECOM, 2025a). Field investigations completed in summer 2024 included confirmatory Ecological Land Classification (ELC) of Forest Resource Inventory data in accordance with the Great Lakes – St. Lawrence Ecosites of Ontario Operational Draft (ELC Working Group, 2009), botanical inventories for each ecosite, breeding bird surveys, and documentation of SAR, Species of Conservation Concern (SOCC), and incidental wildlife observations. Leaf-off cavity searches were also completed in winter 2025 to address SAR and migratory birds listed on Schedule 1 of the *Migratory Birds Regulations, 2022* (MBR) as documented in the *Preliminary Design for the Highway 11 2+1 Roadway Model Pilot Project: Natural Sciences Impact Assessment Memorandum for Advanced Clearing Contract for GWP 5151-21-00 – GWP 5195-23-00* (hereafter referred to as the *Advanced Clearing Impact Assessment Memorandum*; AECOM, 2025b).

3. Terrestrial Existing Conditions

The following sections detail the terrestrial existing conditions within the vicinity of the northbound and southbound sign locations.

3.1 Northbound Sign

The *Existing Conditions Report* (AECOM, 2025a) identified the following natural heritage features within the northbound sign Study Area:

- Four vegetation communities are present within the Study Area. Two communities – the Dry to Fresh, Coarse Hack Pine – Black Spruce Dominated Forest (G049TI) and the Mineral Meadow Marsh (G142N) – are located along the northbound side of Highway 11. Dry, Sandy Jack Pine – Black Spruce Dominated Swamp (G034Tt) and the Organic Thicket Swamp (G135S) are located along the southbound side of Highway 11. The northbound sign will be situated within the MTO ROW. This area was not delineated as an ELC community but based on Google Earth Street View imagery near the proposed sign location, the area is disturbed with small trees and shrubs with exposed rocks likely used to stabilize the slope of the roadside ditch.
- No SWH was identified within the immediate vicinity of the proposed northbound sign location however candidate Turtle Wintering Areas, Turtle and Lizard Nesting Areas and Amphibian Breeding Habitat (Wetlands) may be found within the Mineral Meadow Marsh (G142N) and the Organic Thicket Swamp (G135S) communities.
- Correspondence with the MNR on November 30, 2023, confirmed that Blanding's Turtle (*Emydoidea blandingii*) habitat was identified directly adjacent to the GWP 5151-21-00 Project Limits. SAR potential within the northbound sign Study Area is limited to Blanding's Turtle. This is based on the presence of an unevaluated wetland approximately 90 m northwest of the northbound sign, identified as a Mineral Meadow Marsh (G142N) during the 2024 summer field investigations. Suitable nesting habitat may be present in the immediate vicinity of the sign. Blanding's Turtle may be incidentally injured or killed while moving in between habitats if these species enter the construction work area if vegetation clearing occurs during the active window between **April 15 to October 31**.

- The *Migratory Birds Convention Act, 1994* (MBCA) and the MBR protect most species of migratory birds anywhere they are found in Canada, regardless of land ownership. Upon the enforcement of the MBR in July 2022, nest protection has been limited to active nests for most migratory bird species. However, Schedule 1 of the MBR identifies 18 migratory bird species whose nests are protected year-round and must be confirmed inactive for a defined period (ranging between 12 and 36 months depending on the species) before they can be disturbed or destroyed. The Schedule 1 nests must also be registered with Environment and Climate Change Canada (ECCC) at the start of the defined period. Based on species' breeding ranges, applicable Schedule 1 species for this Project include Great Blue Heron (*Ardea Herodias*) and Pileated Woodpecker (*Dryocopus pileatus*). Breeding bird surveys and leaf-off cavity searches were conducted as part of the field investigations for the *Existing Conditions Report* (AECOM, 2025a) and *Advanced Clearing Impact Assessment Memorandum* (AECOM, 2025b). Neither Great Blue Heron nor any active nesting colonies were observed during the 2024 field investigations. Pileated Woodpecker was observed during the breeding bird surveys on two occasions during the 2024 field investigations; however, neither of these observations were in the vicinity of the northbound sign location. Three snag trees identified as potentially suitable nesting habitat for Pileated Woodpecker and five snags identified as potentially suitable natural nesting/roosting habitat for Chimney Swift (*Chaetura pelagica*) were observed during the 2025 leaf-off cavity searches; however, the snags were not located within the vicinity of the northbound sign location.

3.2 Southbound Sign

The location of the southbound sign is located outside the boundaries of the *Existing Conditions Report* (AECOM, 2025a) Study Area; however, the existing terrestrial environment is anticipated to be similar based on proximity (approximately within 600 m). Wildlife potential around the southbound sign was extrapolated from the *Existing Conditions Report* (AECOM, 2025a) given the close proximity between the southbound sign Study Area and the *Existing Conditions Report* Study Area. Furthermore, aerial imagery, MNR's Geospatial Ontario (GEO) Geohub database (MNR, 2025a; MNR, 2025b) and Forest Resource Inventory (FRI; MNR, 2022) data were used to identify the following natural heritage features within the southbound sign Study Area:

- Based on FRI data, three vegetation communities are present within the southbound sign Study Area including a Dry to Fresh, Coarse Maple Hardwood Forest (G058Tt), a Moist, Coarse Aspen – Birch Hardwood Forest (G070Tt) and a Dry to Fresh, Coarse Red Pine – White Pine Mixedwood (G054Tt). The southbound sign will be located within the Moist, Coarse Aspen – Birch Hardwood Forest (G070Tt).
- Based on the vegetation communities present, candidate SWH including bat maternity colonies may be present within the vicinity of the proposed sign location.
- Bat SAR – Eastern Red Bat (*Lasiurus borealis*), Eastern Small-footed Myotis (*Myotis leibii*), Little Brown Myotis (*Myotis lucifugus*), Hoary Bat (*Lasiurus cinereus*), Northern Myotis (*Myotis septentrionalis*), and Silver-haired Bat (*Lasionycteris noctivagans*) – may use trees in the forest communities in vicinity to the proposed southbound sign location as roosting habitat. The proposed sign location is situated in a predominately undeveloped forested landscape and therefore the impacts to the hardwood and mixedwood forest communities are considered minimal. The surrounding forested communities that are retained will continue to provide suitable roosting habitat; therefore, its function will not be impaired or eliminated as a result of the installation of the signs. However, bat SAR may be inadvertently killed or injured due to the removal of or accidental damage to suitable maternity roost trees if vegetation clearing occurs during the bat roosting season between **May 1 and August 31**. Proposed amendments to the ESA are under consideration and may come into effect prior to the installation of the signs. These amendments could alter permitting requirements or species protections.

- Migratory birds may have suitable nesting habitat present within the Study Area of the southbound sign. Great Blue Herons tend to nest in isolate swamps or on islands that are near lakes and ponds bordered by forests (Cornell University, 2025). Based on aerial imagery, there are no wetlands, lakes or ponds located within the Study Area of the proposed southbound sign location and therefore nesting colonies of Great Blue Herons are likely not present. Forest communities are present within the southbound sign Study Area and therefore habitat for Pileated Woodpecker may be present.

4. Recommended Mitigation Measures

Proposed mitigation and avoidance measures for the potential impacts on specific terrestrial features as identified in **Section 3** are described below.

To assist in mitigating potential impacts, the following MTO *Provisions* should be utilized at a minimum:

- Ontario Provincial Standard Specification (OPSS)-201: Construction Specification for Clearing, Close Cut Clearing, Grubbing and Removal of Surface and Piled Boulders;
 - Vegetation removal, grading and soil compaction should be kept to a minimum.
 - Southbound sign should be situated to avoid tree removals whenever possible.
 - Vegetation removal shall be conducted outside of the nesting window of **April 15 – August 31** of any given year. If this work must occur within the nesting window, the Contractor shall retain a qualified avian specialist to conduct a nesting survey immediately prior to vegetation removal. If migratory nests are encountered, the avian specialist shall monitor the nests until the young have fledged and vacated the nest before the vegetation removal can occur. Trees identified with Schedule 1 MBCA-protected bird nests shall not be removed or relocated at any time of year without prior consultation with MECP, as well as applicable permits and/or approvals.
- OPSS-180: General Specification for the Management of Excess Materials;
 - Construction material should be stored within an authorized location and any soil stockpiles should only be located within a suitable sediment fenced and protected location;
- OPSS-100 General Conditions of Contract for Unexpected Species at Risk Occurrence;
 - Should SAR be encountered within the work area, construction activities will cease and MTO and MECP will be contacted for next steps.
- Non-Standard Special Provision (NSSP): Operational Constraint – Migratory Bird Protection:
 - Vegetation removal shall be conducted outside of the nesting window of **April 15 – August 31** of any given year. If this work must occur within the nesting window, the Contractor shall retain a qualified avian specialist to conduct a nesting survey immediately prior to vegetation removal. If migratory nests are encountered, the avian specialist shall monitor the nests until the young have fledged and vacated the nest before the vegetation removal can occur. Trees identified with Schedule 1 MBCA-protected bird nests shall not be removed or relocated at any time of year without prior consultation with MECP, as well as applicable permits and/or approvals.

- OC_EN- Cleaning of Equipment and Invasive Species Prevention. All machinery, construction equipment and vehicles should be washed prior to leaving the construction site in order to prevent the spread of invasive species to other locations.
- Species at Risk Awareness training should be provided to construction staff prior to onset of construction focusing on species identification and encounter/reporting protocols.
- Examine trees required to accommodate installation of the southbound sign for the presence of potential Pileated Woodpecker or Chimney Swift nesting cavities.
- Schedule tree removal outside of **May 1 to August 31** of any year to avoid bat active season to mitigate impacts on bat SAR and bat maternity colonies.
- Conduct search for turtle nesting habitat in the vicinity of the proposed location for the northbound sign. Should potential for turtle nesting be identified, reptile exclusion fencing shall be installed around the work area if construction activities are scheduled to occur within the active season (**April 15 to October 31**).
 - Alternatively, daily searches for turtles should be conducted prior to construction activities for the northbound sign if within the active turtle season (**April 15 to October 31**). If a turtle is observed within the work area, work shall stop and only proceed once the turtle has vacated the work area.

5. References

AECOM, 2025a:

Preliminary Design of the Highway 11 2+1 Roadway Model Pilot Project: GWP 5151-21-00 – Existing Conditions and Impact Assessment

AECOM, 2025b:

Preliminary Design for the Highway 11 2+1 Roadway Model Pilot Project: Natural Sciences Impact Assessment Memorandum for Advanced Clearing Contract for GWP 5151-21-00 – GWP 5195-23-00

Cornell University, 2025:

All About Birds. Great Blue Heron. Accessed May 2025 from https://www.allaboutbirds.org/guide/Great_Blue_Heron/lifehistory

Ontario Ministry of Natural Resources (MNR), 2022:

Forest Resource Inventory. Accessed May 2025. Available online at: <https://www.ontario.ca/page/forest-resources-inventory>

Ontario Ministry of Natural Resources (MNR), 2025a:

Make a Map: Natural Heritage Areas, Natural Heritage Information Centre. Accessed May 2025.

Available online at:

https://www.gisapplication.lrc.gov.on.ca/mamnh/Index.html?site=MNR_NHLUPS_NaturalHeritage&viewer=NaturalHeritage&locale=en-US

Ontario Ministry of Natural Resources (MNR), 2025b:

GeoHub Database. Geospatial Ontario (formerly Information Ontario). Accessed May 2025. Available online at: <https://geohub.lio.gov.on.ca/>