Design and Construction Report

Highway 7 – County Road 26 (Fowlers Corners) to County Road 15 (N. Monaghan Parkway), excluding 2.2 km at Lily Lake Road

GWP 4044-16-00

Prepared For:

Ontario Ministry of Transportation

March 2026

CREATING QUALITY SOLUTIONS TOGETHER

Ainley GROUP

DESIGN AND CONSTRUCTION REPORT

for

GWP 4044-16-00

Detail Design for Highway 7 Improvements
County Road 26 (Fowlers Corners) to County Road 15 (North Monaghan Parkway)

Geographic Townships of Cavan, Monaghan, Smith, and Emily within the County of Peterborough and City of Kawartha Lakes

ONTARIO MINISTRY OF TRANSPORTATION

Prepared by Ainley Group

March 2026

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Ainley Group

Highway 7 Improvements from County Road 26 to County Road 15, excluding 2.2 km at Lily Lake Road

GWP 4044-16-00

Design and Construction Report

PUBLIC RECORD

This Design and Construction Report (DCR) has been prepared under the *Ministry of Transportation (MTO) Class Environmental Assessment for Provincial Transportation Facilities (2000)*. The preliminary design for this project was approved following the filing of the Transportation and Environmental Study Report (TESR) for *Highway 7 from Fowlers Corners to County Road 28 – WP 73-99-00* (November, 2008).

This DCR is available for a 30-day agency and public review period commencing **March 25, 2026** and ending **April 24, 2026** online at www.Hwy7CR15CR26.com and at the following in-person locations during normal business hours:

Ministry of Transportation
Eastern Region
1355 John Counter Boulevard
Kingston, Ontario
K7L 5A3

Cavan Monaghan Library
2199 Davis Road
Cavan Monaghan, Ontario
K9J 0G5

Should you wish to submit comments regarding this project or DCR, please contact any one of the following project team members:

Ms. Kimberly A. Stacey C.E.T.
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Belleville, Ontario
K8N 2Y6

Phone: (613) 966-4243 ext. 108
Email: kim.stacey@ainleygroup.com

Mr. Mark Pedlar
Project Manager
Ministry of Transportation, Eastern Region
1355 John Counter Blvd.,Postal Bag 4000
Kingston, Ontario
K7L 5A3

Phone: (613) 449-0531
Email: mark.pedlar@ontario.ca

In addition, a request may be made to the Ministry of Environment, Conservation and Parks (MECP) for an order requiring a higher level of study (i.e. requiring an individual / comprehensive EA approval before being able to proceed), or that conditions be imposed (e.g. require further studies), only on the ground that the requested order may prevent, mitigate or remedy adverse impacts on constitutionally protected Aboriginal and treaty rights. Requests on other ground will not be considered. Requests should include the requester contact information and full name.

Requests should specify what kind of order is being requested (request for additional conditions or request for an individual / comprehensive environmental assessment), how an order may

prevent, mitigate or remedy those potential adverse impacts, and any information in support of the statements. This will ensure that the Ministry is able to efficiently review the request.

The request should be sent in writing or by email to:

Minister of the Environment, Conservation and Parks
Ministry of Environment, Conservation and Parks
777 Bay Street, 5th Floor
Toronto, Ontario M7A 2J3

Email: Minister.mecp@ontario.ca

Director, Environmental Assessment Branch
Ministry of Environment, Conservation and Parks
135 St. Clair Avenue West, 1st Floor
Toronto, Ontario M4V 1P5

Email: EABDirector@ontario.ca

A copy of the request should also be sent to the team members (MTO and Ainley Group) by mail or email at the contact information provided above.

Comments and information are being collected to assist the MTO in meeting the requirements of the Ontario *Environmental Assessment Act*. Information will be collected in accordance with the *Freedom of Information and Protection of Privacy Act* and the *Access to Information Act*. With the exception of personal information, all comments will become part of the public record. If you have any accessibility requirements in order to participate in this project, please contact one o the project team members listed above.

EXECUTIVE SUMMARY

Ainley Group was retained by the Ministry of Transportation (MTO) to complete the Detail Design for improvements to Highway 7, from County Road 26 (Fowler's Corners) to County Road 15 (North Monaghan Parkway), excluding a 2.2-kilometer (km) section from 1.1 km north of Lily Lake Road to 0.2 km north of Park Hill Road West. The project limits include approximately 8.9 km of Highway 7 (**Figure 1**).

The project is classified as a Group 'B' undertaking in accordance with the *Class Environmental Assessment for Provincial Transportation Undertakings* (Class EA; 2000). The Class EA study process included the review of preliminary design components provided in the previously completed Transportation Environmental Study Report (TESR) and Class EA study completed during preliminary design, collection and review of updated existing conditions information, and development of the recommended plan through detail design.

The preliminary design and previously completed Class EA was completed for the Highway 7 corridor from Fowlers Corners to County Road 28, for a distance of 12.9 km. The previous EA study provided an Operational Improvement Plan for the corridor to address intersection geometrics, interchange modifications, roadway modifications / closures, and service roads. The scope of the operational improvements in the preliminary design study was expansive and covered the entirety of the above-mentioned corridor limits.

The detail design study focused only on a sub-set of the identified operational improvements and included detail design and engineering, consultation elements, and included a review of previously completed supporting studies (natural / socio-economic environments), along with current factor specific site reviews and associated impact assessments / mitigation measures / commitments.

The proposed improvements included as part of this detail design study for Highway 7 including the following work elements:

- Culvert rehabilitation / replacement (15 locations)
- New culvert installation (1 location)
- Highway resurfacing (8.9 km)
- Addition of left turn lanes at Stockdale Road
- Extension of right turn lane at Maple Grove Road
- Traffic count station replacements (2 locations)
- Loop detector replacement (2 locations)
- Concrete curb and gutter / outlet replacement (3 locations)
- Granular sealing (9 locations)
- Traffic Signal upgrades at Highway 7 / Lansdowne St & Maple Grove Rd Intersection, and Highway 7 / N Monaghan Pkwy (Hwy 15) Intersection.

To build upon the previously completed Class EA, and to summarize the detail design in consideration of current existing environmental conditions, approvals, and mitigation requirements, this **Design and Construction Report (DCR)** has been prepared. The DCR has been prepared in compliance with the requirements of the *Class EA*, which has been approved under the Provincial *Environmental Assessment Act* for highway projects undertaken by MTO. The DCR documents the study process including: detail design elements, consultation, environmental assessment components, provides a review of supporting studies completed (i.e. natural environment), associated impact assessment / mitigation measures / commitments to future work and required environmental approvals.

Public consultation has been incorporated into the study, including opportunities for Indigenous communities, public, municipal, and agency involvement at key milestone dates. Consultation elements completed as part of this study included issuance of a Notice of Study Commencement and consultation with rights holders, various external agencies, stakeholders, and interest groups, and Notice of Study Completion and filing of the Design and Construction Report (DCR) (to be completed at the time of report posting). This DCR has been placed on the public record for a 30-day review period from **March 25 to April 24, 2026**.

Interested persons are invited to review this report and provide written comments by **April 24, 2026**. You are encouraged to contact the Ministry or the Project Consultant if you have any questions or concerns regarding this project. If, after consulting with the Ministry, you have serious unresolved concerns, you have the right to request the Minister of Environment, Conservation and Parks (777 Bay Street, 5th Floor, Toronto, ON, M7A 2J3) issue an order for a higher level of study (i.e. requiring an individual/comprehensive EA approval before being able to proceed), or that conditions be imposed (e.g. require further studies), only on the ground that the requested order may prevent, mitigate or remedy adverse impact on constitutionally protected Aboriginal and treaty rights. Requests on other grounds will not be considered. Requests should include the requester contact information and full name. for this project. A copy of the request must also be sent to the MTO and Project Consultant. If there are no outstanding concerns after **April 24, 2026**, the project will be considered to have met the requirements of the Class EA and may proceed to construction.

Information will be collected 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.

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1.0 OVERVIEW OF THE UNDERTAKING

1.1 Introduction

Ainley Graham & Associates Ltd. (Ainley Group) was retained by the Ontario Ministry of Transportation (MTO) to undertake detail design and Class Environmental Assessment (EA) study for improvements to Highway 7 from County Road 26 (Fowlers Corners) to County Road 15 (North Monaghan Parkway).

The study limits are in the geographic townships of Cavan, Monaghan, Smith and Emily within the County of Peterborough and City of Kawartha Lakes. The project limits encompass the portion of Highway 7 from County Road 26 to County Road 15, excluding 2.2 km from Parkhill Road to north of Lily Lake Road (**Figure 1**).

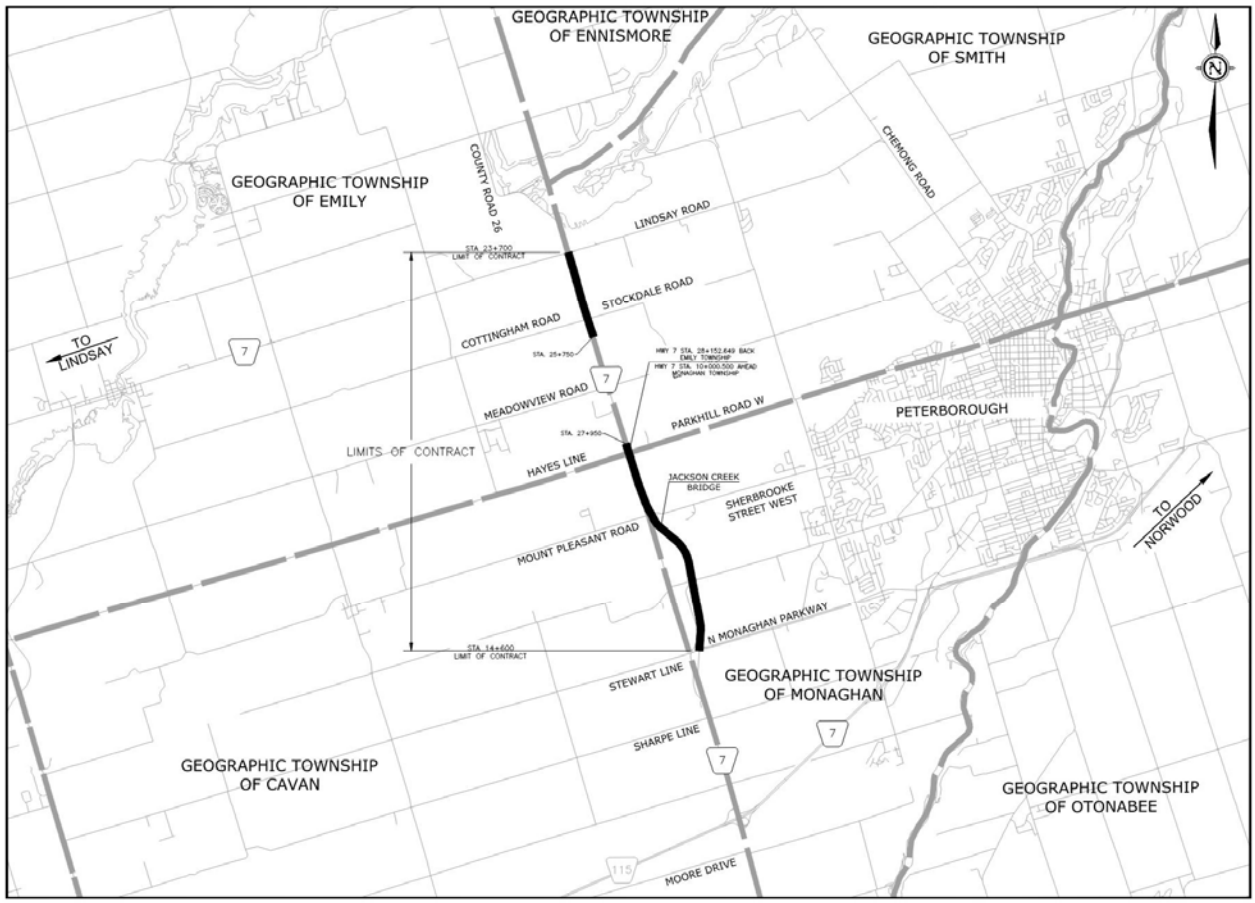

Figure 1 – Key Plan of Project Limits

Within the project limits, Highway 7 is currently a two-lane configuration, conveying local, commercial and tourist traffic, between Highway 115 and Fowlers Corners.

This detail design and EA study is being conducted to address highway resurfacing, highway drainage improvements, and intersection / operational improvements.

In November 2008, a Transportation Environmental Study Report (TESR) was prepared by NCE (a division of Genivar) for the preliminary design and EA for the development of a Long-term Property Protection Plan and Operational Improvement Plan for Highway 7 between Fowlers Corners and County Road 28. This TESR included a description of the project, needs and justification, consultation activities completed, existing environmental conditions, evaluation of alternatives, identification of areas of concern and mitigation, and summary of environmental commitments.

The preliminary design and previously completed Class EA was completed for the Highway 7 corridor from Fowlers Corners to County Road 28, for a distance of 12.9 km. The previous EA study provided an Operational Improvement Plan for the corridor to address intersection geometrics, interchange modifications, roadway modifications / closures, and service roads. The scope of the operational improvements in the preliminary design study was expansive and covered the entirety of the above-mentioned corridor limits.

The detail design study focused only on a sub-set of the identified operational improvements and included detail design and engineering, consultation elements, and included a review of previously completed supporting studies (natural / socio-economic environments), along with current factor specific site reviews and associated impact assessments / mitigation measures / commitments.

1.2 Environmental Assessment Process

The groundwork for the Class Environmental Assessment process is described within the Ontario *Environmental Assessment Act* (*EAA*). Within the EAA, Class EAs are described as being a pre-approved and specific process for defined groups of projects that are similar in nature. Projects included in the scope of a Class EA can be implemented with no further approval requirements under the EAA, provided that the specific Class EA process was followed.

The Class EA process for this detail design study has been undertaken as a Group 'B' project under the Ontario Ministry of Transportation Class Environmental Assessment for Provincial Transportation Facilities (2000), which represents major improvements to existing provincial transportation facilities

The study planning process is shown in **Figure 2**. The generalized flow chart provides an indication of the various tasks included through the stages of the project.

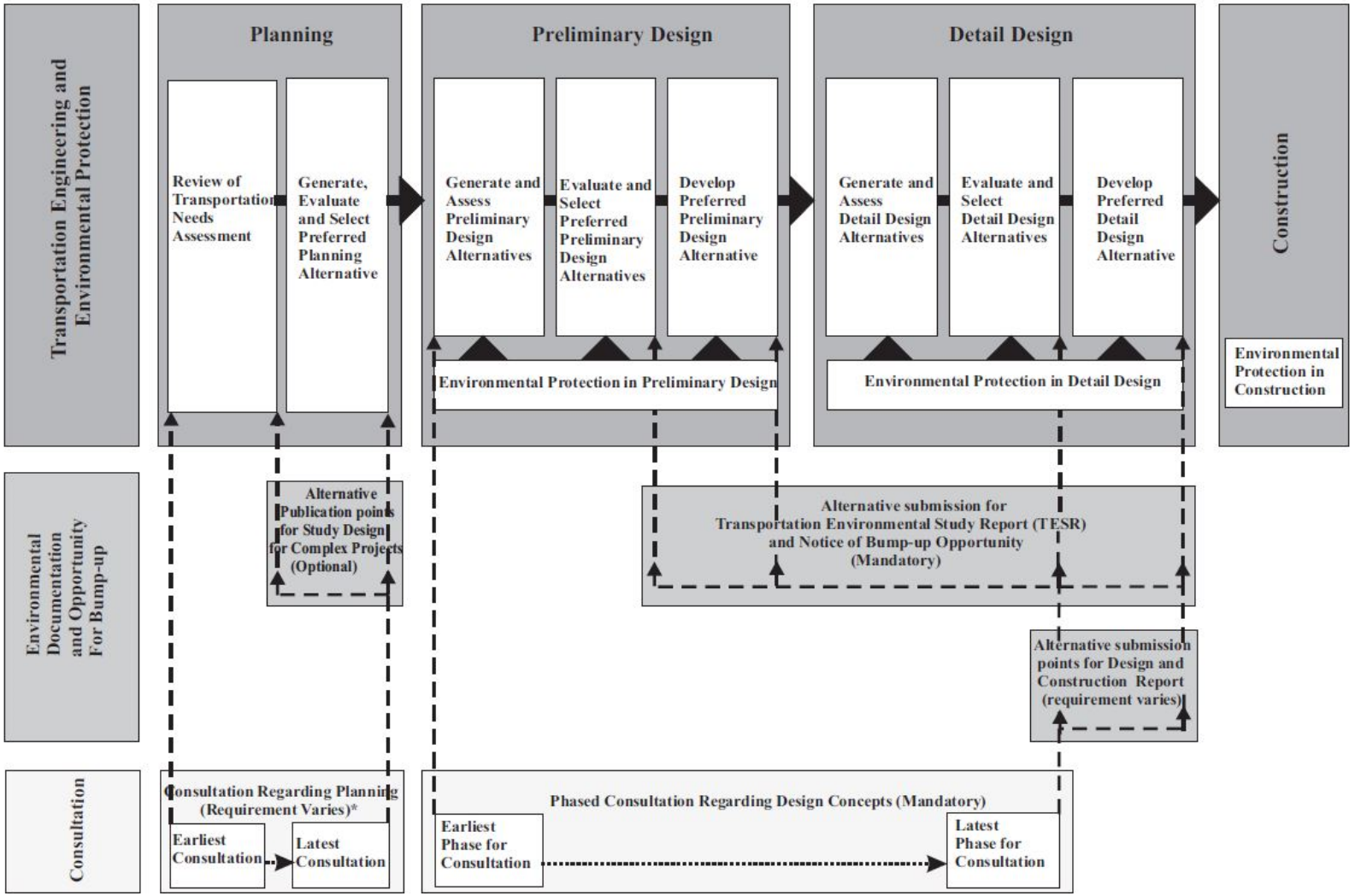

Figure 2 – Environmental Assessment Process

1.3 5-Year TESR Review

The Transportation Environmental Study Report (TESR) completed in November 2008 for WP 73-99-00 outlined improvements to Highway 7 between Fowlers Corners and North Monaghan Parkway. The TESR's objective was to address pavement deterioration, drainage deficiencies, and intersection safety while maintaining the existing rural two-lane configuration.

In 2023–2024, MTO retained the services of Ainley Group to implement a subset of the objectives through the completion of detailed design for construction elements within this corridor consistent with the original TESR recommendations. Subsequently, and consistent with the requirements of the Class EA (2000) where any portion of a project for which construction has not commenced within 5 years of Notice of Submission for the TESR, a 5-year review is required to consider any changes that have taken place since the submission of the original TESR. If there are no significant changes to the original concept of the project as described in the TESR, then a Design and Construction Report (DCR) is required to be prepared to document the design decisions. If significant changes to the project are identified through the 5-year review, then a TESR Addendum must be prepared.

The following table provides a comparative review of the 2008 TESR recommendations and the current project implementation.

Topic	2008 TESR Recommendation	Current Project Implementation	Assessment
Pavement & Cross-Section	Resurface 2-lane section; maintain geometry.	Resurfacing maintained with same limits and profile.	Consistent with TESR recommendations.
Intersection Improvements (Stockdale Rd and Hwy 7)	Implement left-turn lane at Stockdale Rd and reconfigure farm entrances in northeast quadrant.	Left-turn lanes included at Stockdale Rd intersection. Left-turn lane design / existing conditions preclude requirement for entrance reconfiguration.	Minor modification – consistent with TESR intent.
Drainage & Culverts	Replace critical culverts, maintain drainage.	Expanded scope (additional culverts and sewers included).	Expanded but consistent with TESR intent; no new effects.
Bridge (Jackson Creek)	Mill and pave bridge deck (40mm).	Same treatment included in current project.	Consistent.
Utilities / Property	Minor utility relocations within ROW. Property	Property acquisition and utility relocation	No property acquisition required. No utility relocations required

Topic	2008 TESR Recommendation	Current Project Implementation	Assessment
	acquisition required to support left-turn lane at Stockdale Rd intersection.	requirements review performed.	outside of existing ROW.
Environmental Commitments	Standard erosion/sediment control, vegetation protection.	Current mitigation intent is consistent with formerly prescribed mitigation, with regulatory compliance for excess soils added.	Enhanced compliance.
Traffic & Safety	Maintain traffic with temporary closures.	Detailed traffic management plan for temporary closures and illumination improvements.	Improved safety; current implementation is consistent with TESR intent.
Environmental Policy and Legislation	Applicable policy and legislation included; *Fisheries Act* (1985), *Species at Risk Act* (2002), *Provincial Policy Statement* (2005), *Endangered Species Act (2007)*, *Clean Water Act (2006)*, *Ontario Water Resources Act (1990).*	Updates to applicable policy and legislation included; the addition of *O.Reg. 406/19: On-site and Excess Soil Management* (2019), and updates to the *Provincial Planning Statement* (2024), *Fisheries Act* (2019), *Endangered Species Act* (Bill 5 in 2025), *Clean Water Act* (Bill 56 in 2025), and *Ontario Water Resources Act* (Bill 60 in 2025).	Updates and new policy / legislation provide for enhanced regulation of excess soils. The current study design has been developed in consideration of current legislation and approval requirements. With the exception of the filing of a Notice for excess soils, no regulatory approvals are required.

Based on the above noted assessment it has been determined that the 2008 TESR remains valid and continues to represent the preferred solution within the project limits. Minor refinements, such as left-turn lanes and expanded culvert design are interpreted to be consistent with the TESR intent, and no significant new environmental effects have been identified. As such, a TESR Addendum is not required, and documentation with respect to the detailed design has been incorporated in a DCR.

1.4 Summary Description of the Undertaking

The proposed improvements to Highway 7 within the study limits generally include the following work:

- Culvert rehabilitation / replacement (15 locations)
- New culvert installation (1 location)
- Highway resurfacing (8.9 km)
- Addition of left turn lanes at Stockdale Road
- Extension of right turn lane at Maple Grove Road
- Signal upgrades at Highway 7 / Lansdowne St & Maple Grove Rd Intersection, and Highway 7 / N Monaghan Pkwy (Hwy 15) Intersection.
- Traffic count station installation (2 locations)
- Loop detector installation (2 locations)
- Concrete curb and gutter / outlet replacement (3 locations)
- Granular sealing (9 locations)

1.5 Purpose of the Design and Construction Report

This **Design and Construction Report (DCR)** has been prepared in compliance with the requirements of the *Class EA*, which has been approved under the Provincial *Environmental Assessment Act* for highway projects undertaken by MTO. The DCR documents the study process including: detail design elements, consultation, environmental assessment components, provides a review of supporting studies completed (i.e. natural environment), associated impact assessment / mitigation measures / commitments to future work and required environmental approvals.

2.0 CONSULTATION PROCESS

Consultation is an integral component of the Class EA process. **Section 2.1** summarizes the consultation undertaken, by others, during preliminary design, and **Section 2.2** summarizes consultation efforts during detail design.

2.1 Consultation During Preliminary Design

The preliminary design for the larger Highway 7 corridor was documented in the TESR for *Highway 7 from Fowlers Corners to County Road 28 – WP 73-99-00* (November, 2008). As part of the preliminary design, rigorous consultation activities were undertaken with members of Indigenous communities, the public, agencies, stakeholders, and property owners. Specific details regarding the consultation activities are provided in the above noted TESR.

2.2 Consultation During Detail Design

At the onset of detail design, a Consultation Plan (including contact list) was prepared for the study, identifying potentially interested members of Indigenous communities, the public, stakeholders, municipal contacts, and technical agencies. A summary of the consultation activities undertaken during detail design is outlined in the following sections and **Appendix A**.

2.2.1 Project Website

A project website was developed and maintained during detail design to function as an interactive tool for the project team and interested parties to review information on the project. The project website provided interested parties an opportunity to submit comments during design and the ability to review project related materials. Specific content of the website included, but was not limited to:

- A description of the Study
- Information related to the MTO Class EA process
- Consultation information (as available)
- Project Documents (as available)
- Project Team Contact Information

Information on the project website is available at: https://hwy7cr15cr26.com/.

2.2.2 Notice of Study Commencement

A Notice of Study Commencement was prepared by Ainley Group and forwarded to MTO for approval prior to delivery.

The Notice informed rights holders, members of the public, and stakeholders of the initiation of the project and included a description of the project, and the processes to be followed in accordance with the *Environmental Assessment Act*. Project managers representing Ainley Group and MTO were listed as contacts to obtain further information on the undertaking.

The Notice of Study Commencement was provided on November 27, 2024.

A copy of the Notice is provided in **Appendix A**.

2.2.3 Public Comments

Further to the information in **Section 2.2.2**, consultation completed as part of detail design included residential properties in proximity to the project limits (**Appendix A**). At the time of DCR preparation comments received were generally limited, and pertained to the proposed left-turn lane at Stockdale Road and potential safety concerns from a resident in this area. MTO responded to the resident noting that the proposed left-turn lane work will include paving of the

east shoulder throughout the limits of the left-turn lane which should alleviate the concerns raised by the resident. A copy of this correspondence is provided in **Appendix A**.

2.2.4 Municipal and External Agencies

Consultation with provincial agencies, authorities with jurisdictional involvement, and interest groups was maintained throughout the project, including circulation advising of the Notice of Study Completion. Agency / stakeholders consulted through this process included:

Provincial Ministries / MPPs

- Peterborough/Kawartha - MPP
- Ministry of Natural Resources - District Manager
- Ministry of Environment, Conservation and Parks - Environmental Assessment Coordinator

Agencies / Stakeholders

- Ontario Provincial Police - Peterborough County Detachment
- Peterborough Police Station – Police Chief
- Kawartha Lakes Police – Police Chief
- City of Kawartha Lakes – CAO
- City of Kawartha Lakes – Fire Chief
- City of Kawartha Lakes – Director, Engineering and Corporate Assets
- City of Kawartha Lakes – Chief of Paramedic Services
- Peterborough County – CAO
- Peterborough County – Chief of Paramedics
- City of Peterborough – CAO
- City of Peterborough – Fire Chief
- Township of Cavan-Monaghan – CAO/Deputy Clerk/Deputy Treasurer
- Township of Cavan-Monaghan – Fire Chief
- Township of Selwyn – CAO
- Township of Selwyn – Fire Chief
- Kawartha Pine Ridge District School Board - Director of Education
- Peterborough Victoria Northumberland and Clarington Catholic District School Board

- Trillium Lakelands District School Board
- Student Transportation Services of Central Ontario
- Taso's Restaurant and Pizzeria
- Unbranded Sites Gas Station
- Coffee Time
- MBA Audio & Custom
- Jers' Garage
- Great Canadian RV Ltd.
- Smokey Joe's
- Time 2 Hoop Basketball Academy
- Schnell's VW Parts & Service Inc.
- Double Dz's
- Circul-Air Corp. International
- Big Hog's BBQ+
- Peterborough West Animal Hospital
- Rosemount Memorial Gardens
- Otonabee Conservation
- Hydro One
- Bell
- Rogers
- Enbridge Gas Inc.
- Union Gas
- TransCanada Pipelines

External agencies and interest groups, when potentially affected, were informed at various stages of the study.

A copy of all agency and stakeholder consultation is included in **Appendix A**. A summary of comments received throughout the consultation process with stakeholders / agencies is provided in **Table 1** below.

Table 1 – Agency/Stakeholder Comments/Concerns

Reference Number	Date / Form of Contact	Agency	Comment	Response
1	January 8, 2025 / Email	Otonabee Conservation	• Comment noted that the proposed infrastructure maintenance and improvements are excluded from the definition of development under the PPS, and that permits from Otonabee Conservation are not required. • Comment also noted that floodplain mapping for Jackson Creek area is available, if required.	• No response required.
2	June 11, 2025 / Phone	Big Hog's BBQ+	• Owner had concerns that construction activities may impact entrance. Owner noted that food truck opens in early April and closes down the weekend daylight savings time ends, and that access is not required outside of those dates	• Ainley Group indicated that the contractor will be required to ensure access to the property is maintained during the period of time when the food truck is operating.

2.2.5 Indigenous Communities

As part of the external consultation process, an Indigenous Consultation Plan was implemented to ensure that all interests, comments, and concerns of any / all Indigenous communities are addressed. The MTO Indigenous Liaison coordinated all communications with the Indigenous communities.

An Indigenous Consultation Plan was conducted as part of the project and included the following steps:

a) Identification of Indigenous communities with potential to be affected.

b) Determining the potential risk and impact of the project to Indigenous interests.

MTO, with participation from Ainley Group, consulted with Indigenous communities throughout the consultation process. The Indigenous communities identified for circulation included the following:

- Alderville First Nation
- Curve Lake First Nation
- Hiawatha First Nation
- Kawartha Nishnawbe First Nation
- Williams Treaties First Nations
- Mississaugas of Scugog Island First Nation
- Métis Nation of Ontario

Contact letters were delivered to Indigenous communities on MTO letterhead, to advise that the project has been initiated, and to invite comments pertaining to the project. Ainley Group and / or MTO project managers were listed as contacts to obtain further information on the undertaking.

No responses from Indigenous communities have been noted at the time of report publishing.

2.2.6 Notice of Study Completion / Design and Construction Report Submission

Upon completion of the Design and Construction Report (DCR) and prior to filing the DCR on public record, Ainley Group prepared and circulated a Notice of Study Completion.

The Notice informed members of Indigenous communities, the public, and stakeholders of project updates, that the detail design phase had been completed, and noted that the DCR has been filed for public review. The notice included a summary of the final detail design and indicated locations where the DCR has been filed for public review.

Project Managers from MTO and Ainley Group were listed as contacts to obtain further information

with respect to the detail design of the project.

A copy of the Notice of Study Completion is provided in **Appendix A**.

3.0 DETAIL DESCRIPTION OF THE RECOMMENDED DESIGN

3.1 Major Features of the Proposed Work

The proposed improvements to Highway 7 are documented within the design drawings in **Appendix B**. These improvements include the following components:

- Installation of left turn lanes at Stockdale Road intersection, including excavation and widening of the existing roadway. All works are to be maintained within the existing MTO ROW at the locations noted below.
    - Stn. 25+030 to 25+550 Lt. – Emily Twp.
    - Stn. 25+030 to 25+550 Rt. – Emily Twp.
- Extension of the existing right turn lane at Maple Grove Road, including excavation and widening of the existing roadway.
    - Stn. 12+830 to 12+995 Rt. – Monaghan Twp.
- Installation of two (2) traffic count stations / loop detectors.
    - Stn. 10+498 Lt. – Monaghan Twp.
    - Stn. 13+400 Lt. – Monaghan Twp.
- Replacement of existing concrete curb and gutter at Stockdale Road with new concrete curb and gutter.
    - Stn. 25+267 to 25+286 10.0 m to 25.0 m Rt. – Emily Twp.
    - Stn. 25+215 to 25+296 9.5 m to 17.0 m Lt. – Emily Twp.
- Installation of new concrete gutter outlets.
    - Stn. 25+278 13 m Rt. – Emily Twp.
    - Stn. 25+298 23 m Lt. – Emily Twp.
- Replacement of existing concrete curb and gutter at Maple Grove Road with new concrete curb and gutter.
- Stn. 12+945 to 12+965 – 10.0 m Rt. – Emily Twp. Granular sealing (Type I via machine or hand spraying) at ten (10) locations
    - Stn. 10+448 to 10+536 SBL – Monaghan Twp.
    - Stn. 10+475 to 10+563 NBL – Monaghan Twp.
    - Stn. 10+626 to 10+688 SBL – Monaghan Twp.
    - Stn. 10+694 to 10+756 NBL – Monaghan Twp.

  - Stn. 11+597 to 11+666 SBL – Monaghan Twp.
  - Stn. 11+606 to 11+655 NBL – Monaghan Twp.
  - Stn. 11+686 to 11+757 NBL – Monaghan Twp.
  - Stn. 11+688 to 11+750 SBL – Monaghan Twp.
  - Stn. 12+205 to 12+261 NBL – Monaghan Twp.
- Traffic Signal upgrades at Highway 7 / Lansdowne Street & Maple Grove Road Intersection, and Highway 7 / N Monaghan Parkway (Hwy 15) Intersection.
  - Lansdowne Street & Maple Grove Road (County Road 5) – traffic signal system replacement, illumination upgrades and AODA improvements.
  - N Monaghan Parkway (County Road 15) – traffic signal system replacement and illumination upgrades.

3.2 Highway Rehabilitation

Highway 7 will be resurfaced within the project limits including various thicknesses of pavement milling (partial depth removal) and paving.

- Stn. 23+610 to 24+178 – Emily Twp.
  - Mill 50 mm
  - Pave 50 mm SP12.5 FC1
- Stn. 24+178 to 25+770 – Emily Twp.
  - Mill 90 mm
  - Pave 50 mm SP19.0 Binder Course
  - Pave 40 mm SP12.5 FC1 Surface Course
- Stn. 27+990 – Emily Twp. To Stn. 11+030 Monaghan Twp.
  - Mill 90 mm
  - Pave 50 mm SP19.0 Binder Course
  - Pave 40 mm SP12.5 FC1 Surface Course
- Stn. 11+070 to 11+660 – Monaghan Twp.
  - Mill 50 mm
  - Pave 50 mm SP12.5 FC1
- Stn. 11+660 to 11+685 – Monaghan Twp. (Jackson Creek Bridge)
  - Mill 40 mm
  - Pave 40 mm SP12.5 FC1

- Stn. 11+685 to 12+790 – Monaghan Twp.
    - Mill 90 mm
    - Pave 50 mm SP19.0 Binder Course
    - Pave 40 mm SP12.5 FC1 Surface Course
- Stn. 12+790 to 13+242 – Monaghan Twp.
    - Mill 50 mm
    - Pave 50 mm SP12.5 FC1
- Stn. 13+242 to 14+300 – Monaghan Twp.
    - Mill 90 mm
    - Pave 50 mm SP19.0 Binder Course
    - Pave 40 mm SP12.5 FC1 Surface Course

3.3 Culvert Replacement / Rehabilitation and New Culvert Installation

The detail design assignment includes replacement / rehabilitation works at fifteen (15) non-structural culvert locations within the study limits. The location of the non-structural culverts is provided in **Table 2**, and all features are shown on the design drawings in **Appendix B**.

Table 2 – Location of Work for Culverts

Work Location / Waterbody ID	Municipality	Latitude	Longitude	Proposed Action
CV-0007-000964 (23+763) Roadside Drainage	Emily	44.3269	-78.4433	Cleanout
CV-0007-005674 (23+770) Roadside Drainage	Emily	44.3269	-78.4425	Cleanout
CV-0007-005675 (23+794) Roadside Drainage	Emily	44.3272	-78.4429	Cleanout
CV-0007-005679 (23+822) Roadside Drainage	Emily	44.3272	-78.4428	Cleanout
CV-0007-005678 (23+858) Roadside Drainage	Emily	44.3273	-78.4421	Cleanout
CV-0007-005680 (23+859) Roadside Drainage	Emily	44.3275	-78.4414	Cleanout

Work Location / Waterbody ID	Municipality	Latitude	Longitude	Proposed Action
CV-0007-000965 (23+879) Roadside Drainage	Emily	44.3270	-78.4420	Cleanout
CV-0007-005681 (23+928) Roadside Drainage	Emily	44.3266	-78.4423	Cleanout
CV-0007-000966 (23+936) Roadside Drainage	Emily	44.3266	-78.4421	Cleanout
CV-0007-000782 (24+327) Roadside Drainage to Headwaters of an Unnamed Tributary of Chemong Lake	Emily	44.3232	-78.4406	Open Cut Replacement / Ditch Cleanout
CV-0007-000967 (24+330) Roadside Drainage to Headwaters of an Unnamed Tributary of Chemong Lake	Emily	44.3231	-78.4404	Open Cut Replacement / Ditch Cleanout
CV-0007-005928 (24+332) Roadside Drainage to Headwaters of an Unnamed Tributary of Chemong Lake	Emily	44.3232	-78.4405	New Installation / Ditch Cleanout
CV-0007-005860 (25+272) Roadside Drainage	Emily	44.3149	-78.4371	Culvert Extension / Ditch Cleanout
CV-0007-000968 (25+290) Roadside Drainage	Emily	44.3148	-78.4368	Culvert Extension / Ditch Cleanout
CV-0007-000204 (25+450) Roadside Drainage	Emily	44.3136	-78.4363	Culvert Extension / Ditch Cleanout
CV-0007-005926 (13+935) Roadside Drainage	Monaghan	44.2589	-78.4062	Open Cut Replacement / Ditch Cleanout

The replacement of the above noted non-structural culverts will be completed in accordance with MTO Gravity Pipe Design Guidelines.

3.4 Property Requirements

The proposed undertaking has been designed such that property acquisition is not required within the project limits.

3.5 Construction Staging

The general approach for staging the Highway 7 construction will be to divide the work into the following four (4) stages, as described in **Table 3**.

Table 3 – Construction Stages

Construction Stage	Description of the Work
Stage 1 – Preliminary Work	1. Install traffic control measures and construction zone signage. 2. Mobilize construction equipment and materials.
Stage 2 – Intersection Improvements*	1. Excavate and widen highway to accommodate two opposing left-turn lanes at Stockdale Road intersection. 2. Ditch grading, culvert extensions as needed to accommodate widening. Adjust curb lines and widen pavement structure at SB approach to Maple Grove Road to accommodate right turn lane. Install temporary pavement markings. 3. Coordinate with electrical and communication utilities as required. 4. Upgrade traffic signal equipment at identified intersections.
Stage 3 – Culvert Replacement and cleanout*	1. Widen highway, as required, for staging of traffic for replacement of centerline culverts. 2. Install traffic control measures for staging (TC-54's, 24-hr flagging) 3. Excavate and remove existing centerline culverts. Replace with triple CSPA's 4. Backfill, compact, and restore base and surface courses. 5. Remove and replace entrance culvert. 6. Reinstate entrance as required. 7. Clean out identified culverts.

Construction Stage	Description of the Work
Stage 4 – Roadway Resurfacing and Final Works	1. Complete minor grading and surface preparation for resurfacing. 2. Mill and resurface entire roadway section. 3. Complete final shoulder grading as needed. 4. Apply final pavement markings 5. Restore site to final condition. 6. Remove all temporary signage.

* These two stages may be completed concurrently or in opposite order depending on successful contractor's schedule.

4.0 EXISTING ENVIRONMENTAL CONDITIONS

The following sections summarizes terrestrial existing conditions, background studies, and environmental investigations completed within the project area and the surrounding study area. In addition, potential environmental impacts and mitigation measures for the proposed works are discussed.

The following environmental studies (with information specific to the current project limits) were completed during the preliminary design and were incorporated in the previously completed TESR:

- *Highway 7 Operations Improvement Plan From Fowlers Corners to County Road 28 – MTO W.P. 73-99-00 – Fisheries and Aquatic Ecosystem Technical Report* – NCE – June, 2007.
- *Natural Environment Assessment (Existing Conditions): Highway 7 Right-of-Way (Fowlers Corners to CR 28) – Project WP 73-99-00*. Brunton Consulting Services – December, 2004.
- *Stage 1 Archaeological Assessment – Highway 7 Preliminary Design Study From Fowlers Corners to County Road 28 City of Kawartha Lakes and Peterborough County, Ontario* – Archaeological Services Inc. – February, 2005 (**Appendix C**).
- *Stage 2 Archaeological Assessment – Highway 7 Class Environmental Assessment From Fowlers Corner to County Road 28 / Highway 115, City of Kawartha Lakes and Peterborough County Ontario* – Archaeological Services Inc. – July, 2006 (**Appendix C**).
- *Highway 7 Preliminary Design Study From Fowlers Corners to County Road 28 City of Kawartha Lakes and Peterborough County, Ontario – Built Heritage and Cultural Landscape Assessment* – Archaeological Services Inc. – February, 2005.
- *Highway 7 Operations Improvement Plan From Fowlers Corners to County Road 28, 12.9 km – WP No. 73-99-00 – Landscape Composition and Land Use* – NCE – February, 2005.

- *Highway 7 Operations Improvement Plan From Fowlers Corners to County Road 28, 12.9 km – WP No. 73-99-00 – Noise Report* – NCE – April, 2007.
- *Memorandum – Highway 7 Operations Improvements – Fowlers Corner to County Road 28 – WP # 73-99-00* – NCE – February, 2005.

The following environmental studies were completed during the detail design and are attached as appendices to this report:

- *Terrestrial Ecosystem Existing Conditions and Impact Assessment Report: Highway 7 from County Road 15 to County Road 26* – Ainley Group – October, 2025 (**Appendix D**).
- *Assessment of Past Uses Report – Highway 7 from County Road 15 to County Road 26* – Ainley Group – October, 2025 (**Appendix E**).
- *Highway 7 Resurfacing and Culvert Design – County Road 15 (North Monaghan Parkway) to County Road 26 (Fowler's Corners) – Sampling and Analysis Plan* – Ainley Group – October, 2025 (**Appendix E**).
- *Highway 7 Resurfacing and Culvert Design – County Road 26 (Fowlers Corners) to County Road 15 (North Monaghan Parkway) – Soil Characterization Report* – Ainley Group – March, 2026 (**Appendix E**).

4.1 Terrestrial Existing Conditions

The previously completed Natural Environment Assessment completed by Brunton (2004) noted that due to the long history of disturbance within the study area, natural features are largely confined to "islands" of habitat. The Brunton report identified six (6) natural areas within the current project limits including woodlands (Stockdale Woodlot and Murray Hill Upland), wetlands (Emily Manor Drive Wetlands, Parkhill Swamp Forest, Cavan Swamp), and Jackson Creek.

In an effort to confirm the previously noted findings, Ainley Group completed a terrestrial ecosystem existing conditions and impact assessment during the detail design to update the previously noted existing conditions. Terrestrial ecosystem field investigations were completed by Ainley Group in support of this assessment in June and November, 2024. Field investigations included the following:

- A review of habitat types for species at risk (SAR) having the potential to occur within the study limits as provided by the MNR, NHIC database, online data sources, and previously mentioned reports.
- A review for the presence of animal and plant species and to verify the habitat utilized by SAR within the study limits. Specific habitat requirements for each species are per the *MNR - Significant Wildlife Habitat Technical Guide* (2000).
- Mapping and reporting all SAR observed and identified during field investigations.
- Identification of environmental protection requirements relevant to the study area and SAR within.

Terrestrial ecosystem existing conditions are summarized in **Table 4**, below. Further details are provided in the *Terrestrial Ecosystems Existing Conditions and Impact Assessment Report* (Ainley Group, 2025).

Table 4: Existing Terrestrial Conditions Summary	
Vegetation Communities Identified (ELC)	Seventeen (17) communities identified: Transportation (CVI_1), Perennial Cover Crop (OAGM2), Fencerow (TAGM5), Annual Row Crop (OAGM1), Business Sector (CVC_1), Low Density Residential (CVR_1), Open Pasture (OAGM4), Dry-Fresh Sugar Maple Deciduous Forest (FODM5-1), Pondweed Submerged Shallow Aquatic (SAS_1-1), Dry-Fresh White Cedar Coniferous Forest (FOCM2-2), Reed-Canary Grass Graminoid Mineral Meadow Marsh (MAMM1-3), Bebb's Willow Mineral Deciduous Thicket Swamp (SWTM3-2), Dry-Fresh Poplar Deciduous Forest (FODM3-1), Cattail Mineral Shallow Marsh (MASM1-1), Dry-Fresh Coniferous Woodland (WOCM1), Dry-Fresh Scotch Pine Naturalized Coniferous Plantation (FOCM6-3), Green Lands (CGL).
Migratory Birds	Eleven (11) migratory bird species observed. No bird nests were observed during the 2024 field investigations.
Wildlife Observations (Mammals, Amphibians, Reptiles)	Green Frog (*Lithobates clamitans*).
SAR Observed	No SAR were observed during field investigations completed by Ainley Group.
SAR Identified with the Potential to be Present by Background Sources	Little Brown Bat (END), Eastern Small-footed Myotis (END), Northern Long-eared Bat (END), Tri-coloured Bat (END), Silver-haired Bat (END), Eastern Red Bat (END), Hoary Bat (END), Red-headed Woodpecker (END), Least Bittern (THR), Blanding's Turtle (THR), Bobolink (THR), Eastern Meadowlark (THR), Barn Swallow (SC), Canada Warbler (SC), Eastern Wood-Pewee (SC), Eastern Musk Turtle (SC), Rusty Blackbird (SC), Snapping Turtle (SC), Wood Thrush (SC), Grasshopper Sparrow (SC). Of these SAR, only Blanding's Turtle was identified to have the potential to be impacted by the undertaking.
Significant Natural Heritage Features	Significant natural heritage features identified through background sources as being present within the study limits include; Jackson Creek PSW, Cavan Bog PSW, significant woodlands, significant wildlife habitat, Jackson Creek Drumlins Earth Science ANSI, Cavan Bog Life Science ANSI.

Table 4: Existing Terrestrial Conditions Summary	
	Of these features, only Jackson Creek PSW and Cavan Bog PSW were identified in proximity to the proposed works.

4.2 Physiology / Geology

The study area is located within the Peterborough Drumlin Field physiographic region (Chapman and Putman, 1984). The landform features of the study area consist of approximately 3000 drumlins and many other drumlinoid hills and surface flutings (Chapman and Putnam, 1984).

The project limits fall within the Mixedwood Plains Ecozone, which is characterized by bedrock comprised predominantly of limestone, sandstone and shale, with outcroppings of sandstone and shale (MNR, 2009). Bedrock geology within the project limits is described as Middle Ordovician limestone, dolostone, shale, arkose, and sandstone of the Ottawa Group, Simcoe Group and Shadow Lake Formation (Ontario Geological Survey, 2010). Surficial geology within the general area consists of a mixture of till, fine textured glacio-lacustrine deposits, and bedrock.

4.3 Fish and Fish Habitat

The previously completed Fisheries and Aquatic Ecosystems report completed by NCE (2007) noted the presence of several watercourses within the current project limits. Of these, only the Chemong Lake tributary (Stn 24+328 – twin culverts) overlaps work locations proposed within the detail design. With regard to fish habitat at this location, NCE noted that based on the presence of barriers and very shallow water it was concluded that this location cannot support fish. This observation is consistent with observations by Ainley Group in 2024, whereby it was noted that water within the feature was limited to isolated pockets, with no flow or fish / fish habitat observed to be present.

No other fish or fish habitat was identified at proposed work locations during the Ainley Group field investigations, and as such stand-alone fisheries reporting and/or Project Notification forms are not required.

4.4 Groundwater

Given the rural setting of the project area, a review of water well record information provided through the MECP website was completed to confirm the presence of supply wells within the general area. While supply wells have been confirmed to be present, with the works being limited to localized and short duration activities, and considering no property acquisition are proposed, there are no anticipated impacts to groundwater wells as a result of the undertaking. Further, design of the highway improvements will be such that stormwater from the road surface is directed to, and contained within, roadside ditches within the existing MTO right-of-way.

Further to the above, it is noted that a portion of the project area falls within Wellhead Protection Areas B, C, and D for the Lansdowne Planned Municipal System. This system is a designated future municipal water source. While road salt application is often considered a significant threat

to source water, the preparation of a Risk Management Plan is only required for commercial properties and is not interpreted to apply to this project.

4.5 Noise and Vibration

A noise study was completed previously as part of preliminary design activities and identified the presence of several noise-sensitive areas / receivers within the project limits; however, noted that no mitigative efforts were required for these features. The noise sensitive areas identified include the following locations in proximity to the proposed detail design undertaking:

Noise Sensitive Area ID	Description
NSA-1	Rural dwelling units east of Highway 7, from Fowlers Corners to Stockdale Road
NSA-2	Rural dwelling units west of Highway 7, from Fowlers Corners to Cottingham Road
NSA-3	Rural dwelling units east of Highway 7, from Stockdale Road to Lily Lake Road
NSA-4	Cottingham Road dwelling units
NSA-7	Parkhill Road / Hayes Line dwelling units
NSA-8	Sherbrooke Street dwelling units
NSA-9	Lansdowne Street / Maple Grove Road dwelling units
NSA-10	Davis Road residents (west of Highway 7 from Maple Grove Road to North Monaghan Parkway)
NSA-11	Dwelling Units east of Highway 7, from Lansdowne Street to North Monaghan Parkway

As part of the proposed detail design improvements only one (1) location requires night work for completion, and that is associated with the open-cut culvert replacement at station 24+330 – Emily Township. The works will be short duration (limited to 4 nights), and the predominant land-use adjacent to the culvert location is agricultural fields, with the nearest residence being approximately 260 m to the north.

Noise impacts at this location, if any, are considered to be short-term and temporary in nature, and MTO is not subject to local noise by-laws; however, the contractor will be required to minimize idling and keep equipment in good operating condition to mitigate potential noise impacts. Further, the contractor will be required to provide notification of night work for any residences

within 500 m of the activity. All other works are anticipated to be completed during normal working hours.

4.6 Archaeology

Archaeological Services Inc. (ASI) completed a Stage 1 Archaeological Assessment during the preliminary design study of Highway 7 improvements from Fowlers Corners to County Road 28. The results of the assessment concluded that a Stage 2 Archaeological Assessment be completed prior to ground disturbing activities along the Highway 7 corridor.

As a result, a Stage 2 Archaeological Assessment was completed by ASI in 2006 following the recommendations from the Stage 1 Archaeological Assessment. The assessment broke the study limits into several sections, of which the following five (5) review areas are applicable to the current project area.

- Fowlers Corners to Cottingham Road / Stockdale Road
- Cottingham Road / Stockdale Road to Emily Manor Drive
- Emily Manor Drive to North of Mount Pleasant Road / Sherbrooke Street
- North of Mount Pleasant Road / Sherbrooke Street to Maple Grove Road / Lansdowne Street
- Maple Grove Road / Lansdowne Street to South of Stewart Line / North Monaghan Parkway

As part of the proposed improvements currently in detail design, the only area anticipated to require grading activities beyond the existing disturbed footprint is associated with the following:

- Intersection improvements at Stockdale Road, including installation of left turn lanes.

The above location was screened and identified as having ‘No Potential’ during the Stage 2 archaeology assessment, as shown on the below. This was based on being previously disturbed, having no water within 300 m, or as a result of the presence of low / wet lands. As such, no further archaeological assessment was deemed to be required.

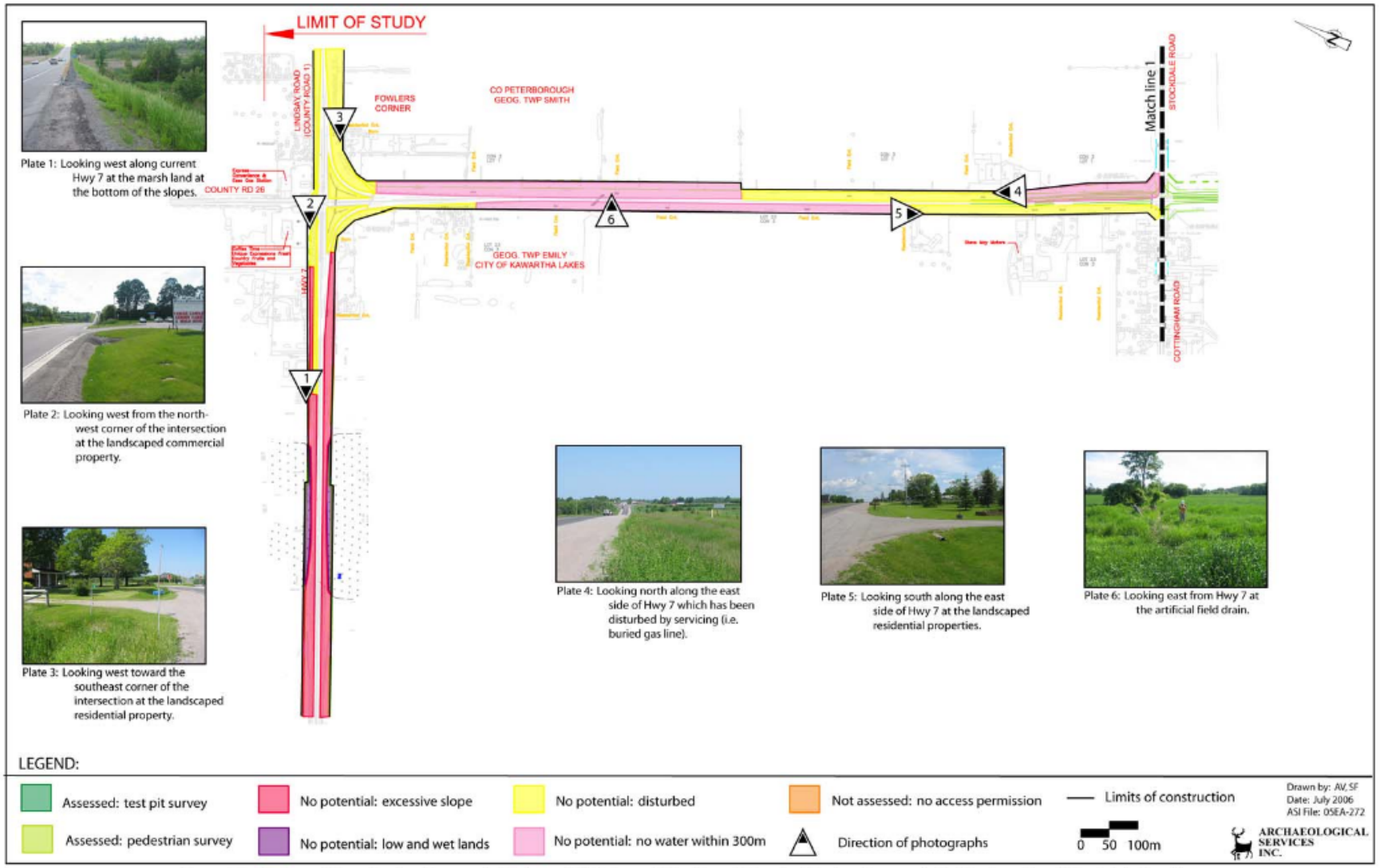

Figure 2.1: Highway 7 from Fowlers Corners to Highway 28/Highway 115- Stage 2 Results (Fowlers Corners to Cottingham Road/ Stockdale Road)

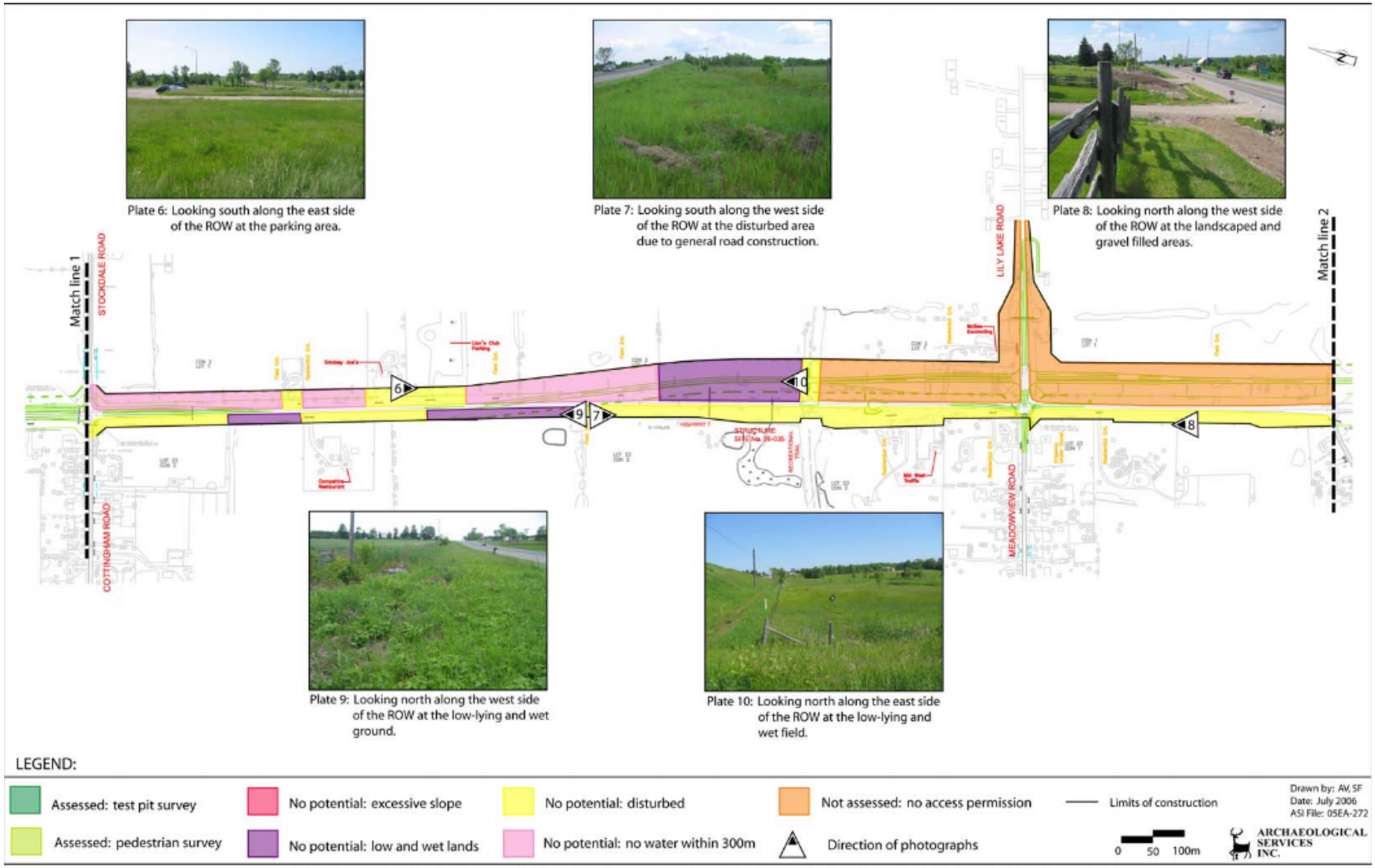

Figure 2.2: Highway 7 from Fowlers Corners to Highway 28/Highway 115- Stage 2 Results (Cottingham Road/ Stockdale Road to Emily Manor Drive)

4.7 Built Heritage / Cultural Heritage

A built heritage and cultural landscape study was completed previously as part of the TESR. The results of this study identified six (6) features within the current project limits. Cultural landscape features included a farm complex and roadscape in proximity to Fowlers Corners, while built heritage features included two (2) barns, one (1) house, and one (1) bridge (Jackson Creek Bridge); however, the report noted that the bridge was of limited heritage value. Recommendations within the report included that wherever any identified above-ground cultural heritage resources are to be affected by loss or displacement, then further research should be undertaken to identify specific heritage significance.

The works proposed as part of the detail design will primarily be maintained within the existing roadway footprint, with the exception of works at the Stockdale Road intersection. No intrusion or impacts to built / cultural heritage features are anticipated from the undertaking.

4.8 Waste and Excess Soil Management

There are no known Municipal waste disposal sites located within the project limits.

No culverts within the study limits were observed, or are assumed to be, coated with asbestos containing materials (ACM). Any excess earth generated is to be managed in accordance with *O.Reg. 406/19: On-site and Excess Soil Management*, OPSS 180, and the contract documents.

Within the study limits, the estimated quantity of excess soil to be generated is approximately 2,714 m^3. This quantity includes material generated from culvert replacements and turning lane installation / extension. To characterize the soil quality within the study limits, soil samples were collected from each location anticipated to generate excess soils and the results were compared to the MECP Excess Soil Quality Standards (ESQS) to determine suitable reuse options for generated excess material.

Section 8 of *O.Reg. 406/19* notes the requirements for registration of excess soils projects. Schedule 2 of *O.Reg. 406/19* provides a list of scenarios under which the non-application (exemption) of section 8 of the regulation applies, including several which are infrastructure specific and related to maintaining infrastructure in a fit state of repair. It is noted that guidance documents from the Government of Ontario specify that actions such as adding capacity or widening of a road would not fall under this exemption. Based on this understanding the project does not meet the requirements of Schedule 2, and filing of a notice on the registry per section 8 is interpreted to be required.

For this project, any excess soils generated are interpreted to be removed from site, and disposed of in accordance with the reuse sites noted in *ENVR0014 – Amendment to OPSS 180, November 2016 – Compliance with Ontario Regulation (O.Reg.) 406/19 for On-Site and Excess Soil Management*.

Based on the results of the soil sampling program, the soil quality at all locations meets the criteria for reuse at one or more reuse sites. The results of the soil sampling program are included in **Appendix E**.

4.9 Land Use and Emergency Services

Land use factors within the study area were identified previously by NCE (2005). Factors identified included residential (urban and rural), commercial, industrial, and tourism, utilities, natural features, and agricultural lands. These findings are consistent with the observations by Ainley Group staff during field visits in June and November, 2024.

During construction, the contractor will be required to liaise with landowners to permit and provide access to property entrances throughout the duration of work.

Emergency services within the project limits include the provision of police, fire and ambulance services. The contractor will be required to provide access for emergency services during construction.

Police Services

Within the project limits and in proximity to, police services are provided by the Ontario Provincial Police (OPP), Peterborough Police Service, and Kawartha Lakes Police. Police detachments include:

OPP – Peterborough County Detachment
453 Lansdowne St. E.
Peterborough, Ontario

Peterborough Police Service
500 Water St.
Peterborough, Ontario

Kawartha Lakes Police Service
6 Victoria Ave. N.
Lindsay, Ontario

Fire Services

Within the project limits, fire services are provided by the Township of Cavan-Monaghan, Township of Selwyn, and the City of Kawartha Lakes. These services are nearest to the project limits at the following fire detachments:

City of Kawartha Lakes – Omemee Fire Station
14 Mary St.
Omemee, Ontario

Township of Cavan-Monaghan – Station 2
1047 Mount Pleasant Rd.
Mount Pleasant, Ontario

Township of Selwyn – Hall 1
833 Ward St.
Bridgenorth, Ontario

Ambulance Services

Within the project limits, ambulance services are provided by the City of Kawartha Lakes and County of Peterborough. These services are nearest to the project limits at the following ambulance detachments:

Kawartha Lakes Paramedic Services
4 Victoria Ave. N.
Lindsay, Ontario

Peterborough Paramedics
1003 Clonsilla Ave.
Peterborough, Ontario

5.0 ENVIRONMENTAL EFFECTS, PROPOSED MITIGATION, AND COMMITMENTS TO FURTHER WORK

A description of the anticipated environmental effects, proposed mitigation, and commitments to further work are described in the sections below. This information is also summarized within the Summary of Environmental Concerns and Commitments Table (**Table 5**).

5.1 Natural Environment

5.1.1 Erosion and Sediment Control

Potential Impacts

Shoulder excavation and grading activities during highway resurfacing, turning lane installation / expansion, and culvert rehabilitations/replacements may result in the release of sediment into roadside drainage ditches and adjacent watercourses/wetlands. In addition, exposed soils and/or stockpiles of excess material (such as earth, rock) located adjacent to the construction areas can result in sediment transport to these areas during rain events. Dewatering and temporary diversion of the watercourses/wetlands can also provide the potential for erosion and sedimentation impacts during construction activities.

Mitigation

In order to mitigate the transport of sediment along ditch lines, as well as exposed soils adjacent to these areas, environmental protection measures including sediment fence and straw bale barriers have been incorporated into the final design and will be installed during construction, prior to upstream grading operations. *OPSS 805 Construction Specification for Temporary Sediment Control* will be included in the contract in order to provide construction specifications for these measures.

Following grading operations around the construction areas, exposed earth will be protected through the application of topsoil, seed and mulch, in accordance with *OPSS 206 – Construction Specification for Grading, OPSS 802 – Construction Specification for Topsoil,* and *OPSS 804 - Construction Specification for Temporary Erosion Control,* respectively.

The NSSP *Erosion and Sedimentation Control – General*, and various environmental operational constraints, have been incorporated into the contract package to identify additional sediment and erosion control measures.

5.1.2 Surface Water Contamination and Debris Accumulation

Potential Impacts

During construction activities, the potential for accidental fuel or lubricant spillage, debris accumulation, and subsequent contamination to surface water is increased. Construction activities may also result in litter and debris accumulation within the Highway 7 project limits.

Mitigation

To prevent the contamination of any surface water features within and adjacent to the project area during construction, precautions will be taken to avoid accidental spillage or discharge of chemical contaminants (e.g., gasoline, oils and lubricants). These precautions require refueling to be carried out in a controlled manner as to prevent fuel spillage and to be conducted at a minimum of 30 m from a watercourse/wetland. The precautions to avoid surface water contamination are outlined in NSSP - *Equipment Refueling, Maintenance and Washing* which indicates the requirement for the added protection of a drip pan to be installed under non-mobile equipment. Contact information for local authorities such as the Ministry of Environment, Conservation and Parks, and the Spills Action Centre is covered by the provisions of the *General Conditions of Contract*.

As required in the NSSP –*Spill Prevention and Response Contingency Plan*, an emergency spill response kit will be on site at all times and in the event that a spill occurs, proper containment, clean up and reporting, in accordance with provincial requirements, is required.

The Contractor will be required to take all necessary precautions to prevent the accumulation of litter and construction debris in any natural areas within and outside of the construction grading limits.

5.1.3 Vegetation

Potential Impacts:

Clearing and grubbing of vegetation is not proposed to occur within the project limits; however, temporary disturbance to vegetation in the ROW may occur during construction activities.

Mitigation:

Mitigation measures are required to limit potential impacts to the natural environment as a result of the proposed work. Mitigation measures include the following:

- The migratory bird timing window will be implemented, as detailed in **Section 5.1.4**.

5.1.4 Wildlife and Bird Migration

The majority of the potential impacts to wildlife are associated with vegetation disturbance, shoulder excavation and grading activities required during highway resurfacing, turning lane installation / expansion, and culvert rehabilitations/replacements.

Potential impacts to SAR are also a concern with the proposed construction activities, and are detailed in **Section 5.1.7**.

Mitigation:

Mitigation measures are required to limit potential impacts to the terrestrial environment, wildlife, and birds during construction activities. Mitigation measures include the following:

- Timing windows
    - To avoid impacts to migratory breeding birds, vegetation removal for construction activities should be avoided between April 15th and August 15th (migratory bird breeding and nesting period). If works are required within this timing window, then the area should be cleared of nests by a qualified avian biologist prior to the activity being undertaken.
- Erosion and sedimentation control measures will be put in place including silt fence barriers, control of dewatering activities, and restoration / re-vegetation of all disturbed areas following completion of earthworks.

5.1.5 Environmentally Sensitive Areas

Potential Impacts:

Two significant natural heritage features; Jackson Creek PSW and Cavan Bog PSW were identified within or adjacent to Highway 7 within the project limits. Watercourses / wetlands that

provide permanent and / or seasonal fish habitat characteristics and / or the potential presence of SAR, are also considered to be generally sensitive features.

Mitigation Measures:

Environmentally sensitive areas will be delineated at the above noted PSWs for the purpose of limiting equipment and worker access to these areas and thereby minimizing environmental impacts to these features.

5.1.6 Fisheries and Associated Habitat

Potential Impacts

Per **Section 4.3**, no fish habitat was observed to be present at the proposed work locations. As such, no impacts to fish or fish habitat are anticipated as a result of the undertaking.

5.1.7 Species At Risk

Potential Impacts

Per the terrestrial ecosystem assessment completed during the study, endangered (END) or threatened (THR) SAR including; Blanding's Turtle (THR), have the potential to be impacted during construction within the project limits.

Mitigation

Mitigation measures for protection of SAR are required, and are anticipated to include the following:

Contract documentation includes direction regarding contractor encounters with SAR. If SAR are identified during construction, all works in the immediate area must cease and the Contract Administrator must be contacted immediately. Harassment to wildlife should not occur during construction activities.

Specific SAR species identified to have the potential to occur within the study area at respective locations are as follows:

Blanding's Turtle

Habitat with apparent suitability for Blanding's Turtles was observed within the project limits during the field reviews, particularly at the following resurfacing locations:

- Monaghan Twp. – Stn. 11+505 to 11+665 Lt – Nesting and Hibernation
- Monaghan Twp. – Stn. 11+505 to 11+670 Rt – Nesting and Hibernation
- Monaghan Twp. – Stn. 11+680 to 11+720 Lt – Nesting and Hibernation

- Monaghan Twp. – Stn. 11+685 to 11+725 Rt – Nesting and Hibernation

The turtle nesting season is identified as May 15th to September 30th. If works are to occur during the nesting season, temporary wildlife fencing should be installed (prior to May 15th) and maintained at the above noted location exhibiting turtle nesting potential.

Stockpiled earth / granular materials in proximity to the areas identified as turtle habitat should be covered with geotextile, or be placed behind an exclusionary barrier, between May 15th and June 30th to prevent turtle nesting.

5.2 Socio-Economic Environment

5.2.1 Noise

Potential Impacts

Roadway construction activities may generate temporary noise conditions that may disrupt the noise environment of adjacent properties during daily construction operations.

The existing noise environment along the Highway 7 corridor is dominated by traffic related noise, with other sources of noise in the vicinity determined to be insignificant in comparison.

Night work is anticipated during the proposed construction.

Mitigation

The contractor will be required to maintain all equipment in an operating condition that prevents unnecessary noise and idling of equipment shall be restricted to the minimum necessary to perform the work.

Night work will be required to complete the required construction; however, it is understood that MTO is legally exempt from municipal noise bylaws. MTO recognizes the impacts construction related noise can have on a community and all reasonable attempts will be made to work within local bylaws when practical, including as appropriate, public notification. The Contractor will be required to notify any residences within 500 m of an area of night work a minimum of five (5) days in advance of the work.

5.2.2 Air Quality

Potential Impacts

During construction dust, fumes and odours may be created by working machinery. These fumes may degrade air quality in the immediate vicinity of the work site.

Mitigation

It is the Contractors responsibility to control dust throughout the project limits. Dust generated during the construction period will be controlled by the Contractor in accordance with *General Conditions of Contract* clause *GC7.07.03.* Odour and fume impacts will be minimized by ensuring that all equipment is properly maintained and that all pollution control devices on the equipment are operational and properly maintained.

5.2.3 Adjacent Lands and Traffic Disruption

Potential Impacts:

Roadway construction is anticipated to temporarily disrupt traffic during the Highway 7 construction activities. Highway 7 and the intersecting roadways are expected to remain open during construction; however, short duration traffic delays may result from lane reductions associated with the proposed undertaking.

Further to the above there are several entrances noted to be in proximity to work locations that may be impacted by construction activities.

Mitigation:

To address potential traffic disruption associated with temporary construction delays, provisions will be included in the contract to address the use of public roadways and disruption of traffic over the duration of the construction. These provisions are found in the *SP 199F01 – Temporary Roadway Closures*, and Notice to Contractor – *Notification of Affected Agencies.* In addition, *OP – Maintenance of Traffic* requires that any work affecting private or commercial entrances be coordinated with property owners.

5.2.4 Management of Excess Material

Potential Impacts:

MTO and Ministry of the Environment, Conservation and Parks (MECP) protocol identifies material-by-material management options both inside and outside of the construction area, which includes the right-of-way and property with a boundary contiguous to the right-of-way.

Some excess materials may be reused within the right-of-way as a construction material (e.g. earth, rock). Management of excess materials outside of the right-of-way will depend upon local circumstances and will be subject to the requirements of the *OPSS 180 – Management of Excess Materials*.

Potential impacts include sediment transport and sediment laden runoff from excess material storage within the highway ROW.

Mitigation:

In order to mitigate the potential impacts associated with excess material storage, runoff from stockpiles will be contained and discharged so as to prevent entry of sediment to watercourses/wetlands as per the environmental Operational Constraint - *Erosion and Sedimentation Control.*

Any waste generated on-site, which requires removal off-site, will be carried out in accordance with *Ontario Regulation 347* under the *Ontario Environmental Protection Ac*t.

Within the study limits, the estimated quantity of excess soil to be generated is approximately 2,714 m^3. This quantity includes material generated primarily from culvert replacements and turning lane installation / extension. To characterize the soil quality within the study limits, soil samples were collected and the results were compared to the MECP Excess Soil Quality Standards (ESQS) to determine suitable reuse options for generated excess material.

Section 8 of O.Reg. 406/19 notes the requirements for registration of excess soils projects. Schedule 2 of *O.Reg. 406/19* provides a list of scenarios under which the non-application (exemption) of section 8 of the regulation applies, including several which are infrastructure specific and related to maintaining infrastructure in a fit state of repair. It is noted that guidance documents from the Government of Ontario specify that actions such as adding capacity or widening of a road would not fall under this exemption. Based on this understanding the project does not meet the requirements of Schedule 2, and filing of a notice on the registry per section 8 is interpreted to be required.

For this project, any excess soils generated are interpreted to be removed from site, and disposed of in accordance with the reuse sites noted in *ENVR0014 – Amendment to OPSS 180, November 2016 – Compliance with Ontario Regulation (O.Reg.) 406/19 for On-Site and Excess Soil Management*.

Based on the results of the soil sampling program, the soil quality at all locations meets the criteria for reuse and one (1) or more reuse sites.

Waste management and stock piling of excess materials will be monitored during construction per *OPSS 805 - Construction Specification for Temporary Erosion and Sediment Control Measures* and the *MTO Construction Administration and Inspection Task Manual*.

5.2.5 Emergency Spill Response

Direct responsibility for containment and cleanup of spills and abandoned materials on MTO highway facilities rests with the owner of the material and person in control of the material at the time of the spill or abandonment. Where spills or abandoned materials occur on MTO highways, MTO or its Contractors respond, when persons legally responsible cannot be located or are not able to respond.

Per the *NSSP –Spill Prevention and Response Contingency Plan* the Contractor will be required to have a spill kit available on site in the event of a spill in or near a watercourse/wetland. All spills

that may have an adverse effect are reported to the Ontario Ministry of Environment, Conservation, and Parks Spills Action Centre (1-800-268-6060) as per *MTO General Conditions of Contract* and respective contract specifications.

5.2.6 Cultural and Heritage Resources

Potential Impacts

As discussed in **Sections 4.5** and **4.6**, there are no anticipated potential impacts to built heritage or cultural resources in the study area as a result of the proposed construction activities.

Mitigation

As noted in *MTO General Condition GC3.07.05* and general practice, should human remains be encountered during construction, such construction activity shall cease, and the proponent shall immediately contact the following: the Contract Administrator, the Ontario Provincial Police, the Registrar of the Cemeteries Regulation Unit of the Ministry of Public and Business Service Delivery (416)-326-8392, and Ministry of Citizenship and Multiculturalism – Archaeology Program Unit. Depending on the antiquity of human remains, certain aboriginal groups may need to be contacted.

Should any cultural heritage remains be encountered during construction activities, such activities shall cease, and the proponent shall immediately contact the Contract Administrator and the Ministry of Citizen and Multiculturalism – Archaeology Program Unit.

Table 5: Summary of Environmental Concerns and Commitments: Highway 7 County Road 26 to County Road 15 – GWP 4044-16-00

I.D. #	Issues/Concerns Potential Effects	Concerned Agencies	I.D. #	Mitigation/Protection/Monitoring	Changes to Mitigation/Protection/ Monitoring (yes/no, describe)	Agency Responses & Dates	New Mitigation/ Protection/ Monitoring	Date of Approvals/Permits/ Authorizations/ Environmental Clearance	Mitigation/Protection / Monitoring in Contract Documents (yes/no-describe)
1	**Erosion and Disturbance:** The excavation and placement of earth material may result in the release of sediment into the watercourses/wetlands. In addition, exposed soils and/or stock piles of excess material (such as earth, rock, concrete or wood) located adjacent to surface water drainage can result in sediment transport to the watercourse/wetland during rain events.	Ministry of the Environment, Conservation and Parks (MECP) Ministry of Natural Resources (MNR)	1.1	In order to prevent the entry of sediment into watercourses this contract includes NSSP *Erosion and Sedimentation Control-General*. Various other sediment and erosion control measures, as well as operational constraints, have been incorporated into the contract package.					
			1.2	Environmental protection measures such as silt fence barriers will be installed during construction. Ontario Provincial Standard Specification (OPSS) *805 - Construction Specification for Temporary Erosion and Sediment Control Measures* and *SP 805F01- Light Duty Silt Fence Barriers* provides construction specifications for these measures. Site features subject to grading will be restored with topsoil, seed and cover in accordance with *OPSS 206 – Construction Specification for Grading, OPSS 802 – Construction Specification for Topsoil*, and *OPSS 804 – Construction Specification for Temporary Erosion Control*.					
			1.3	Per *OPSS 805 - Construction Specification for Temporary Erosion and Sediment Control Measures* all temporary erosion and sediment control measures should be monitored to ensure they are in proper working order during construction.					
2	**Surface Water Contamination and Debris Accumulation:** Construction activities, such as refueling, may increase the potential for accidental fuel or lubricant spillage and subsequent contamination to surface water.	MECP MNR	2.1	Care will be taken to avoid accidental spillage or discharge of chemical contaminants (eg. Gasoline, oils and lubricants). All equipment shall be properly maintained to avoid contaminant leakage and will be free of excess oil/grease. In the event that a spill occurs, proper containment, clean up and reporting, in accordance with provincial requirements, will be completed as in NSSP *Equipment Refueling, Maintenance and Washing.* The relevant local authorities shall be informed as per the *MTO General Conditions of Contract* and respective contract specifications.					

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	Construction activities may also result in litter and debris accumulation within the study area.		2.2	For all mobile equipment, refueling will take place no closer than 30 m from study area wetted roadside channels where possible. For non-mobile equipment, refueling will be carried out in a controlled manner to prevent fuel spillage and a drip pan should be installed under the equipment as outlined in NSSP *Equipment Refueling, Maintenance and Washing.*					
			2.3	Emergency spill response kits will be located on site at all times as in NSSP *Spill Prevention and Response.*					
			2.4	In order to prevent the entry of deleterious materials into watercourses/wetlands, reference in the contract is made to *OPSS 182 – Environmental Protection for Construction in Waterbodies and on Waterbody Banks*, and *OPSS 517 – Construction Specification for Dewatering and Temporary Flow Passage Systems*, and the NSSP - *Erosion and Sedimentation Control-General*. The Contractor will take all necessary precautions to prevent the accumulation of litter and construction debris within any natural areas outside of the construction grading limits.					
			2.5	The Contract Administrator for the project will be responsible for monitoring the Contractor's activities in accordance with the contract package and the *MTO Construction Administration and Inspection Task Manual*.					
3	**Vegetation:**	MNR	3.1	In order to prevent impacts to adjacent watercourses/wetlands and environments, standard environmental protection measures such as straw bale flow checks, and sediment fence barriers will be installed during construction. Ontario Provincial Standard Specification (OPSS) *805 - Construction Specification for Temporary Erosion and Sediment Control Measures* and *SP*					

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I.D. #	Issues/Concerns Potential Effects	Concerned Agencies	I.D. #	Mitigation/Protection/Monitoring	Changes to Mitigation/Protection/ Monitoring (yes/no, describe)	Agency Responses & Dates	New Mitigation/ Protection/ Monitoring	Date of Approvals/Permits/ Authorizations/ Environmental Clearance	Mitigation/Protection / Monitoring in Contract Documents (yes/no-describe)
				805F01- Light Duty Silt Fence Barriers/ Turbidity Dams provides construction specifications for these measures. The Contractor is required to ensure that the disturbance of any active breeding bird habitat / nesting area during vegetation removal activities is prevented per NSSP – *Migratory Bird Protection*. To avoid impacts to migratory breeding birds, vegetation removal for culvert works should be avoided between April 15 and August 15 (migratory bird breeding and nesting period). If works are required within this timing window, then the area should be cleared of nests by a qualified avian biologist prior to the activity being undertaken.					
4	**Management of Excess Material**		4.1	Management of excess materials outside of the right-of-way will depend upon local circumstances and will be subject to the requirements of the *OPSS 180 – Management of Excess Materials (ENVR0014)*. In order to mitigate the potential impacts associated with excess material storage, runoff from stockpiles shall be contained and discharged so as to prevent entry of sediment to watercourses/wetlands as per NSSP *Erosion and Sedimentation Control-General.*					
			4.2	Waste generated on-site, which requires removal off-site, will be carried out in accordance with *Ontario Regulation 347* under the *Ontario Environmental Protection Ac*t. This regulation provides for the transportation and processing of hazardous and non-hazardous waste.					
			4.3	Some excess materials may be reused within the right-of-way as a construction material (e.g. earth).					
			4.4	Waste management and stock piling of excess materials will be monitored during construction per					

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				OPSS 805 - Construction Specification for Temporary Sediment Control, SP804F02 – Timing Constraints for Temporary Erosion Control Measures, and the *MTO Construction Administration and Inspection Task Manual*.					
5	**Wildlife and Bird Migration**	MNR MECP	5.1	Requirement for Contractor to ensure that the disturbance of any active breeding bird habitat/nesting area is prevented per NSSP – *Migratory Bird Protectio*n, NSSP – *Prevention of Wildlife Harassment,* and NSSP – *Protection of Species at Risk*.					
			5.2	Requirement for the Contractor to adhere to NSSP – *Prevention of Wildlife Harassment,* and NSSP-*Protection of Species at Risk,* to ensure that disturbance to SAR is minimized during rehabilitation/replacement activities.					
6	**Cultural and Heritage Resources** No impacts to archaeological or heritage resources are anticipated as a result of the proposed undertaking as all works are to be completed in previously disturbed areas.	Ontario Ministry of Citizenship and Multiculturalism (MCM) Ministry of Public and Business Service Delivery (MPBSD)	6.1	As noted in MTO General Condition *GC3.07.05,* and general practice, should human remains be encountered during construction, such construction activity shall cease, and the proponent shall immediately contact the following: Ontario Provincial Police, the Registrar of the Cemeteries Regulation Unit of the Ministry of Public and Business Service Delivery (416) 326-8392, and Ministry of Citizenship and Multiculturalism – Archaeology Program Unit. Depending on the antiquity of human remains, certain aboriginal groups may need to be contacted.					
			6.2	Should any cultural heritage remains be encountered during construction activities, such activities shall cease, and the proponent shall immediately contact the Ministry of Citizenship and Multiculturalism – Archaeology Program Unit.					

7	**Species at Risk (SAR)** Blanding's Turtle	MECP MTO	7.1	In order to limit the impacts to SAR during construction mitigation measures are to be in accordance with *NSSP – Species at Risk Protection*, including; A trained person who is familiar with the identification of SAR, specifically Barn Swallows, should be on-site to perform a visual sweep/inspection of the culverts and surrounding area for SAR and nests prior to starting work on a daily basis between April 1 to the end of the construction season to ensure that SAR are not present and will not be impacted by equipment or worker activities. Harassment to SAR should not occur during construction activities. The turtle nesting season is identified as May 15th to September 30th. If works are to occur during the nesting season, temporary wildlife fencing should be installed (prior to May 15th) and maintained at the locations exhibiting turtle nesting potential, including: • Monaghan Twp. – Stn. 11+505 to 11+665 Lt • Monaghan Twp. – Stn. 11+505 to 11+670 Rt • Monaghan Twp. – Stn. 11+680 to 11+720 Lt • Monaghan Twp. – Stn. 11+685 to 11+725 Rt Stockpiled earth / granular materials in proximity to the areas identified as turtle habitat should be covered with geotextile, or be placed behind an exclusionary barrier, between May 15th and June 30th to prevent turtle nesting.					

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			7.2	If any species at risk are observed during construction, the Contract Administrator should be contacted immediately in accordance with *MTO General Conditions of Contract* and respective contract specifications.					
			7.3	Harassment to SAR will not occur during construction activities per NSSP - *Prevention of Wildlife Harassment*.					
8	**Noise**	City of Kawartha Lakes Municipality of Cavan-Monaghan Municipality of Selwyn MECP	8.1	All equipment shall be maintained in an operating condition that prevents unnecessary noise and that idling of equipment shall be restricted to the minimum necessary to perform the work as per *SP 199F33 - Construction Noise Constraints (Noise Sensitive Areas).* It is understood that MTO is exempt from municipal noise bylaws; however, for night work the contractor will be required to notify the appropriate municipality. The Contractor will also be required to notify any residences within 500 m of an area of night work a minimum of five (5) days in advance of the work.					
9	**Air Quality** During construction dust, fumes and odours may be created by machinery working within the Highway 7 study limits. These fumes may degrade air quality in the immediate vicinity of the work site.	MECP MTO	9.1	Odour and fume impacts will be minimized by ensuring that all equipment is properly maintained and that all pollution control devices on the equipment are operational and properly maintained as per *MTO General Conditions of Contract.*					
			9.2	Dust generated during the construction period will be controlled by the Contractor in accordance with *General Conditions of Contract* clause *GC7.07.03.*					
10	**Adjacent Lands / Traffic Disruption**	MTO OPP	10.1	The Contractor will address use of public roadways and disruption of traffic / adjacent lands over the duration of the project construction. Associated					

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	The maintenance of traffic on Highway 7 during the construction activities.			measures included in the contract include *SP 100F08M-Protection of Public Traffic, Notification of Affected Agencies and News Releases*, and *OC – Maintenance of Traffic.* Advanced signing will be used on Highway 7 and the local road network to provide local traffic with advanced warning of any closures.					
11	**Emergency Spill Response** In the event that a spill occurs, proper containment, clean up and reporting, in accordance with provincial requirements will be completed.	MECP MNR	11.1	Direct responsibility for containment and clean-up of spills and abandoned materials on MTO project sites rest with the owner of the material and person in control of the material at the time of the spill or abandonment.					
			11.2	Emergency spill response kits will be located on site at all times as in *NSSP – Spill Prevention and Response Contingency Plan*.					
			11.3	All spills that may have an adverse effect are reported to the Ontario Ministry of Environment's Spills Action Centre-1-800-268-6060 as per *MTO General Conditions of Contract* and respective contract specifications.					
12	**Environmentally Sensitive Areas**	MNRF	12.1	Restrictions associated with the environmentally sensitive areas are usually detailed in *Special Provision 199F12 – Environmentally Sensitive Areas*, and include no vehicle or machine access, no vegetation removal, and no stockpiling of materials within the identified areas. Jackson Creek PSW and Cavan Bog PSW have been identified as an Environmentally Sensitive Area within the project limits.					

6.0 PERMITS AND APPROVALS

6.1 Municipal

Municipal permitting is not required when working within the MTO right-of-way. Per **Section 5.2.1**, where night work is required during construction, the Contractor will be required to contact the local residents to provide advanced notice to adjacent properties.

6.2 Provincial

Provincial policy and legislation were reviewed in regards to applicability to the project including; The Provincial Planning Statement (2024), *Endangered Species Act*, *Clean Water Act*, and *Ontario Water Resources Act*.

Provincial permitting is not anticipated to be required for this project; however, the project does not meet the requirements of Schedule 2 of *O.Reg. 406/19*, and filing of a notice on the registry per section 8 is interpreted to be required.

6.3 Federal

Federal permitting is not anticipated to be required for this project.

7.0 ENVIRONMENTAL MONITORING / INSPECTION PROGRAM

7.1 Monitoring

Environmental monitoring of construction stages and operations is an integral component of environmental assessment. For the Ministry of Transportation highway projects, the *MTO Construction Administration and Inspection Task Manual* is employed. This Manual provides task descriptions and guidance to ensure that the quality and quantity of the work is in accordance with ministry specifications, standards, drawings, policies and procedures.

Monitoring ensures that mitigation measures are employed in a timely and proper manner, effective in form and function, appropriate for the local environment and situation, in conformity to contract requirements, and consistent with regulatory agency requirements. This task will fall to the Contract Administrator, and include the following measures:

1. Inspection of implemented mitigation measures prior to construction activities to ensure materials are constructed and installed according to specifications approved by MTO. Should any measures be considered inefficient or deficient, it is the responsibility of the construction team to note and repaired.
2. Should any new or additional environmental impacts be associated to the project through different stages that were previously not identified, it is the responsibility of the contractor and its team to note and recommend preventative solutions.

3. Continued daily inspections of mitigation measures throughout the work areas to ensure effectiveness and if any deterioration or replacement of the mitigation measures are required.
4. Daily wildlife inspections within the work areas are required to ensure none have entered the construction site. Should wildlife be identified onsite, all work should cease and the wildlife allowed to leave the site without any harassment or handling of the animals.
5. Prescribed work areas and construction activities will be monitored to ensure all activities are in compliance with permits, licenses, and approvals granted from agencies and Indigenous communities.

8.0 REFERENCES

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