



Municipality of West Grey
Municipal Class Environmental Assessment
Schedule 'B'
For Structure G-044 Structure, North Line
Environmental Study Report

August 22nd, 2024



105 Queen Street West, Unit 14
Fergus, Ontario N1M 1S6
Tel: (519) 843-3920
Fax: (519) 843-1943
ORANGEVILLE | FERGUS | HARRISTON

Table of Contents

Table of Contents	2
Executive Summary	5
1.0 INTRODUCTION AND BACKGROUND	6
1.1 Municipal Class Environmental Assessment (MCEA) Planning Process	6
1.2 Environmental Study Report Purpose and Organization	10
1.3 Consultation	10
1.4 Project Team	11
2.0 PROJECT BACKGROUND	13
2.1 Background Review	13
2.2 Municipal Class EA Framework	13
2.3 General Description of the Municipality of West Grey	14
2.4 Project Study Area Description	14
2.5 Environmental Setting	15
2.5.1 Significant Natural Areas	15
2.5.2 Areas of Natural and Scientific Interest (ANSI)	16
2.5.3 Aquatic Habitat	16
2.5.4 Species at Risk	16
2.6 Source Water Protection	20
2.7 Climate Change	21
2.8 Planning Policies	22
2.9 Cultural Heritage Evaluations	23
2.9.1 Archaeological Resources	23
2.9.2 Built Heritage Component	23
2.10 Air Quality, Dust and Noise	24
2.11 Structure Rating and Rationale Report	24
2.12 Identified Structural Deficiencies (OSIM Inspection Report)	26
3.0 CLASS EA SCHEDULE B PROCESS PHASE 1: PROBLEM OR OPPORTUNITY	29

3.1	Identification of Problem/Opportunity	29
3.2	Identification of Practical Alternatives	29
3.2.1	Initial List of Alternative Solutions	29
3.3	Alternative Solutions Considered For Evaluation	30
3.4	Evaluation Methodology	31
3.5	Environmental Evaluation	32
3.6	Evaluation of Alternatives Summary	37
3.7	Selection of a Preferred Alternative	37
4.0	PUBLIC AND STAKEHOLDER CONSULTATION	38
4.1	General	38
4.2	Initial Notice of Project Commencement	38
4.3	Government Review Agencies	38
4.4	Indigenous Consultation	38
4.5	Public Information Centre and Comment Period	39
5.0	ALTERNATIVE DESIGN CONCEPTS	40
5.1	Framework of Analysis	40
5.2	Potential Design Option	40
5.2.1	General Project Scope	40
5.3	Impact Assessment and Mitigation Measures	41
5.4	Discussion of Potential Impacts	41
5.4.1	Sediment and Erosion Control	41
5.4.2	Saugeen River	41
5.4.3	EMS Routes During Construction	41
5.4.4	Construction Impacts	41
5.5	Operational Phase	43
5.6	Cost Recovery	43
6.0	APPROVALS AND ENVIRONMENTAL COMMITMENTS	44
6.1	General	44

6.2	Conservation Authorities	44
6.3	Department of Fisheries and Oceans Canada (DFO)	44
7.0	NEXT STEPS – CONSULTATION AND PROJECT IMPLEMENTATION	45
7.1	Selection of a Preferred Alternative	45
7.2	Impact Mitigation	45
7.3	Final Public Consultation	45
7.4	Environmental Commitments	45
8.0	CONCLUSIONS	46
	Appendix A – Saugeen Valley Conservation Authority Watershed Report	47
	Appendix B – Built Heritage and Archaeological Checklists and Reports	48
	Appendix C – Cultural Heritage Evaluation Report & Heritage Impact Assessment	49
	Appendix D - Natural Heritage Study – Existing Conditions Report	50
	Appendix E - Public and Agency Consultation	51
	E.1 Notice of Commencement Related Documents	52
	E.2 PIC Related Documents	53
	Appendix F – Glenelg Structure Rating and Rationale Report	56

Executive Summary

This Environmental Study Report (ESR) summarizes the Schedule 'B' Municipal Class Environmental Assessment (MCEA) process initiated by the Municipality of West Grey in May 2023 to investigate alternative options for Structure G-044 bridge, located on Northline Road approximately 0.35 km east of Glenelg Road 23 and 13.5 km northeast of the community of Durham over the Saugeen River.

As requested by the Municipality of West Grey, Triton Engineering Services Limited (Triton) was appointed to conduct a Class EA investigation intended to evaluate and determine the best course of action to restore traffic on the bridge, establishing the most appropriate structure replacement alternative, while assessing various criteria for this specific location and complete a *Schedule B Municipal Class Environmental Assessment (MCEA) for Structure G-044 (the Project)*.

The background of this study was founded upon recommendations from recent engineering inspections which identified issues with the capacity and structural integrity of the bridge structure. Upon review of the latest OSIM Inspection Report, background information and field investigation, it was determined that *Structure G-044* required replacement.

The purpose of this Class EA undertaking was to determine and evaluate options to address deficiencies identified with Structure G-044, defined in the following project problem statement.

Structure G-044 is in a state of disrepair and recent 2023 OSIM inspection indicates there is severe concrete spalling and disintegration to multiple bridge components and therefore, recommended for replacement to reduce the risk to bridge users and maintain public access to Northline Road.

Reasonable alternatives considered were:

1. Do Nothing
2. Replacement with a single or narrow 2-lane concrete span structure
3. Replacement with a single or narrow 2-lane wood or modular steel structure

As part of this Class EA, a public consultation process was provided which included the following milestones:

- Notice of Project Commencement
- Notice of Public Information Centre #1
- Notice of Completion

Each of these events included advertisements/notifications in the local newspaper, hand delivered to residents' homes and on the Municipality's website. In addition, notification letters were sent to approval agencies, Indigenous Communities, and stakeholders.

1.0 INTRODUCTION AND BACKGROUND

1.1 Municipal Class Environmental Assessment (MCEA) Planning Process

The Municipal Class Environmental Assessment (EA) planning process provides Municipalities with an approved framework to fulfil the requirements of the EA Act for municipal infrastructure projects including roads, sewage (sanitary and storm), potable water and transit. To ensure that a degree of standardization in the planning process is followed across the Province, the EA Act contemplates the use of Class EAs for municipal projects that are carried out routinely and have predictable environmental effects that can be mitigated. Projects that fall into these categories do not warrant an Individual Environmental Assessment (IEA).

In addition to providing Municipalities with an approved planning procedure, the Class EA serves as a public statement of the decision-making process under which municipal projects can be planned and implemented; however, it does not replace or exempt the requirements of other applicable permits and approvals that may be required from federal, provincial, and municipal levels of government. The Municipal Class EA process reflects the following five key principles for successful environmental assessment planning under the EA Act:

- Consultation with affected parties early on and throughout the process such that the planning process is a cooperative venture.
- Consideration of a reasonable range of alternatives, both the functionally different “alternatives to” and the “alternative methods” of implementing the solution.
- Identification and consideration of the effects of each alternative on all aspects of the environment.
- Systematic evaluation of alternatives in terms of their advantages and disadvantages to determine their net environmental effects.
- Provision of clear and complete documentation of the planning process followed, to allow “traceability” of decision-making with respect to the project.

The Municipal Class EA categorizes projects in terms of schedules according to their potential complexity and degree of impact on the environment. The four MCEA project schedules are as follows:

- **Schedule A -- Exempt from the MCEA Process:** Schedule A projects include activities that are limited in scale, have minimal adverse environmental effects, and generally include various municipal maintenance and operation activities. Projects planned under Schedule A are exempt from the EA Act and there is no appeal mechanism (i.e., Section 16 Order Request) to the MECP on these projects.
- **Schedule A+ -- Project Requires Public Notification but is Exempt from the EA Act:** Activities planned under Schedule A+ require the Municipality to inform the public of what is to be undertaken in their local area prior to implementation; however, the method of advising the local community is to be determined by the Municipality. Schedule A+ projects include activities that are limited in scale, have minimal adverse effects on the natural environment and provincially important matters and generally include various rehabilitation works that may be of interest to the local community. Projects planned under Schedule A+ are exempt from the MECP Process and there is no appeal mechanism (Section 16 Order Request) to the MECP on these projects.
- **Schedule B -- Projects Subject to Public Screening:** Schedule B projects have the potential

for some adverse environmental effects. The Municipality must complete Phases 1 and 2 of the Class EA planning process, which involves identifying the problem or opportunity and screening alternatives for their environmental effects and includes mandatory contact with directly affected public and relevant review agencies to ensure that they are aware of the project and that their concerns are addressed. A project file must be prepared and filed for public and review agency comment and is subject to an appeal process. Activities under this Schedule generally include improvements and minor expansions to existing facilities. In accordance with the *Covid-19 Economic Recovery Act*, the appeal process (i.e., Section 16 Order Request) only applies if the objection deals with aboriginal or treaty rights. All other concerns are required to be addressed to the proponent and are subject to an additional 30-day MECP comment period, where MECP will decide if the proponent may proceed with the project as planned, with conditions, or a requirement to elevate the project schedule.

- **Schedule C -- Project is Subject to the Full Class EA Planning Process:** Activities under this Schedule have the potential for significant environmental effects and must proceed under the full planning and documentation procedures specified in the Class EA document, which are Phases 1 through 5. An Environmental Study Report (ESR) must be prepared and filed for public and review agency comment and is subject to an appeal process. Schedule C projects generally include the construction of new facilities and major expansions to existing facilities. Like Schedule B projects, Schedule C projects are subject to appeals (i.e., Section 16 Order Request) if the objection deals with aboriginal or treaty rights. All other concerns are required to be addressed to the proponent and are subject to an additional 30-day MECP comment period, where MECP will decide if the proponent may proceed with the project as planned, with conditions.

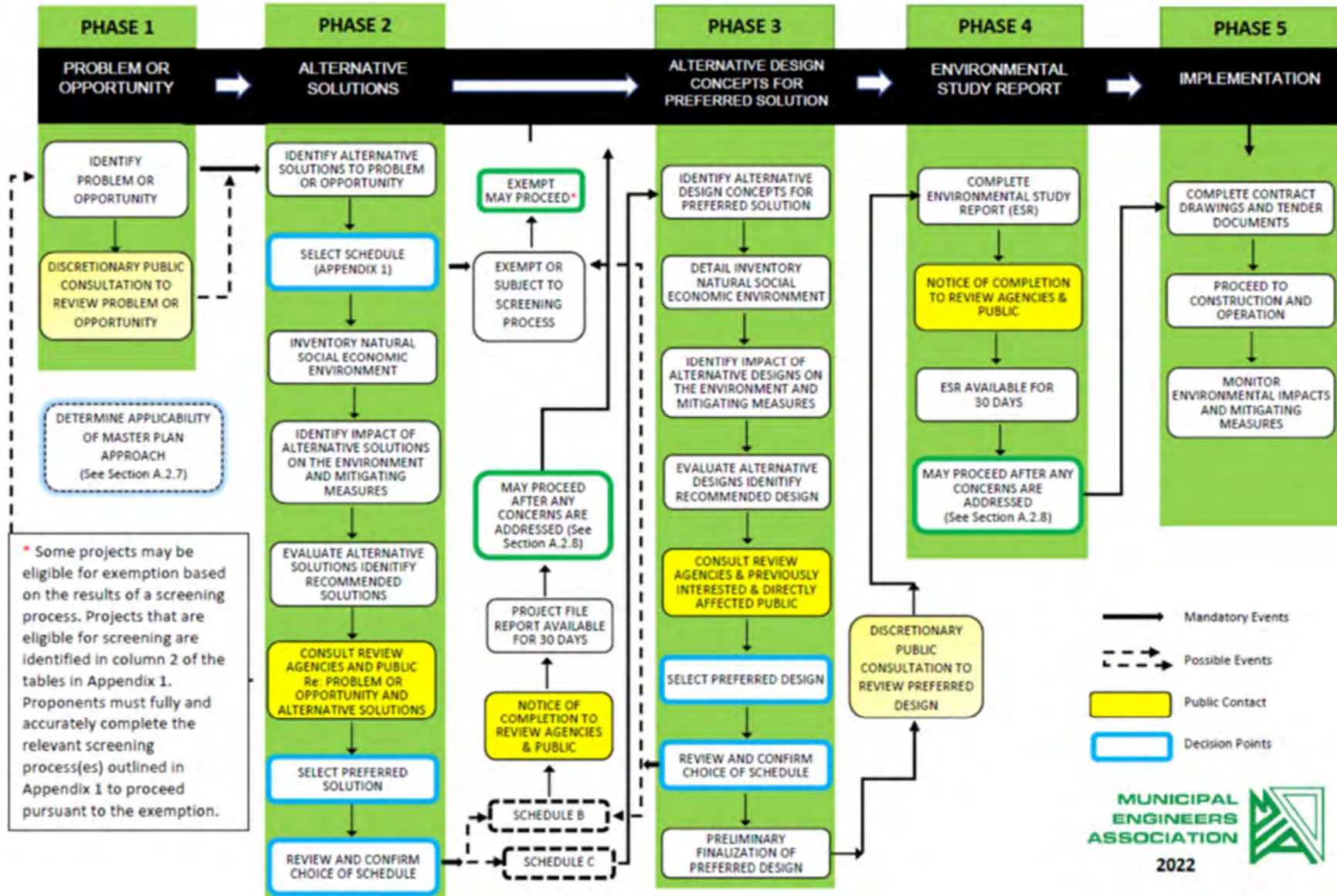
Figure 1.1 below outlines the five phases of the Class EA planning process. A description of each phase is provided below.

- **Phase 1: Problem Identification**
The problem or opportunity statement that is to be addressed by the project is identified. Notification of the project undertaking to the public, review agencies and interested parties is optional in this Phase.
- **Phase 2: Evaluation of Alternatives**
Alternatives to address the problem/opportunity are identified and evaluated in the context of potential natural, social, and economic environmental impacts resulting in the selection of a preferred solution. Consultation with the public, review agencies and interested parties is mandatory in Phase 2 to solicit input and comment. Schedule B projects typically end following the completion of Phase 2, following the filing of a Project File which is first subject to a minimum 30-day public comment period and an additional 30-day comment period by the Minister.
- **Phase 3: Alternative design concepts**
Implementation of the preferred solution identified in Phase 2 are developed and evaluated, including additional mandatory consultation with the public, review agencies and interested parties.
- **Phase 4: Environmental Study Report (ESR)**
This is the culmination of the planning and design process for projects in which all project activities, including the consultation process and results, are documented, and published in an Environmental Study Report that is first subject to a minimum 30-day public comment period and an additional 30-day comment period by the Minister.

- **Phase 5: Implementation and Monitoring of the preferred alternative** including applicable mitigation measures as identified through the Class EA process.

The Municipal Class EA is a self-assessment process, completed by the municipality, that places emphasis on project evaluation and public involvement rather than formal review and approvals. The Class EA document outlines the minimum requirements to conduct a Class EA; however, the municipality is responsible for determining the complexity of the project and tailoring the planning process to meet the minimum requirements and reflect the project specific needs in terms of evaluation and consultation.

Figure 1.1 – Municipal Engineers Association Class Environmental Assessment Planning Process



1.2 Environmental Study Report Purpose and Organization

The Environmental Study Report (ESR) is a requirement of Schedule B Class EA projects. The ESR is prepared following the selection and concept design of the preferred solution, and details of the environmental protection measures that have been finalized for inclusion in the final construction specifications. Further, the ESR provides a complete account of the planning procedures followed for the project, the history and purpose, approach, and evaluates the existing environment and alternative solutions and designs that resolve the identified problem.

The ESR provides a detailed account of all planning procedures undertaken through Phases 1 through 4 of the Class EA process, including details of the project background and purpose, an explanation of the Class EA planning process in general and specific to the project, alternative solutions considered, detailed description of the existing environment and evaluation of the alternative solutions and effects on the environment, alternative designs considered for the preferred solution and the evaluation of alternative designs, details of the preferred design and the work to be undertaken, including mitigation measures and any monitoring programs, and details of the consultation program throughout the planning process.

Upon its completion, the ESR is filed on the public record to allow for comment from the public and all parties that expressed interest in being involved in the planning of the project for a period of at least thirty (30) calendar days. At the time of filing, a Notice of Completion is published to advise the public, including those who have expressed an interest in the project, where the Project File is available for comment and the manner in which public comment is to be received. The Notice of Completion advises the public of their rights with respect to the appeal process.

The *COVID-19 Economic Recovery Act* was passed by the Province on July 21, 2020, resulting in amendments to the Environmental Assessment Act, specifically regarding the Section 16 Order Request (appeal) process. For Municipal Class EAs, the Section 16 Order Request process now only applies for requests to elevate the project to an individual EA such that it “may prevent, mitigate or remedy adverse impacts on the existing aboriginal and treaty rights of the aboriginal peoples of Canada” (Bill 197, *COVID-19 Economic Recovery Act*, Schedule 6, s.25.). All other concerns must be addressed to the proponent during or prior to the thirty (30) days that the project is filed on public record following the Notice of Completion.

Following the end of the 30-day public comment period, the project file is reviewed for an additional 30-days by the MECP to determine whether the project requires conditions for approval or elevation (Section 16 Order Request process). If conditional approval is decided, the Minister will notify the proponent that additional review is required by the Minister to draft the conditions. If the Minister does not respond during the MECP 30-day review period, the project can proceed as per the Class EA recommendations.

1.3 Consultation

Consultation, which is a mutual exchange of information between interested persons (including government approval agencies, First Nation and Indigenous communities, and the public) and the proponent of a project, is an important element of responsible environmental decision making. These parties must be provided with opportunities to contribute to the decision-making process. Consultation protects the public interest and helps to ensure that concerns are identified early and addressed where possible.

As per the Code of Practice titled *Consultation in Ontario’s Environmental Assessment Process* (MECP, January 2014), the purpose of consultation, is as follows:

- to provide information to the public.
- to identify persons and communities who may be affected by or have an interest in the project.
- to ensure that government agencies and ministries and Indigenous communities are notified and consulted early in the environmental assessment process.
- to identify concerns that might arise from the undertaking.
- A request may be made to the MECP for an order requiring a higher level of study, or that a condition be imposed on the grounds that the requested order may prevent, mitigate, or remedy adverse impacts on Aboriginal and treaty rights.
- to create an opportunity to develop proponent commitments in response to local input.
- to focus on and address public concerns rather than regulatory procedures and administration.
- to provide appropriate information to the ministry to enable a fair and balanced decision.
- to expedite decision making.

Projects that are subject to the Class EA process or other streamlined planning process must satisfy the consultation requirements prescribed by the corresponding approved document (i.e., Municipal Engineers Association Class EA document); though, the Code of Practice can be used as an aid to enhance the minimum consultation requirements set out in the corresponding approved document. As per the MEA Class EA document, the minimum consultation requirements for Schedule B projects include an initial Notice identifying the alternative solutions and project classification and provides an opportunity to comment on the project (Phase 2); an opportunity to review the alternative designs and evaluation (Phase 3); and a Notice of Completion and an opportunity to review the ESR (Phase 4). Sections 3.4 and 4.4 of this ESR outlines and documents the consultation completed for this Class EA project.

Approval agency consultation began in the early stages of this project and the public has been invited to comment throughout Phases 1 and 2 of the Class EA. A Public Information Centre (PIC) was held on June 6th 2024. The PIC consisted of a walk-through display with staff from Triton Engineering and Municipal Public Works answering the questions of those who attended.

Notices of the Information centres were advertised in the Hanover Post newspaper and on the Municipality's website in accordance with the Class EA guidelines. In addition, notices and information packages were sent to property owners within 150m of the bridge site, First Nation and Aboriginal communities, and approval authorities. The newspaper advertisement and complete contact list for the Public Information Centres can be found in Appendix E along with the registration list and comments received from the meetings.

1.4 Project Team

Preliminary engineering review for this structure identified that replacement may be a solution to the identified problem/opportunity. Given this potential solution and the probable impacts associated with this solution, this project was considered a Schedule B undertaking, in accordance with the Class EA document. Therefore, project activities are subject to Phases 1 and 2 of the MECP planning process, including the preparation, and filing of an Environmental Study Report. The project team for this Schedule B project includes the proponent and its consultant, with the proponent providing general direction throughout the planning process and its consultant responsible for completing the study on behalf of the proponent. Key Project team members are as follows:

Proponent: Municipality of West Grey
Geoff Aitken, CET, Manager of Public works

Consultant: Triton Engineering Services Ltd.
Chris Clark, P.Eng. – Project Manager

Municipality of West Grey
402813 Grey Road 4
RR#2 Durham, ON, N0G 1R0
Phone: 519-369-2200 Ext. 227
Email: Geoff Aitken publicworks@westgrey.com

Triton Engineering Services Limited
105 Queen Street West, Unit 14
Fergus, ON, N1M 1S6
Phone: 519-843-3920 Ext. 250
Email: cclark@tritoneng.on.ca

2.0 PROJECT BACKGROUND

2.1 Background Review

A background review was carried out to obtain a general characterization of the project study and to identify factors that could influence the selection of alternative solutions to the defined problem.

The background review for this MCEA process incorporated the following activities:

- Compiling of information on the existing infrastructure and environmental setting
- Identification of infrastructure deficiencies at the bridge site
- Preliminary assessment of the identified deficiencies and potential remediation

Key Sources of Information for this analysis:

- Ontario Structure Inspection Manual (OSIM) Report (Burgess Engineering, 2023)
- Glenelg Structure Rating and Rationale Report (WSP, 2019)
- Grey County GIS Mapping Services (Grey County, 2024)
- Government of Canada, Species at Risk Public Registry website
- Ministry of Natural Resources, Natural Heritage Information Centre website
- Saugeen Valley Conservation Authority, Watershed Report card
- Saugeen Valley, Grey Sauble and Northern Bruce Peninsula Source Water Protection
- County of Grey, Official Plan (OP) and Zoning By-Law
- Municipality of West Grey files and staff discussion
- DFO
- ASI Heritage
- Aboud
- CMT Geotechnical Investigation Report

2.2 Municipal Class EA Framework

The Municipality of West Grey (Municipality) initiated a formal MCEA Schedule B MCEA process in May 2023 to define and evaluate options for resolving deficiencies associated with Structure G-044 Bridge, North Line Road in the community of Durham. It was identified at the outset of the MCEA process that the proposed project may include components which would categorize the work as a Schedule B action (e.g., reconstruction and/or relocation of a water crossing). For this reason, the assessment followed the environmental screening process prescribed in the MCEA document for Schedule B projects. The Schedule B screening process incorporates the following primary components:

- Background review.
- Problem/opportunity definition.
- Identification of practical solutions.
- Evaluation of alternative solutions.
- Selection of a preferred alternative solution and implementation.

Figure 2.1 – Key Map of Project Study Area



2.3 General Description of the Municipality of West Grey

The Municipality of West Grey is made up of a number of small urban centres spread throughout a rural landscape, formed by the amalgamation of the former Townships of Normanby, Bentinck and Glenelg, the Town of Durham and the Village of Neustadt.

West Grey is located in the southwest corner of Grey County spanning across the Saugeen River, heavily involved in the agricultural sector in Southwest Ontario. Structure G-044 bridge, located on Northline Road is approximately 0.35 km east of Glenelg Road 23 and 13.5 km northeast of the community of Durham over the Saugeen River.

2.4 Project Study Area Description

Northline is a narrow gravel road with typically steep side slopes down into the roadside ditches. The existing structure is approximately 100 years old and comprises a single lane span solid spandrel concrete arch structure with an approximate span of 15.2 m and an overall width of 6.1m. It is also approximately 4.3 m from the gravel surface over the bridge deck to the river bottom. Frequent pieces of concrete slabs and stacked boulders were observed at the outside edges of the bridge approaches.

Construction will need to be limited to the removal and replacement of the existing concrete bridge structure in order to facilitate the works in a timely manner and minimize environmental impacts.

Due to the advanced state of deterioration, the Municipality has imposed weight restrictions on the bridge, with plans for a replacement structure.

2.5 Environmental Setting

2.5.1 Significant Natural Areas

The project study area is located within the Saugeen River watershed managed by the Saugeen Valley Conservation Authority (SVCA). The study area is situated within a primarily rural landscape, with the Saugeen River crossing beneath North Line Road.

The Ministry of Natural Resources and Forestry (MNR) Natural Heritage Information Centre (NHIC) database was consulted to verify the current status of significant features in the general vicinity of the bridge site. Upon investigation, there were no significant natural features found, as depicted below in Figure 2.2.

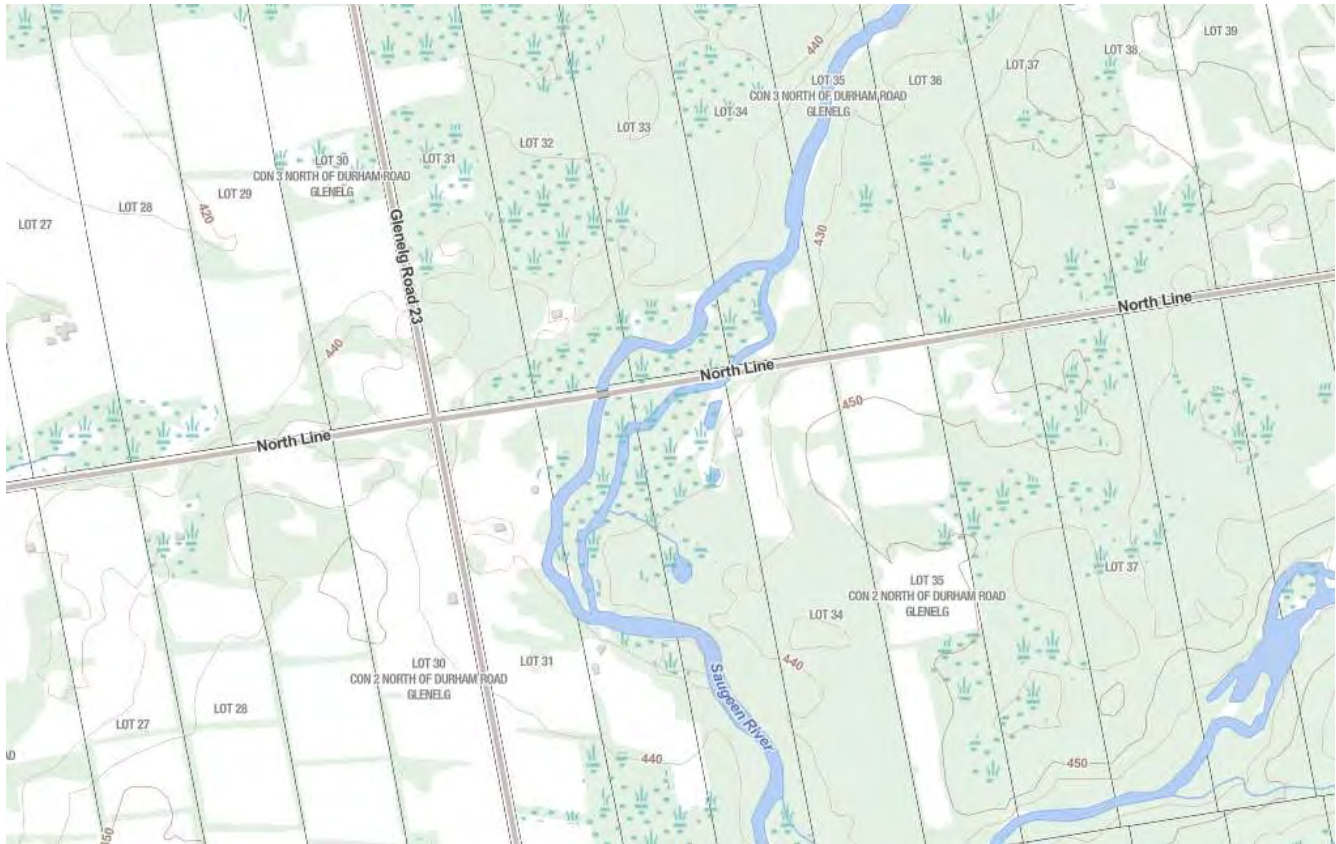
Figure 2.2: No Significant Natural Features in the Proximity of Structure G-044



2.5.2 Areas of Natural and Scientific Interest (ANSI)

A search conducted of the study area on Ontario GeoHub indicated the project site was not in the vicinity of any area of natural and scientific interest, as depicted below in figure 2.3.

Figure 2.3: Areas of Natural and Scientific Interest in the Proximity of Structure G-044



2.5.3 Aquatic Habitat

The Saugeen River flows underneath Structure G-044 at the project site. The Saugeen River is the third longest river system in Ontario with a length of 198 km. The Saugeen River is a coldwater water course with 22 different species of fish inhabiting the river. The Saugeen River Watershed has received a score of 'A' for surface water quality and wetland conditions and a 'B' for forest cover. These grades provided by the Saugeen Valley Conservation Authority (SVCA) indicate that the watershed as a whole is in excellent condition. A copy of the watershed report card is available in Appendix A.

2.5.4 Species at Risk

An evaluation of the presence of significant species and their associated habitats within the area of Structure G-044 have been integrated into the project planning process

The protection for species at risk and their associated habits is directed by the following federal and provincial legislation:

The Federal Species at Risk Act, 2002 (SARA) provides for the recovery and legal protection of listed wildlife species and associated critical habitats that are endangered, threatened or of special concern and safeguards the necessary actions for their recovery on lands that are federally owned. Only aquatic species and bird species included in the Migratory Bird Convention Act (1994) are legally protected on

lands not federally owned; and

The provincial Endangered Species Act (ESA) provides legal protection of endangered and threatened species and their associated habitat in Ontario. Under this legislation, measures to support their recovery are also defined.

Based on the information available for the occurrence of species at risk and their associated habits from the following sources:

- Ministry of Natural Resources and Forestry, Species At Risk by Area
- Natural Heritage Information Centre, Make a Natural Heritage Map
- Environment Canada, Species At Risk Public Registry. SARA Schedule 1 Species List (Government of Canada, 2017)

A summary of federally and provincially recognized species with the potential to be present within the project study area are list in Table 1.

Table 1: Federal and Provincial Species at Risk Within West Grey

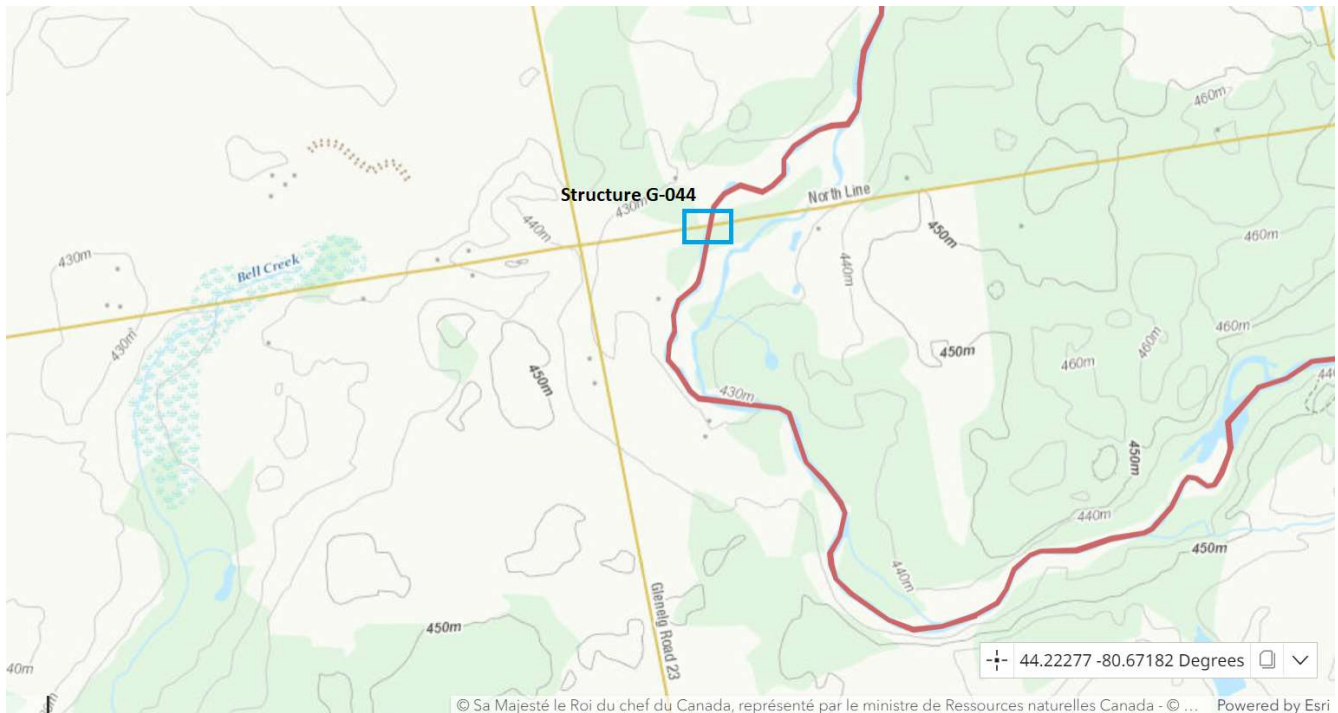
Type	Species Common Name	Species Scitentific Name	Federal Status	Provincial Status	Likelihood of Presence or Impact to Habitat
Amphibian	Jefferson Salamander	Ambystoma jeffersonianum	Endangered	Endangered	No Impact
Bird	Henslow's Sparrow	Ammondramus henslowii	Endangered	Endangered	No Impact
	Whip-poor-will	Caprimlugus vociferous	Threatened	Threatened	No Impact
	Chimney Swift	Chaetura pelagic	Threatened	Threatened	No Impact
	Least Bittern	Ixobrychus exilis	Threatened	Threatened	No Impact
	Black Tern	Childonias niger	N/A	Special Concern	No Impact
	Common nighthawk	Chordeiles minor	Special Concern	Special Concern	No Impact
	Cerulean Warbler	Dendroica cerulean	Endangered	Endangered	No Impact
	Yellow-breasted Chat	Icteria virens	Endangered	Endangered	No Impact
	Red-headed Woodpecker	Melanerpes erythrocephalus	Endangered	Endangered	No Impact
	Louisiana Waterthrush	Seiurus motacilla	Threatened	Threatened	No Impact

	Short-eared Owl	Asio flammeus	Special Concern	Threatened	No Impact
Fish	Redside Dace	Clinostomus elongates	Endangered	Endangered	No Impact
	Shortnose Cisco	Coregonus reighardi	Endangered	Endangered	No Impact
	Pugnosed Shiner	Notropis anogenus	Threatened	Threatened	No Impact
	Lake Sturgeon	Acipenser fulvescens	Special Concern	Special Concern	No Impact
	Shortjaw Cisco	Coregonus zenithicus	N/A	Threatened	No Impact
	Black Redhorse Shiner	Moxostoma duquesnel	Threatened	Threatened	No Impact
	Northern Brook Lamprey	Ichthyomyzon fossor	Special Concern	Special Concern	No Impact
	Deepwater Sculpin	Myoxocephalus thompsonii	Special Concern	Special Concern	No Impact
Insect	Monarch Butterfly	Danaus plexippus	Endangered	Special Concern	No Impact
	West Virginia White	Pleris virginlensis	N/A	Special Concern	No Impact
	Hungerford's Crawling Water Beetle	Brychius hungerford	Endangered	Endangered	No Impact
Mammal	Mountain Lion/Cougar	Puma concolor	N/A	Special Concern	No Impact
Mollusc	Rainbow Muscle	Villosa Iris	Special Concern	Special Concern	No Impact
Plant	Butternut	Juglans cinerea	Endangered	Endangered	No Impact
	American Ginseng	Panax quinquefolius	Endangered	Threatened	No Impact
	Pitcher's Thistle	Cirsium pitcheri	Special Concern	Threatened	No Impact

	Dwarf Lake Iris	<i>Iris lacustris</i>	Special Concern	Special Concern	No Impact
	Tuberous Indian-plantain	<i>Arnoglossum plantagineum</i>	Special Concern	Special Concern	No Impact
	Hart's-tongue Fern	<i>Asplenium scolopendrium americanum</i>	Special Concern	Special Concern	No Impact
	Hill's Pondweed	<i>Potamogeton hillii</i>	Special Concern	Special Concern	No Impact
Reptile	Spotted Turtle	<i>Clemmys guttata</i>	Endangered	Endangered	No Impact
	Queensnake	<i>Regina septemvittata</i>	Endangered	Threatened	No Impact
	Butler's Gartersnake	<i>Thamnophis butleri</i>	Endangered	Threatened	No Impact
	Snapping Turtle	<i>Chelydra serpentina</i>	Special Concern	Special Concern	No Impact
	Milksnake	<i>Lamproptis triangulum</i>	Special Concern	Special Concern	No Impact
	Eastern Ribbonsnake	<i>Thamnophis sauritus</i>	Special Concern	Special Concern	No Impact

The Department of Fisheries and Oceans (DFO) Canada Aquatic Species at Risk Mapping website and MNRF NHIC website database were consulted to determine the likelihood of any species at risk within the vicinity of the project study area and is shown below in figure 2.4. Aboud and Associates (Aboud) was also retained to prepare a report on the existing conditions of the Structure G-044 site.

Figure 2.4: Federal Species at Risk Near Structure G-044



The red line on the figure above represents a critical habitat for aquatic SAR in this stretch of the Saugeen River. Redside Dace are of particular concern in this area as noted by Aboud. It should be noted that **no** SAR, aquatic or terrestrial were observed in the study area during the site visits by Aboud. The bridge site was a previously disturbed area, with limited habitat opportunities and therefore it is not expected to disturb the natural area for the current species who inhabit North Line Road where structure G-044 is located. Given that alternatives presented for Structure G-044 include construction activities of varying degree, best practices would be implemented to ensure minimal disturbance to the natural environment will occur. Some examples would include:

- Using construction techniques that minimize noise, vibration and light pollution;
- timing construction activities so as to avoid hibernation periods;
- Installation of exclusion fencing between the construction zone and SAR habitat;
- Daily searches for species that have breached the barriers prior to construction activities;
- Limiting in-water works between July 1st – September 15th;
- Netting the new structure to prevent nesting; and,
- Limiting tree removals to avoid the nesting time frame for birds.

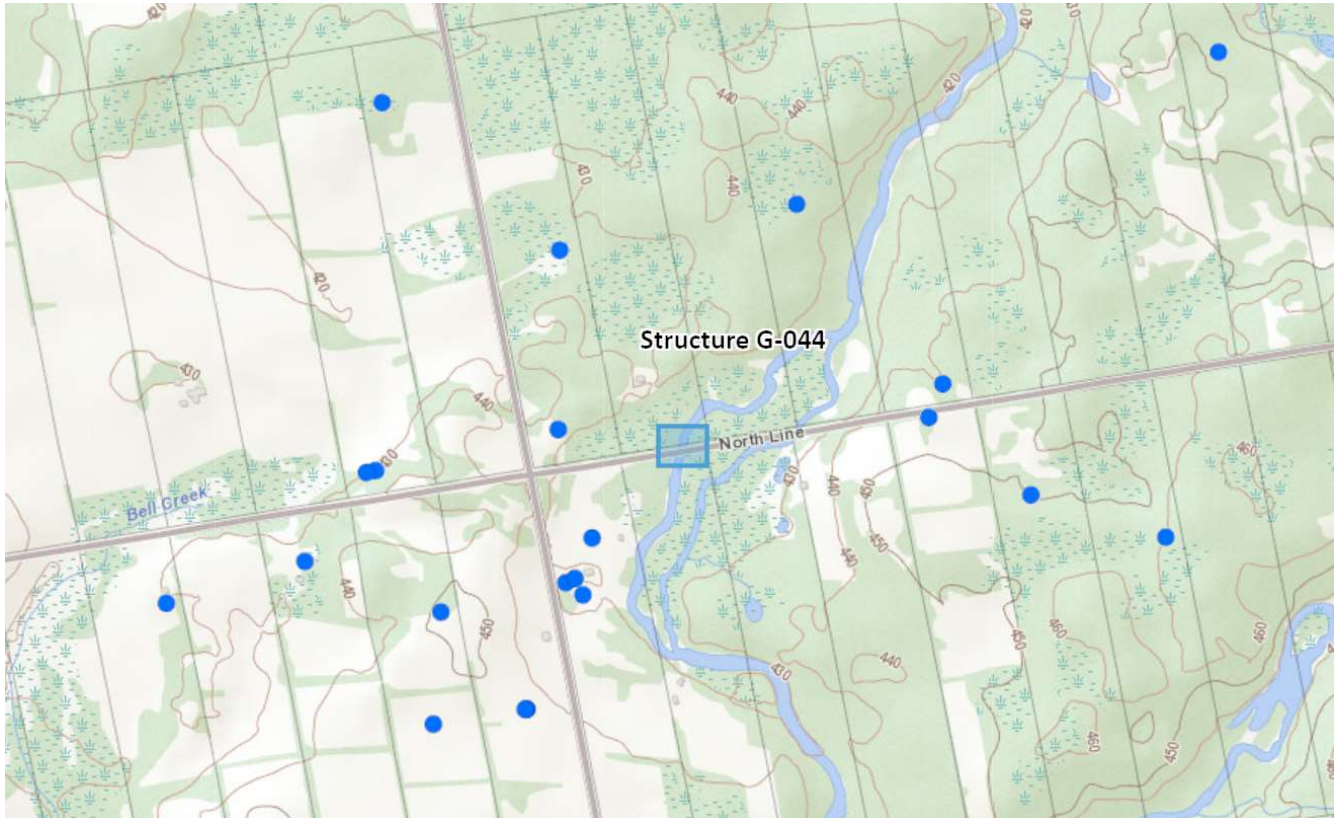
2.6 Source Water Protection

The project study area is located within the Saugeen Valley Source Protection Area Region (Saugeen, Grey Sauble, Northern Bruce Peninsula Source Protection Region, 2015), which is classified as a high vulnerability aquifer. Within the vicinity of the study area, the communities are serviced by municipal

groundwater wells.

At the Structure G-044 site, the adjacent rural properties are serviced by individual private well supplies. The nearest residence is approximately 250 m from the site. The Structure G-044 location is also not considered a wellhead protection area. Given this distance and the nature of the work, impacts to private wells and source water are not anticipated at this time. MECP Source Protection Atlas was used as reference and can be seen below in figure 2.5. The blue dots represent groundwater wells.

Figure 2.5: Source Water Protection Mapping Near Structure G-044



2.7 Climate Change

As part of the MCEA process, the impacts associated with climate change need to be evaluated. Some of the phenomena associated with climate change that will need to be considered include:

- Changes in the frequency, intensity and duration of precipitation, wind and heat events
- Changes in soil moisture
- Changes in sea/lake levels
- Shifts in plant growth and growing seasons
- Changes in in the geographic extent of species ranges and habitat

There are two (2) approaches that can be utilized to address climate change in project planning. These are as follows:

- i) Climate Change Mitigation
- ii) Climate Change Adaption

Through the evaluation of alternatives of the MCEA process, a consideration of each of these approaches is included and considered in the final determination of the preferred approach to completing the project.

2.8 Planning Policies

2.8.1 Land Use Planning

The County of Grey Official Plan and Municipality of West Grey Zoning By-Law were consulted to determine land use designations in the project study area. Residential and agricultural located adjacent to the bridge site are designated as 'Rural' in the County of Grey Official Plan and zoned A2 – Rural. The Rocky Saugeen River and Traverston Creek, along with the wooded areas surrounding the bridge site, are designated as Hazard Lands in the County of Grey Official Plan and Zoned NE: Natural Environment.

Section 7.2 of the County of Grey Official Plan titled "Recolour Grey" outlines permitted land uses on areas deemed "Hazard Lands". It states:

2) Permitted uses in the Hazard Lands land use type are forestry and uses connected with the conservation of water, soil, wildlife and other natural resources. Other uses also permitted are agriculture, passive public parks, public utilities and resource based recreational uses. The aforementioned uses will only be permitted where site conditions are suitable and where the relevant hazard impacts have been reviewed.

Section 6.34 of the Grey County Zoning By-law outlines uses permitted in all zones, it states:

c) any building, structure, use, service, or utility of any department of the Corporation of the Municipality of West Grey, the Corporation of the County of Grey, or the Federal or Provincial Government, Ontario Hydro, or any telephone, telegraph, or gas company shall be permitted in any zone (except for the NE, NE2 and FL zones unless written approval has been given by the Saugeen Valley Conservation Authority and the Municipality of West Grey) provided that such use, building or structure shall comply with the regulations with regard to the height (except where exempted by section 6.4), yard, and lot coverage prescribed for the Zone in which it is located; and any buildings erected or used shall be designed and used in a manner compatible with the area in which it is located.

Given approval from SVCA, DFO and the Municipality, carrying out any of the proposed alternatives would be supported by the Municipality of West Grey By-law as well as the Official Plan of Grey County.

2.8.2 Provincial Planning Policy

The Provincial Policy Statement provides policy direction on matters of provincial interest related to land use planning and development. As a key part of Ontario's policy-led planning system, the Provincial Policy Statement sets the policy foundation for regulating the development and use of land. It also supports the provincial goal to enhance the quality of life for all Ontarians.

The long-term prosperity and social well-being Ontario upon planning for strong, sustainable, and resilient communities for people of all ages, a clean and healthy environment, and a strong and competitive economy.

The fundamental principles set out in the Provincial Policy Statement apply throughout Ontario. To support our collective well-being, now and in the future, all land use must be well managed.

The Provincial Policy Statement provides for appropriate development while protecting resources of provincial interest, public health and safety, and the quality of the natural and built environment. The Provincial Policy Statement supports improved land use planning and management, which contributes to a more effective and efficient land use planning system.

The Provincial Policy Statement is a key consideration for identifying land-use planning objectives and evaluating alternative solutions in Phases 2 and 3 of the Class EA process.

The policies of the Provincial Policy Statement may be complemented by provincial plans or by locally generated policies regarding matters of municipal interest. Provincial Plans and municipal official plans provide a framework for comprehensive, integrated, place-based and long-term planning that supports and integrates the principals of strong communities, a clean and healthy environment, and economic growth, for the long term.

2.9 Cultural Heritage Evaluations

An assessment of potential impacts to archaeological resources, built heritage resources and cultural heritage landscapes must be undertaken in conjunction with the MCEA process. To aid in the determination of potential for cultural heritage landscapes and archaeological and built heritage resources, the Ministry of Heritage, Sport, Tourism and Culture Industries (MHSTCI) provides screening checklists. The checklists were completed and are included in Appendix B.

2.9.1 Archaeological Resources

Triton retained Archaeological Services Inc. (ASI) to prepare a Stage 1 Archaeological Assessment for the Structure G-044 study area. The study area for Structure G-044 had previously undergone deep and extensive land disturbance and therefore, given the nature of work for the alternatives presented, the bridge structure location would not require any further archaeological investigation. A copy of the archaeological assessment can be found in Appendix C.

2.9.2 Built Heritage Component

Given the age of Structure G-044, Triton retained the services of ASI to also complete a Cultural Heritage Evaluation Report (CHER) for the structure site. The purpose of this was to assess the heritage value of the structure and any impacts associated with the proposed alternatives.

Ontario Regulation 9/06 of the Ontario Heritage Act outlines the process for determining the historical and contextual value of structures. This regulation contains nine criteria to use as a tool to assess historical and contextual value. Structure G-033 meets two of the nine criteria, being:

- *The property has design value or physical value because it is a rare, unique, representative, or early example of a style, type expression, material, or construction method.*

Structure G-044 is a single-span concrete barrel arch, reportedly constructed in 1920 to carry the Saugeen River underneath North Line. This structure is one of few remaining representative examples of early twentieth century concrete barrel arch structures in the area is therefore considered significant at the local level in terms of its age, construction and typology.

Given the importance of the structure at the local level, ASI also completed a Heritage Impact Assessment (HIA) for Structure G-044. The following recommendations were made:

- Documentation should be taken to record existing conditions of the structure at a level of detail for the purposes of implementing a program to reverse impacts in the future due to changes in technologies or operational priorities. The OSIM, HIA and CHER are considered sufficient documentation.
- The development of a commemorative strategy should be considered to reduce negative impacts to the historical and associate value of the crossing.
- Replacement of the structure with a sympathetically designed replacement structure (concrete span) to preserve the historical associations with the crossing.
- Submission of the HIA Report to the Ministry of Citizenship and Multiculturalism for review.

The 2024 HIA and CHER completed by ASI are included in Appendix C.

2.10 Air Quality, Dust and Noise

The Structure G-044 site is not considered a source of air quality or dust emissions. The nearest sensitive receptor is a residence and is located approximately 250 m east of the site. Currently, there are no existing sources of dust and emissions within the study area.

2.11 Structure Rating and Rationale Report

In 2019, WSP completed a comprehensive review of different structures within the Municipality of West Grey. This report assessed the value, condition, historical significance and impacts to the community (i.e. emergency response, detours, transportation network) of the bridges and culverts greater than 3 m in span within the Municipality. The intent of the report was to assist the Municipality of West Grey in determining structures that may be suitable for closure, as well as provide recommendations for asset management, in order to remain compliant with *Ontario Regulation 588/17*. Structure G-044 was among those inventoried.

Table 2 below shows the results of the review. The 2019 report identifies the structure in poor structural condition based on the bridge condition index (BCI) and as a structure with low asset value, based on the condition and life-cycle age. Closure of Structure G-044 would have a significant impact on the local residents. With a score of 18 out of 20 and a score of 4 out of 5 for importance to emergency services and detour impact, respectively, structure G-044 is considered an essential route in order to maintain prompt service from emergency and municipal vehicles and for daily travel by residents residing on North Line.

While importance to traffic patterns and the transportation network scored relatively low, both 4 out of a possible 10, the importance of being able to maintain emergency and municipal services as well as convenience for accessing homes, heavily outweighs the fact that North Line is classified as a tertiary road. A copy of the *Glenelg Structure Rating and Rationale Report* by WSP is available in Appendix F.

Table 2: WSP 2019 Structure G-044 Rating

Category	Category Rating	Maximum Category Score
Bridge Condition Index (BCI)	3	20
Asset Value	2	20
Emergency Services – EMS and Fire	18	20
Traffic	4	10
Transportation Network	4	10
Municipal Services – School Board and Waste Management	8	10
Historic Significance	4	5
Detour Impact	4	5
Total	47	100

2.12 Identified Structural Deficiencies (OSIM Inspection Report)

Recent engineering inspections of the structure have identified significant problems with the structural condition of the bridge. These deficiencies are documented in the Ontario Structural Inspection Manual (OSIM) report prepared by Burgess Engineering Inc. in 2023. The structure was recommended for full replacement due to the severity of the deficiencies.

The following represent the primary structural deficiencies and safety concerns associated with the existing crossing:

- Moderate potholing throughout;
- Severe spalling and disintegration throughout barrier and parapet walls;
- Severe spalling throughout concrete curbs;
- Impact damage to the southwest corner;
- Severe spalling and disintegration at inlet and outlet; and,
- Severe scouring at waterline resulting in an undermined structure.

Figures 2.6 through 2.9 below show a visual representation of some of the deficiencies listed above.

Figure 2.6 Deterioration of Parapet Wall



Figure 2.7 Scouring of Wingwall



Figure 2.8 Severe Scouring and disintegration at Waterline



Figure 2.9 Exterior and Interior Soffit with Spalling and Exposed Rebar



3.0 CLASS EA SCHEDULE B PROCESS PHASE 1: PROBLEM OR OPPORTUNITY

3.1 Identification of Problem/Opportunity

The Municipality has undertaken this Schedule B Class EA to examine viable options to address the problem or opportunities and a future plan for the structure. The following **problem statement** was developed for this project:

“Structure G-044 is in a state of disrepair and recent 2023 OSIM Inspection indicates there is severe concrete spalling and disintegration to multiple bridge components and therefore, recommended for replacement to reduce the risk to bridge users and maintain public access to Northline Road.”

It is based on this problem definition that the planning for this Class EA has been undertaken.

3.2 Identification of Practical Alternatives

3.2.1 Initial List of Alternative Solutions

Initially, a list of alternatives is generated as part of Phase 2 of the MCEA process. The alternatives are evaluated in terms of practicality and feasibility to produce a short list of practical alternatives for a more detailed evaluation and review. The initial list of alternatives is summarized below in Table 3.

Table 3: Initial List of Alternative Solutions

Alternative	Initial Evaluation	Carried Forward for Further Evaluation (Yes or No)
Do Nothing	<ul style="list-style-type: none"> • Considered if impacts of other alternatives are too great. • Significant impacts to emergency service response time and detour routes as identified by the WSP study from 2019. • Closure of through traffic on North Line Road. 	Yes – Always considered. This will be Alternative 1.
Rehabilitation	<ul style="list-style-type: none"> • Recent OSIM Inspection Report from 2023 stated rehabilitation is not an option. 	No – This alternative is not feasible due to the current state of disrepair.
Replace with a Single or Narrow Two-Lane Concrete Span Structure	<ul style="list-style-type: none"> • Would allow for the continued use of North Line Road. • Relatively inexpensive structure to replace. • Would be better suited to withstand common weather issues such as ice 	Yes – This will be Alternative 2.

	jams.	
Replacement with a single or Narrow Two-Lane Wooden or Modular Steel Structure	<ul style="list-style-type: none"> • Would allow for the continued use of North Line Road. • Relatively inexpensive structure to replace. • May not be best suited to withstand the effects of ice jams. 	Yes –This will be Alternative 3.

3.3 Alternative Solutions Considered For Evaluation

Three (3) Alternative solutions were considered for evaluation. Anticipated impacts including natural, social, cultural and technical environments were all evaluated for each of the following:

- Alternative 1 – Do Nothing
- Alternative 2 – Replacement with a single or narrow two lane concrete span structure
- Alternative 3 – Replacement with a single or narrow two lane wooden or modular steel structure

Anticipated impacts including natural, social, cultural, economical and built environments were all evaluated for each of the following in section 3.5:

Alternative 1: Do Nothing

This option proposes that no changes or improvements be made to address the identified problem statement. The decision to do nothing is selected when the costs of the alternatives, determined by the five criteria outlined above, outweigh the benefits.

This alternative would result in North Line Road becoming closed to through traffic. This would result in significant impacts to the time and distance required to provide service from emergency and municipal vehicles to residents living on this road. Residents would also be forced to take significant detours accessing their homes, as indicated in the report by WSP in 2019.

Alternative 2: Replacement with a Single or Narrow Two-Lane Concrete Span Structure

This alternative would see a pre-cast concrete span structure installed to replace the current concrete structure and allow for the continued use of North Line Road. Based on the study completed by WSP in 2019, the continued use of this road is vital to maintain emergency and municipal services to residents. North Line Road also sees agricultural traffic, the installation of a new concrete structure would allow for the safe crossing of heavy equipment as opposed to taking lengthy detours on primary and secondary roads.

Alternative 3: Replacement with a Single or Narrow Two-Lane Wooden or Modular Steel Structure

This alternative would provide the same benefits as those listed above under Alternative 2, however, there are concerns regarding how well a wooden or steel structure would withstand common weather issues known to occur on this area, such as ice jams.

3.4 Evaluation Methodology

An evaluation criteria was developed to predict environmental impacts for each of the alternatives carried forward in the MCEA process. The evaluation methodology included review of the following components:

- Existing environmental conditions;
- Existing land use activities, infrastructure and significant natural features;
- Review of proposed alternatives and construction activities related to each;
- Identification and prediction of environmental aspects that may be impacted;
- Financial impacts of each alternative;
- Identification of mitigation measures for environmental impacts; and,
- Selection of a preferred alternative upon analysis.

In order to determine the impacts to the environment from each alternative, it is important to break down and define all components that make up the “environment”. Under the terms of the EA Act, the environment is divided into five general components:

- Social environment;
- Cultural environment;
- Economic environment;
- Built environment; and,
- Natural environment.

Table 4 below shows a description of exactly what each environmental component is comprised of. Input from residents, public agencies, Indigenous Communities and engineering evaluation were all factored in when identifying which components were critical to Structure G-044 specifically.

Table 4: Environmental Evaluation Criteria

Environmental Component	Description
Social	Disruptions to quality of life and health and safety issues and caused by construction activities and the final product.
Cultural	Significant heritage resources found at the bridge site.
Economic	This would include the capital cost as well as maintenance and expected life cycle costs for the proposed works.
Built	Analysis of traffic volume, hydraulics and significant land uses in the area.
Natural	The natural environment component encompasses construction impacts on aquatic species at risk and habitat, hydraulic flow characteristics, water quality, physical properties of native soils and vegetation, drainage characteristics, source water and significant

natural area policies, air quality, dust and noise, erosion, and climate change.
--

The effects to the environment of each alternative evaluated are determined and summarized through an impact criteria. When evaluating each environmental component, the following criteria was used as a thought process to assess each category:

- Scale – the intensity, scope, frequency and duration of the potential impacts;
- The uniqueness and rarity of the affected components;
- Compliance with applicable regulations and public policies; and,
- Mitigation potential – what aspects can be avoided, reversed, or what might require compensation

3.5 Environmental Evaluation

Table 5 below outlines the potential interactions between the alternatives and the environment as part of the evaluation phase. Presenting and detailing how each environmental component is affected by the alternatives will provide a clear insight into the decision-making process when selecting a preferred alternative.

Table 5: Environmental Evaluation Summary

Environmental Component	Alternative 1 – Do Nothing	Alternative 2 – Replacement with a Single or Narrow Two-Lane Concrete Span Structure	Alternative 3 – Replacement with a Single or Narrow Two-Lane Wooden or Modular Steel Structure
Natural – Aquatic Habitat	<ul style="list-style-type: none"> • No change to current conditions. 	<ul style="list-style-type: none"> • Cofferdam would need to be installed to allow for dry work during installation. • Interference to aquatic habitat would occur during construction, however habitats would be restored afterwards. 	<ul style="list-style-type: none"> • Cofferdam would need to be installed to allow for dry work during installation. • Interference to aquatic habitat would occur during construction, however habitats would be restored afterwards.
Natural - Vegetation	<ul style="list-style-type: none"> • No change to current conditions. 	<ul style="list-style-type: none"> • The North Line Road crossing is a previously disturbed area, installing a new 	<ul style="list-style-type: none"> • The North Line Road crossing is a previously disturbed area, installing a new

		<p>structure would only have minor impacts on vegetation near the existing abutments.</p> <ul style="list-style-type: none"> • Some additional trees may need to be removed in order to accommodate construction. • Disturbed areas would mostly be restored after construction. 	<p>structure would only have minor impacts on vegetation near the existing abutments.</p> <ul style="list-style-type: none"> • Some additional trees may need to be removed in order to accommodate construction. • Disturbed areas would mostly be restored after construction.
Natural – Terrestrial Habitat	<ul style="list-style-type: none"> • No change to current conditions. 	<ul style="list-style-type: none"> • Minimal impacts to terrestrial habitat are anticipated from construction. • Disturbed areas would be restored after construction. 	<ul style="list-style-type: none"> • Minimal impacts to terrestrial habitat are anticipated from construction. • Disturbed areas would be restored after construction.
Natural – Air Quality and Noise	<ul style="list-style-type: none"> • No change to current conditions. 	<ul style="list-style-type: none"> • Minimal impacts to air quality and noise during construction activities from standard construction equipment. • Standard construction mitigation measures would be implemented to reduce the construction-related impacts to air quality and noise. 	<ul style="list-style-type: none"> • Minimal impacts to air quality and noise during construction activities from standard construction equipment. • Standard construction mitigation measures would be implemented to reduce the construction-related impacts to air quality and noise.
Natural – Drainage and Erosion	<ul style="list-style-type: none"> • No change to current conditions. 	<ul style="list-style-type: none"> • Construction will result in excavation and regrading. • Implementation of erosion and 	<ul style="list-style-type: none"> • Construction will result in excavation and regrading. • Implementation of erosion and

		<p>sediment controls will mitigate potential impacts.</p> <ul style="list-style-type: none"> Existing drainage features will be restored after construction is complete. 	<p>sediment controls will mitigate potential impacts.</p> <ul style="list-style-type: none"> Existing drainage features will be restored after construction is complete.
Natural - Soils	<ul style="list-style-type: none"> No change to current conditions. 	<ul style="list-style-type: none"> Excess soils will be re-used onsite as much as possible. Excess material will be transported as per O'Reg 406/19, although this amount is anticipated to be minimal. Minimal construction related impacts to soils 	<ul style="list-style-type: none"> Excess soils will be re-used onsite as much as possible. Excess material will be transported as per O'Reg 406/19, although this amount is anticipated to be minimal. Minimal construction related impacts to soils
Natural – Climate Change	<ul style="list-style-type: none"> No change to current conditions. 	<ul style="list-style-type: none"> Construction equipment used will release greenhouse gas emissions Given the relatively short length of construction period, impacts will be minimal. New structure would be designed to withstand climate change related impacts such as increased storm frequency and intensity. 	<ul style="list-style-type: none"> Construction equipment used will release greenhouse gas emissions Given the relatively short length of construction period, impacts will be minimal. New structure would be designed to withstand climate change related impacts such as increased storm frequency and intensity.
Social – Construction	<ul style="list-style-type: none"> No disruptions associated with 	<ul style="list-style-type: none"> Given the relatively short 	<ul style="list-style-type: none"> Given the relatively short

Disruptions	this alternative.	construction time frame, vehicular and pedestrian traffic will need to use an alternate throughout the duration of the project.	construction time frame, vehicular and pedestrian traffic will need to use an alternate throughout the duration of the project.
Social – Quality of Life	<ul style="list-style-type: none"> • Results in lengthy detours for residents who need to access their homes after the inevitable closure. • Significant impact on emergency and municipal services. 	<ul style="list-style-type: none"> • Restores access and eliminates the need for a detour. • Maintains services from first responders and the municipality. 	<ul style="list-style-type: none"> • Restores access and eliminates the need for a detour. • Maintains services from first responders and the municipality.
Social – Health and Safety	<ul style="list-style-type: none"> • No change from current conditions. 	<ul style="list-style-type: none"> • Increased load limit would allow for the structure to be used by all vehicle types that commonly travel North Line Road, including agricultural. 	<ul style="list-style-type: none"> • Increased load limit would allow for the structure to be used by all vehicle types that commonly travel North Line Road, including agricultural.
Cultural – Heritage & Archaeology	<ul style="list-style-type: none"> • With the inevitable removal of Structure G-044, a commemoration strategy will be implemented. • This includes a plaque and submission of a Heritage Impact Assessment to the Ministry of Citizenship and Multiculturalism. • Structure G-044 	<ul style="list-style-type: none"> • With the removal of Structure G-044, a commemoration strategy will be implemented. • This includes a plaque and submission of a Heritage Impact Assessment to the Ministry of Citizenship and Multiculturalism. • A stage 2 archaeological 	<ul style="list-style-type: none"> • With the removal of Structure G-044, a commemoration strategy will be implemented. • This includes a plaque and submission of a Heritage Impact Assessment to the Ministry of Citizenship and Multiculturalism. • A stage 2 archaeological

	meets 1 out of 9 criteria set out in the Ontario Heritage Act and is not considered a community landmark.	assessment is not required as works would only occur on previously disturbed lands. <ul style="list-style-type: none"> • Structure G-044 meets 1 out of 9 criteria set out in the Ontario Heritage Act and is not considered a community landmark. 	assessment is not required as works would only occur on previously disturbed lands. <ul style="list-style-type: none"> • Structure G-044 meets 1 out of 9 criteria set out in the Ontario Heritage Act and is not considered a community landmark.
Economic – Capital and Life Cycle Costs	<ul style="list-style-type: none"> • Capital cost to inevitably remove the structure = \$150,000 	<ul style="list-style-type: none"> • Capital cost = \$1.6-1.8 million • Life cycle cost = Typical annual maintenance. 	<ul style="list-style-type: none"> • Capital cost = \$1.6-1.8 million • Life cycle cost = Typical annual maintenance.
Built – Traffic Patterns & Volume	<ul style="list-style-type: none"> • Although considered a tertiary road, residents on North Line Road would need to take significant detours on other primary and secondary roads to be able to access their homes. • The amount of increased traffic seen on other roads as a result would be minimal to moderate based on traffic counts provided by the Municipality from 2016. 	<ul style="list-style-type: none"> • The continued use of North Line Road would have minimal to moderate effects to traffic patterns and volume seen on other roads. 	<ul style="list-style-type: none"> • The continued use of North Line Road would have minimal to moderate effects to traffic patterns and volume seen on other roads.
Built - Hydraulics	<ul style="list-style-type: none"> • No change from current conditions. 	<ul style="list-style-type: none"> • Best suited to withstand common weather issues known to occur 	<ul style="list-style-type: none"> • Not best suited to withstand common weather issues known to occur

		in the area, such as ice jams.	in the area, such as ice jams.
--	--	--------------------------------------	--------------------------------------

3.6 Evaluation of Alternatives Summary

The anticipated impacts to the economic, built, natural, social and cultural environment were identified in the table above. All parts of the environment were equally weighted when arriving at a selection of the preferred alternative.

Alternative 1: Do Nothing – This alternative has the fewest impacts to the natural, built and economic environment, however, has significant implications for the social environment. This alternative would see the crossing closed and left in its current state. The structure would eventually fail and need to be removed. The continued use of North Line Road is vital for emergency and municipal services, so Alternative 1 is not considered a feasible option.

Alternative 2: Replacement with a Single or Narrow Two-Lane Concrete Span Structure – This alternative maintains the social and built environmental components and sees minimal impacts for the natural environment. The structure only meets one of nine criteria outlined in the *Ontario Heritage Act* and therefore, impacts to cultural heritage are to be minimal as well. As outlined in the previous sections of this report and the WSP report from 2019, the use of Structure G-044 is crucial for the continued municipal and emergency service to residents living on North Line Road. The concrete span structure is also considered to be the best choice to withstand ice jams, known to occur in this area of the Saugeen River.

Alternative 3: Replacement with a Single or Narrow Two-Lane Wooden or Modular Steel Structure – Similar to that mentioned under Alternative 2, this option enables emergency and municipal services to continue their regular routes without timely and lengthy detours. During engineering evaluation, it was determined that a wooden or steel structure would not withstand the effects of ice jams as well as concrete does.

3.7 Selection of a Preferred Alternative

Based on the results of the environmental evaluation above, the preferred solution is **Alternative 2**, replacement with a single or narrow two-lane concrete span structure. With an estimated cost of \$1.6 - \$1.8 million to replace, the strain to the economic environment is easily justified by the resulting detour length needed to be able to access the residential properties on North Line Road. This is especially important for emergency workers where a fast response is crucial, thus upholding the Municipality’s responsibility to maintain service to residents as a requirement of *Ontario Regulation 588/17* and their own *Asset Management Plan*. A new concrete span structure also enables local agricultural traffic to avoid the use of primary and secondary roads, increasing safety to commuters through not having to bypass large vehicles in areas of lower visibility. A concrete span structure is best suited in this particular location to withstand the effects of ice jams along the Saugeen River.

4.0 PUBLIC AND STAKEHOLDER CONSULTATION

4.1 General

Public consultation allows for the sharing and exchange of information with Approval Agencies, Indigenous Communities, Public and Stakeholders who are interested or may be affected during the project and is a key element in the planning, consideration, and influence during the decision-making process.

4.2 Initial Notice of Project Commencement

Contents	Proposed Works, General Study Area, Announcing NOC
First Issued Date	July 12 th , 2023
Posted In	Hanover Post Newspaper and Municipality of West Grey website
Circulated to:	Adjacent Property Owners; review Agencies, Indigenous communities, and Stakeholders
Comments Period:	to July 6, 2024

4.3 Government Review Agencies

Government Agencies who may have an interest in this study were emailed a letter describing the nature of the proposed works and the Notice of Commencement. Appendix D contains a copy of the correspondence emailed to applicable Government Agencies.

Table 6: Summary of Comments and Questions from the Public Information Centre

Government Contact	Summary of Comments
Bell Alliant	Wished to be added to the contact list.
Enbridge	No Enbridge infrastructure in the area.
Eastlink	Acknowledged, no cables in the area.
Hydro One	Acknowledged.
MTO Western Region	Acknowledged.
Ministry of Natural Resources and Forestry	Acknowledged and provided MNRF contacts for the project, if needed.
Ministry of the Environment, Conservation and Parks	Acknowledged and provided supporting documents.

4.4 Indigenous Consultation

First Nation communities must be consulted if there is a potential to impact Aboriginal or treaty rights. As part of the MCEA process, the proponent is responsible to communicate and consult with Aboriginal communities who may be affected by the proposed works. The project site is located on the traditional territory of the Saugeen Ojibway Nation and the Chippewas of Nawash Unceded First Nation. Undisturbed areas onsite including the forested area around the bridge site as well as the Rocky Saugeen River, may be of concern to the Aboriginal groups identified above.

Using the Aboriginal Treaty Rights Information System (ATRIS), five communities were located within proximity (50 km) to the bridge site. These groups included: Chippewas of Saugeen First Nation, Historic Saugeen Metis, Chippewas of Nawash Unceded Nation, Metis Nation of Ontario, and Great Lakes Metis Council. Correspondence was forwarded to each group listed above for input related to potential impacts from the project. Communication with applicable First Nation communities

can be found in Appendix D with a summary of comments provided below in Table 7.

Table 7: Summary of Comments from Indigenous Consultation

Indigenous Contact	Summary of Comments
Metis Nation	Acknowledged.

4.5 Public Information Centre and Comment Period

A Public Information Centre (PIC) was held on Thursday June 6th, 2024, at the Municipality of West Grey’s Municipal Office at 402813 Grey County Road 4, Durham, Ontario. The Notice of Public Information Centre was issued two weeks prior in the Hanover Post, as well as delivered to local residents within the vicinity of the Structure G-044 site and emailed to First Nation communities. The project study team provided a slide show presentation outlining and summarizing findings presented in this Project File Report. Representatives from Triton and the Municipality were in attendance. Comments and feedback were received until July 6th, 2024. The presentation material is included in Appendix D. Table 8 summarizes any comments and questions from the Public Information Centre. No emails or phone calls have been received regarding Structure G-044 throughout the comment period.

Table 8: Summary of Comments and Questions from the Public Information Centre and Comment Period

Question or Comment	Response from Triton/West Grey
Resident in favour of Alternative #2.	Noted.
Resident came into the Municipality office and inquired about the width of the new structure, stating they would like a width of at least 21 ft.	Noted.
Resident emailed and requested that an environmentally friendly option be chosen as well as one that can withstand ice jams.	Noted.

5.0 ALTERNATIVE DESIGN CONCEPTS

5.1 Framework of Analysis

Following the selection of Alternative 2 as the preferred alternative, a study was conducted to further evaluate the potential impacts of the proposed works of Alternative 2. The purpose was to predict how the proposed construction and operation would affect the environment and if it would create long-lasting environmental impacts.

5.2 Potential Design Option

The preferred solution identified through the evaluation of alternatives is the **replacement with a single or narrow two-lane concrete span structure**. A pre-cast concrete structure with a span of 16.2 m and a width of 7m will be installed on North Line to cross the Saugeen River. The load limit will be able to accommodate farm vehicles in the area. A survey will be required beforehand to identify property boundaries and existing drainage features. Design will be in compliance with applicable MTO and West Grey design standards.

5.2.1 General Project Scope

The scope of construction work planned for this project is expected to include the following general components:

a) *Schedule*

- Detailed design summer 2024
- Construction to begin summer 2025
- Construction period approximately 4 months to install new concrete span structure

b) *Estimated Capital Cost*

Estimated capital cost of \$1.6 - \$1.8 million would be comprised of the following components:

- Contractor mobilization to site
- Traffic Control Plan
- Establishment of temporary storage area
- Site cleaning/vegetation removal
- Installation of sediment control devices
- Excavation
- Temporary stockpiling of excavation of material
- Hauling material on/offsite
- Installation of helical piers
- Delivery and installation of concrete span structure
- Site grading

- Sire restoration (seeding/topsoil)
- Contractor demobilization from site

5.3 Impact Assessment and Mitigation Measures

General discussion amongst the project team, government officials and the public, has raised a number of specific environmental concerns which could adversely affect the environment through the implementation of the preferred alternative. These include:

- Sediment and Erosion Control
- Saugeen River
- EMS Routes During Construction
- Construction-Related Impacts

5.4 Discussion of Potential Impacts

5.4.1 Sediment and Erosion Control

A detailed set of sediment and erosion controls will be included in the tender documents. The contractor will be required to follow the outlined protocols and site setup. The sediment and erosion controls will generally be comprised of straw bales in the roadside ditches with a defined flow path to filter out debris and sediment prior to runoff into the Saugeen River. Heavy duty silt fence barriers will be installed along the road at the outermost edge of the construction. Temporary cofferdams will also be set up during in-water works with a pump and filtration system used to remove any water inside of the construction zone. These measures will be put in place prior to the commencement of construction and will be maintained by the contractor throughout the duration of the project. Disturbed areas outside of the gravel roadway will be seeded and restored after the completion of construction.

5.4.2 Saugeen River

Proposed works for the preferred alternative will need to take place in the dry. As mentioned above, a temporary cofferdam will be put in place and water will be pumped out of the construction zone. The cofferdam will only partially block the flow of the Saugeen River, allowing aquatic species to safely pass by the construction zone. Care will be taken to ensure that no deleterious material enters the water course. Heavy duty silt fence barriers will also be put in place to ensure runoff from the construction site is prevented from entering the Saugeen River.

5.4.3 EMS Routes During Construction

Emergency services will be notified well in advance of the commencement of construction. Detours will be planned and analyzed so there is no confusion as to how to get to residential properties on North Line throughout the construction time frame in the event of an emergency.

5.4.4 Construction Impacts

Construction activities associated with the replacement of Structure G-044 will have the potential to impact the natural and social environment. Table 9 below outlines mitigation measures that will be taken to limit the lasting effects of the implementation of the preferred alternative.

Table 9: Summary of Potential Construction Related Impacts on Project Implementation

Construction Impact	Mitigation Measures
Noise Levels	<ul style="list-style-type: none"> • Work will only be permitted between 7am and 5pm to minimize disruptions. • Work will only be permitted from Monday

	<p>to Friday.</p> <ul style="list-style-type: none"> • There will be no weekend or holiday work, with the exception of an emergency situation.
Air Quality	<ul style="list-style-type: none"> • Water will be placed on top of gravel areas to ensure dust production is kept to a minimum. • Constant monitoring for excess dust production. • Reduced vehicle speed limit to limit dust release.
Water and Soil Quality	<ul style="list-style-type: none"> • Sediment and erosion controls such as silt fences, straw bales and filtration fabric, will be implemented prior to the start of construction. • Drainage patterns will be maintained and directed, throughout the project, to the appropriate sediment and erosion control.
Construction Equipment Maintenance	<ul style="list-style-type: none"> • Designated area for fixing broken down equipment as well as refueling activities. • Spill kits maintained and ready to use in the event of a leak or spill.
Disposal	<ul style="list-style-type: none"> • Excess soils will be taken to pre-approved landfill sites. • Proper storage and disposal containers for construction waste. • Discharge of fuels, lubricants and other fluids used in the construction process, to the watercourse is strictly prohibited.
Site Excavation	<ul style="list-style-type: none"> • Excavation will only be as per limits shown on the construction drawings. • Trees removals will be restricted to limits required to expedite construction and avoided if possible. • Protective fencing shall be used to safeguard trees. • Construction site and removal limits will be surveyed and marked in the field prior to the commencement of construction.
Wildlife	<ul style="list-style-type: none"> • Daily searches prior to commencing work will be undertaken to ensure wildlife has not breached the construction zone. • Areas shall not be disturbed unless deemed necessary for the construction process. • Structure will be netted to prevent nesting. • Trees will be removed outside of the breeding time window for birds

5.5 Operational Phase

After the project has been completed, the Municipality will maintain the road with regular Municipal practices and standards. Road maintenance and servicing will be included in the Municipal schedule and budget. Emergency services and response times will remain the same.

5.6 Cost Recovery

The anticipated capital cost of this project for the preferred alternative is approximately between \$1.6 - \$1.8 million + HST. The proponent intends to finance the cost of this project through their public works budget.

6.0 APPROVALS AND ENVIRONMENTAL COMMITMENTS

6.1 General

In order to implement the preferred alternative, approval from all applicable governing bodies is required. Upon review, approval from the governing conservation authority as well as the Department of Fisheries and Oceans Canada (DFO) is typically required for work involving a water crossing. This project is also governed by the Schedule B MCEA process. The following steps are required in order to finalize this MCEA:

- This report is subject to a 30-day comment period
- Respond to comments and address any outstanding concerns
- Notice of completion submitted to the Municipality as well as the MECP
- Address any concerns from the Municipality or the MECP

6.2 Conservation Authorities

The proposed work is located within the jurisdiction of the Saugeen Valley Conservation Authority. The work involved with the replacement of Structure G-044 will require approval from the SVCA as per the *Conservation Authorities Act*.

6.3 Department of Fisheries and Oceans Canada (DFO)

Due to the nature of work anticipated, a request for comment will be submitted to the DFO. approval from DFO is required prior to the Municipality commencing this project. There are no concerns anticipated upon a request for comment as all measures possible will be taken to ensure minimal lasting impacts to the aquatic habitat at the project site.

7.0 NEXT STEPS – CONSULTATION AND PROJECT IMPLEMENTATION

7.1 Selection of a Preferred Alternative

The preferred alternative is Alternative 2: Replacement with a single or narrow two-lane concrete span structure. This allows for the continued use of North Line Road and enables emergency and municipal services to be maintained. This provides residents and farmers with an alternate route as opposed to using primary roads and increasing traffic volume and patterns elsewhere. Being able to maintain essential infrastructure without disrupting service is a key requirement in order to remain compliant with *O'Reg 588/17* and the *Municipality of West Grey's Asset Management Plan*. A concrete structure is also better suited to withstand impacts of ice jams.

7.2 Impact Mitigation

Potential impacts to all aspects of the environment from the implementation of the preferred alternative have been outlined and are able to be mitigated, leaving no lasting effects after the project completion. Therefore, the preferred alternative is appropriate to address the problem statement, and provides minimal to no permanent effects to the natural, built, cultural, economic and social environments.

7.3 Final Public Consultation

Following the completion and distribution of this ESR, another 30-day comment period will take place. A notice of completion will be circulated amongst residents and government review agencies. The notice will provide the selection of the preferred alternative as well as instructions on how to comment on this phase of the MCEA process. All concerns will be addressed as per Section A.2.8 of the 2024 MCEA document prior to moving forward to the next phase: project implementation.

7.4 Environmental Commitments

The Municipality is committed to following the MCEA Schedule B process for the replacement of Structure G-044. As part of the process, Triton retained ASI to complete the following items:

- Cultural Heritage Evaluation Report
- Heritage Impact Assessment
- Stage 1 Archaeological Assessment

To ensure due diligence and transparency with the MCEA process, the following groups of people were contacted upon commencement of the MCEA:

- Ministry of the Environment, Conservation and Parks
- Ministry of Citizenship and Multiculturalism
- Saugeen Valley Conservation Authority
- First Nations Communities
 - Chippewas of Saugeen First Nation
 - Historic Saugeen Metis
 - Chippewas of Nawash Unceded Nation
 - Metis Nation of Ontario
 - Great Lakes Metis Council

The following governing bodies will also be contacted in order to obtain regulatory compliance:

- Saugeen Valley Conservation Authority
- Department of Fisheries and Oceans Canada

8.0 CONCLUSION

This report documents the Schedule B MCEA process for Structure G-044 and how a preferred alternative was selected to address the structure deterioration and impending closure. Required governing bodies, residents within the proximity of Structure G-044 on North Line, as well as applicable Indigenous Communities, were sent a notice of commencement via mail or email to ensure transparency and provide feedback and/or guidance when arriving at a preferred alternative. A 30-day comment period was open to all members of the public, Indigenous Communities, and governing bodies prior to the completion of this ESR.

This MCEA for Structure G-044 considered replacement with a single or narrow two-lane concrete span structure, replacement with a single or narrow two-lane wooden or modular steel structure, and do nothing. Feedback for this particular MCEA was minimal, with the comments being in favour of the preferred alternative.

The preferred alternative was the replacement of Structure G-044 with a single or narrow two-lane concrete span structure. The need for replacement was analyzed from the *Glenelg Structure Rating and Rationale Report* prepared by WSP in 2019. It can be interpreted from the assessment that although North Line is considered a tertiary road, and its closure would not have a large impact on the transportation network and local traffic patterns, there would be a significant impact to emergency and municipal service response times. For these reasons a replacement was deemed mandatory for the Municipality to withhold their duty to *O'Reg 588/17* and their own *Asset Management Plan*. A concrete span structure was chosen through engineering analysis as best suited to withstand common weather conditions known to occur in the area, such as ice jams.

ASI was retained to perform a heritage impact assessment to offer guidance regarding the historical significance of structure G-044. Their findings indicated that the structure met one of nine criteria outlined in the *Ontario Heritage Act*, and therefore is considered to have some historical significance at the local level. The recommendations made were to document the existing conditions of the structure and submit the HIA to the Ministry of Citizenship and Multiculturalism. It was noted that the preferred replacement structure is a concrete span structure for heritage purposes, as well as technical, as mentioned above. A suitable commemoration strategy should also be considered, ie; a plaque.

Respectfully Submitted by
Triton Engineering Services Limited



Mike Heath, B.Eng.

Appendix A – Saugeen Valley Conservation Authority Watershed Report

2023 Saugeen Valley Conservation Authority Watershed Report Card

Saugeen Conservation has prepared this report card as a summary of the 2017-2021 state of water quality, forests, and wetlands in our watershed. These report cards are released every five years together with Conservation Ontario.

A watershed describes an area, and the waterways that flow through it and towards a major outlet such as a lake. Everything in a watershed is connected and actions upstream can affect conditions downstream.

We measure certain features in our watershed to learn about their current condition, as well as trends. This information helps us plan for the future.

The map below shows all 36 conservation authorities, and Saugeen Conservation's boundaries.



1. Groundwater

Groundwater is flowing water that is found below the ground, that is often stored in aquifers. Groundwater is monitored at 23 sites in our watershed through the Provincial Groundwater Monitoring Network (PGMN). Groundwater quality for this report was graded on chloride and nitrogen (nitrate + nitrite) levels.

Chloride and nitrogen can exist naturally, however natural levels in water are generally minimal. Increased levels in our waterways can be related to:

- the use of road salts (chloride only)
- septic systems
- fertilizers and manure
- industrial discharge
- erosion

What's different in this report card?

Previous watershed report cards only used five years of data to come up with their findings. This report card uses a minimum of ten years of data, or more if it was available for a better view of long-term trends.

Our Findings:

Chloride levels at all tested sites received a grade of A (excellent).

Nitrogen levels at most (86%) of the sites received a grade of A (excellent).

Two sites received nitrogen grades of B (good) and one site received a D (poor).

Different nitrogen grades from these sites could be caused by using more data from a longer period of time. The three sites that did not receive an A grade are in locations where we might expect to see higher levels of nitrogen, based on their environments.

The map is a visual representation of our findings.



Note:

- These findings are not to be considered indicators of drinking water quality.

- Groundwater quality results being reported are specific to the site location and do not apply to the watershed as a whole.
- No biological levels (ie. *E.coli*) were considered.

2. Surface Water Quality

Surface water is monitored at 31 sites along major streams and rivers in our watershed. This monitoring happens through the Provincial Water Quality Monitoring Network (PWQMN) and through Saugeen Conservation's own network. Sampling occurs monthly from April to November each year. Surface water quality for this report was graded on phosphorus, *Escherichia coli* (*E.coli*), and benthic macroinvertebrates.

Phosphorus is an essential nutrient for all living organisms, however it can have harmful effects on aquatic life at high levels. Phosphorus levels can be natural, and increase with human influence.

E.coli is a type of bacteria commonly found in the intestines of warm blooded animals. *E. coli* is often used as an indicator of contamination from human and animal waste. *E.coli* levels may increase after heavy rainfalls and snowmelt.

Benthic macroinvertebrates refer to small aquatic bugs that live on the bottom of streams, rivers, and lakes; they can tell us about long term water quality because they are sensitive to their environments. Certain types of bugs can only thrive in good water, as they have a low tolerance to pollution.

What's different in this report card?

Previous watershed report cards only used the downstream monitoring sites. This report card used data from all surface water sites in our watershed. Using more data allows us to have more confidence in our findings.

Our Findings:

- Overall grades range from A (Excellent) to C (Fair), with mostly (60%) B (Good) grades.
- Most overall grades have not changed from the 2018 report card, however the Beatty Saugeen River, Lake Fringe and Upper Main Saugeen River areas have improved.
- Phosphorus grades fell in the South Saugeen River and Lower Main Saugeen River. Remaining grades stayed the same.
- *E.coli* grades remained mostly unchanged across the watershed, with improvement for the Penetangore River area.
- Benthic macroinvertebrate grades generally improved.

The map is a visual representation of our findings.



Note:

Streams and rivers are constantly changing, and water quality results represent only a snapshot in time.

3. Forest Conditions

Forests provide important habitat for wildlife and plants. Forests also give us cleaner air and water, economic benefits, and recreational areas for people to enjoy.

Forest conditions in the 2022 report card were graded on the percentage of forest cover, forest interior and riparian cover, which is the area between land and a river or stream.

Forests in our watershed have changed since early settlement, with agriculture and housing development driving the demand for forest clearing. The growing presence of invasive plant and animal species can also overwhelm forests.

Geographic Information Systems (GIS) tools were used to determine forest grades.

Our Findings:

- Grades range from A (excellent) to D (poor), with mostly B (good) and C (fair).

The map is a visual representation of our findings.



Note:

- Forests grow slowly, but the benefits begin as soon as trees are planted. Changes in forest cover will be noticed in five years or more.
- In 2022, Saugeen Conservation planted 28,000 trees and more than that number again were sold directly to landowners for independent planting.

4. Wetland Conditions

Wetlands play a very important role in our watershed. They help lessen the impact of floods and droughts, protect our shorelines, absorb pollutants, improve water quality, and provide habitats for many species. Protecting our wetlands is critical to the well being of people and our planet.

Wetlands were graded on the percentage of wetland cover. Geographic Information Systems (GIS) tools were used to inform wetland grades.

Our Findings:

- Grades range from A (excellent) to D (poor) with mostly excellent grades.
- Only 17.5% of the Saugeen watershed is covered by wetlands.

The map is a visual representation of our findings.



What can you do to support the health of our watershed?

- Support your local conservation authority through donation
- Volunteer with local environmental organizations
- Advocate for the environment through delegations to municipal council, and engaging your elected officials
- If your municipality has an environmental committee of council, consider joining
- Ask your local government to support environmental initiatives
- If you have a septic system, inspect and pump it every three to five years
- Decommission unused or damaged wells
- Dispose of household chemicals at hazardous waste depots
- Plant native species and educate yourself on invasives in your area

Consider how we are all connected.

Have questions?

Saugeen Conservation
 1078 Bruce Rd. 12 Box 150, Formosa, ON, NOG 1W0
publicinfo@svca.on.ca 519-364-1255
www.watershedcheckup.ca

Appendix B – Built Heritage and Archaeological Checklists and Reports

Stage 1 Archaeological Assessment Northline Road Structure 44 and Traverston Road Structure 33 (Geographical Township of Glenelg, County of Grey) Municipality of West Grey

Original Report

Prepared for:

Triton Engineering Services Limited

The Old Post – 39 Elora Street
Harriston ON N0G 1Z0

Archaeological Licence: P383 (Williams)
PIF P383-0396-2023
Archaeological Services Inc. File: 23EA-123

20 September 2023



Executive Summary

Archaeological Services Inc. was contracted by Triton Engineering Services Limited, on behalf of the Municipality of West Grey, to conduct a Stage 1 Archaeological Assessment (Background Research and Property Inspection) as part of the Northline Road Structure 44 and Traverston Road Structure 33 project. This project involves the evaluation of preferred alternatives for Structures 33 and 44 in order to address structural deficiencies.

The Stage 1 Study Area includes the Structure 44 culvert along Northline Road and its right-of-way as well as the Structure 33 bridge along Traverston Road and its right-of-way.

Stage 1 background research determined there are no previously registered archaeological sites located within one kilometre of the Study Area. The property inspection determined that parts of the Study Area exhibit archaeological potential and will require further archaeological assessment.

The following recommendations are made:

- 1) Parts of the Study Area exhibit archaeological potential. These lands require Stage 2 archaeological assessment by test pit survey at five metre intervals, where appropriate. Stage 2 is required prior to any proposed construction activities on these lands;
- 2) The remainder of the Study Area does not retain archaeological potential on account of deep and extensive land disturbance. These lands do not require further archaeological assessment; and,
- 3) Should the proposed work extend beyond the current Study Area, further archaeological assessment should be conducted to determine the archaeological potential of the surrounding lands.



Project Personnel

- **Senior Project Manager:** Lisa Merritt, MSc. (P094) Partner, Director, Environmental Assessment Division
- **Project Manager:** Eliza Brandy, MA (R1109), Associate Archaeologist, Project Manager, Environmental Assessment Division
- **Project Director:** Blake Williams, MLitt (P383), Lead Archaeologist, Project Manager, Environmental Assessment Division
- **Division Coordinator:** Katrina Thach, BA Hons. (R1225), Associate Archaeologist, Assistant Manager, Environmental Assessment Division
- **Project Administrator:** Catherine Kitchen, BA (R1364), Archaeologist, Project Administrator, Environmental Assessment Division
- **Field Director:** Blake Williams
- **Report Preparation:** Laura Burke, BA Hons. (R1113), Associate Archaeologist, Technical Writer and Researcher, Environmental Assessment Division
- **Graphics:** Robin Latour, MPhil, PDip, Associate Archaeologist, Geomatics Specialist, Operations Division; Jonas Fernandez, MSc (R281), Lead Archaeologist, Manager - Geomatics, Operations Division; Carolyn Nettleton, BA, Archaeologist, GIS Technician, Operation Division
- **Report Review:** Eliza Brandy, Lisa Merritt



Table of Contents

Executive Summary	2
Project Personnel	3
Table of Contents	4
1.0 Project Context	5
1.1 Development Context	5
1.1.1 Treaties	5
1.2 Historical Context	7
1.2.1 Indigenous Land Use and Settlement	7
1.2.2 Post-Contact Settlement	10
1.2.3 Map Review	12
1.2.4 Aerial and Orthoimagery Review	13
1.3 Archaeological Context	13
1.3.1 Geography	13
1.3.2 Previously Registered Archaeological Sites	15
1.3.3 Previous Archaeological Assessments	15
2.0 Property Inspection	16
2.1 Field Methods	16
2.2 Current Land Use and Field Conditions	17
3.0 Analysis of Archaeological Potential	17
3.1 Conclusions	18
4.0 Recommendations	18
5.0 Legislation Compliance Advice	19
6.0 Bibliography and Sources	20
7.0 Images	25
7.1 Field Photography	25
8.0 Maps	31



1.0 Project Context

Archaeological Services Inc. (ASI) was contracted by Triton Engineering Services Limited, on behalf of the Municipality of West Grey, to conduct a Stage 1 Archaeological Assessment (Background Research and Property Inspection) as part of the Northline Road Structure 44 and Traverston Road Structure 33 Municipal Class Environmental Assessment. This project involves the evaluation of preferred alternatives for Structures 33 and 44 in order to address structural deficiencies.

The Stage 1 Study Area includes the approximately 20 metre right right-of-way and 20 metres on either side of each bridge at Structure 44 bridge along Northline Road and Structure 33 along Traverston Road (Figure 1).

All activities carried out during this assessment were completed in accordance with the *Ontario Heritage Act* (1990, as amended in 2023) and the 2011 *Standards and Guidelines for Consultant Archaeologists (S & G)*, administered by the Ministry of Citizenship and Multiculturalism (MCM 2011).

1.1 Development Context

All work has been undertaken as required by the *Environmental Assessment Act, RSO* (Environmental Assessment Act, R.S.O. c. E.18, 1990 as amended 2022) and regulations made under the Act, and are therefore subject to all associated legislation.

This project is being conducted in accordance with the *Municipal Class Environmental Assessment* process (Municipal Engineers Association, 2023).

Authorization to carry out the activities necessary for the completion of the Stage 1 archaeological assessment and property inspection was granted by Triton Engineering Services Limited on June 16, 2023.

1.1.1 Treaties

The Study Area is located in the traditional territory of the Saugeen Ojibway Nation (SON) the collective name for the Saugeen Ojibway First Nation and the



Chippewas of Nawash Unceded First Nation, known as *Saukiing Anishnaabekiing*. *Saukiing Anishnaabekiing* includes the Saugeen Peninsula (or Bruce Peninsula), the waters and islands of Lake Huron and Georgian Bay surrounding the Saugeen Peninsula, and extends south to include the Maitland River watershed and east to include the Nottawasaga River watershed in part of Grey, Bruce, Huron, Perth, Wellington, Dufferin, and Simcoe Counties (Saugeen Ojibway Nation, 2011).

The Study Area is within Treaty 45 ½, The Saugeen Tract Purchase, which was agreed upon on August 9, 1836 along with Treaty 45 (Treaty of Manitowaning/Manitoulin Island Treaty). The treaty covers land of the Saugeen Ojibway Nation’s traditional territory. The treaty was signed by representatives of the Crown and Anishinaabek leaders in Manitowaning during an annual distribution of gifts for Indigenous peoples (Ministry of Indigenous Affairs, 2022). In exchange for the 1.5 million acres the Crown was to provide economic assistance in the form of housing and the means to cultivate land as well as protection from white settlers’ encroachment onto their lands. The land covered by Treaty 45 ½ extends from the town of Arthur in the southeast to approximately the town of Kingsbridge on Lake Huron to the southwest, then north to Southampton in the northwest and across to the northwestern corner of the former Sydenham Township on Georgian Bay in the northeast (Ministry of Indigenous Affairs, 2020; *Treaty History | Saugeen Ojibway Nation Environment Office*, n.d.).

With the signing of the 1818 Lake Simcoe-Nottawasaga Treaty 18 and the 1836 “Saugeen Tract Agreement” Treaty 45 ½, Ojibway chiefs granted the Crown approximately 1.5 million acres of land south of the Peninsula in an effort to secure a land base on Manitoulin Island along the shores of Lake Huron and southern Georgian Bay (Crown-Indigenous Relations and Northern Affairs, 2016). In exchange for the land surrendered under Treaty 45 ½, the Crown promised to protect the Saugeen Peninsula forever (Saugeen Ojibway Nation, 2021b).

The Saugeen continued using their traditional territory for hunting, medicine gathering, sugaring camps and fish spawning. Euro-Canadian settlement



continued to encroach upon the Peninsula and in 1847 Queen Victoria issued a Royal Declaration to support the rights of the Saugeen Ojibway Nation. The Declaration also established strict rules for the purchase and surrender of Indigenous lands in Canada and confirmed that the Bruce Peninsula belonged to the Saugeen Ojibway Nation. Additional acts were passed in 1850 and 1851 to protect lands from squatters and loggers, such as the 1851 Half Mile Strip Treaty 67 which surrendered over 4,000 acres for the Crown to build a road joining Owen Sound and Southampton (Saugeen Ojibway Nation, 2021a). These documents did little to stem the tide of Euro-Canadian settlement.

In 1994 a claim was submitted to the Crown arguing that Treaty 72 was not valid as the Crown had not fulfilled its duty to the Saugeen Ojibway Nation and Chippewas of Nawash Unceded First Nation to protect them from the effects of colonization and that they were misled by the Crown during negotiations for Treaty 72 (Olthuis Kleer Townshend L.L.P., 2021). In 2003 the Saugeen Ojibway Nation and the Chippewas of Nawash Unceded First nation subsequently filed a joint claim for Aboriginal Title to portions of Lake Huron and Georgian Bay (Olthuis Kleer Townshend L.L.P., 2021). The trial addressing these claims began in 2019 and a decision was reached in 2021 (Olthuis Kleer Townshend L.L.P., 2021). The court rejected SON's Aboriginal Title claim but agreed that the Crown breached its honour by failing to uphold its promise to protect the Saugeen Peninsula forever.

1.2 Historical Context

1.2.1 Indigenous Land Use and Settlement

Southern Ontario has been occupied by human populations since the retreat of the Laurentide glacier approximately 13,000 years before present (B.P.) (Ferris, 2013). Populations at this time would have been highly mobile, inhabiting a boreal-parkland similar to the modern sub-arctic. By approximately 10,000 B.P., the environment had progressively warmed (Edwards & Fritz, 1988) and populations now occupied less extensive territories (Ellis & Deller, 1990).

Between approximately 10,000-5,500 B.P., the Great Lakes basins experienced low-water levels, and many sites which would have been located on those



former shorelines are now submerged. This period produces the earliest evidence of heavy wood working tools, an indication of greater investment of labour in felling trees for fuel, to build shelter, and watercraft production. These activities suggest prolonged seasonal residency at occupation sites. Polished stone and native copper implements were being produced by approximately 8,000 B.P.; the latter was acquired from the north shore of Lake Superior, evidence of extensive exchange networks throughout the Great Lakes region. The earliest evidence for cemeteries dates to approximately 4,500-3,000 B.P. and is indicative of increased social organization, investment of labour into social infrastructure, and the establishment of socially prescribed territories (Brown, 1995, p. 13; Ellis et al., 1990, 2009).

Between 3,000-2,500 B.P., populations continued to practice residential mobility and to harvest seasonally available resources, including spawning fish. The Woodland period begins around 2,500 B.P. and exchange and interaction networks broaden at this time (Spence et al., 1990, pp. 136, 138) and by approximately 2,000 B.P., evidence exists for small community camps, focusing on the seasonal harvesting of resources (Spence et al., 1990, pp. 155, 164). By 1,500 B.P. there is macro botanical evidence for maize in southern Ontario, and it is thought that maize only supplemented people's diet. There is earlier phytolithic evidence for maize in central New York State by 2,300 B.P. - it is likely that once similar analyses are conducted on Ontario ceramic vessels of the same period, the same evidence will be found (Birch & Williamson, 2013, pp. 13–15). As is evident in detailed Anishinaabek ethnographies, winter was a period during which some families would depart from the larger group as it was easier to sustain smaller populations (Rogers, 1962). It is generally understood that these populations were Algonquian-speakers during these millennia of settlement and land use.

From the beginning of the Late Woodland period at approximately 1,000 B.P., lifeways became more similar to that described in early historical documents. Between approximately 1000-1300 Common Era (C.E.), the communal site is replaced by the village focused on horticulture. Seasonal disintegration of the community for the exploitation of a wider territory and more varied resource base was still practised (Williamson, 1990, p. 317). By 1300-1450 C.E., this episodic community disintegration was no longer practised and populations now



communally occupied sites throughout the year (Dodd et al., 1990, p. 343). By the mid-sixteenth century these small villages had coalesced into larger communities (Birch et al., 2021). Through this process, the socio-political organization of the First Nations, as described historically by the French and English explorers who first visited southern Ontario, was developed.

By 1600 C.E., the communities within Simcoe County had formed the Confederation of Nations encountered by the first European explorers and missionaries. In the 1640s, devastating epidemics and the traditional enmity between the Haudenosaunee and the Attawandaron and the Huron-Wendat (and their Algonquian allies such as the Nippissing and Odawa) led to their dispersal from Southern Ontario. Shortly afterwards, the Haudenosaunee established a series of settlements at strategic locations along the trade routes inland from the north shore of Lake Ontario. By the 1690s however, the Anishinaabeg were the only communities with a permanent presence in southern Ontario. From the beginning of the eighteenth century to the assertion of British sovereignty in 1763, there was no interruption to Anishinaabeg control and use of southern Ontario.

The Odawa are first described in the historical record 1615 when Samuel de Champlain encountered a group of Odawas at the mouth of the French River (Biggar 1922:44). The Odawa were an Algonquian Nation who occupied Bruce County, Grey County and Manitoulin Island. The Odawa subsisted primarily from fishing but also practiced horticulture and were extensively involved in trade. They were known to co-reside with Iroquoian populations (Thwaites 1896:125). The oral tradition from Nawash and Saugeen suggests that the ancestors of the SON occupied the area as early as 7,500 years ago.

In Bruce County, archaeological evidence is indicative of some residential stability related to the practice of agriculture (e.g. Nodwell Site, Rankin 2000). The archaeological evidence of Huron-Wendat/Tionontate material culture on Odawa sites, the proximity of contemporary Huron-Wendat and Tionontate and Odawa sites to each other, and the historically documented alliance between the Odawa and the Neutral Nations are all indicative of cooperation between Algonquian and Iroquoian populations in Bruce and Grey Counties (Fox, 1990).



The region of Bruce and Grey Counties is not specifically addressed in the contemporary documentary sources; however, the later dispersal of the Haudenosaunee from the region in the late seventeenth century is confirmed by Ojibway oral tradition (Copway 1850:80 and 88).

1.2.2 Post-Contact Settlement

Historically, the Study Area is located in the Geographical Glenelg Township, County of Grey. Traverston Road Structure 33 is located in Lot 9 of Concession 9, and Northline Road Structure 44 is located in Lot 32 of Concession 2 North of Durham Road and within the road allowance north of this Lot.

The S & G stipulates that areas of early Euro-Canadian settlement (pioneer homesteads, isolated cabins, farmstead complexes), early wharf or dock complexes, pioneer churches, and early cemeteries are considered to have archaeological potential. Early historical transportation routes (trails, passes, roads, railways, portage routes), properties listed on a municipal register or designated under the Ontario Heritage Act or a federal, provincial, or municipal historic landmark or site are also considered to have archaeological potential.

For the Euro-Canadian period, the majority of early nineteenth century farmsteads (i.e., those that are arguably the most potentially significant resources and whose locations are rarely recorded on nineteenth century maps) are likely to be located in proximity to water. The development of the network of concession roads and railroads through the course of the nineteenth century frequently influenced the siting of farmsteads and businesses. Accordingly, undisturbed lands within 100 metres of an early settlement road are also considered to have potential for the presence of Euro-Canadian archaeological sites.

The first Europeans to arrive in the area were transient merchants and traders from France and England, who followed Indigenous pathways and set up trading posts at strategic locations along the well-traveled river routes. All of these occupations occurred at sites that afforded both natural landfalls and convenient access, by means of the various waterways and overland trails, into



the hinterlands. Early transportation routes followed existing Indigenous trails, both along the lakeshore and adjacent to various creeks and rivers (ASI 2006).

Glenelg Township

Glenelg Township is named for Charles Grant, the first and only Baron Glenelg, who served as the British Colonial Secretary under Lord Grey. The first settler in the township was John Jessiman of Scotland. The first hotel, called the British Hotel, was opened in the early 1840s by Archibald Hunter on land on the northeast corner of the Garafraxa and Durham Roads. This would be the beginning of the settlement that would become the Town of Durham (Black et al., 1948; Neville, 1985).

The 1840s to the 1860s saw a great wave of immigration to the township, with its population reaching 3065 in 1861. The early settlers in Glenelg Township were almost exclusively from Britain and Ireland, with the exception of several Black settlers who had escaped enslavement in the United States. The first church was Methodist and opened in 1851 and the first post office opened in Latona in 1853 (Black et al., 1948; Mika & Mika, 1981; Neville, 1985).

In 1873, the Georgian Bay and Wellington Railway reached the northeastern corner of the township creating a small boom in the town of Markdale and its surrounding area. However, the township's population decreased steadily over the following decades and into the twentieth century, particularly with the separation of the Town of Durham in 1872 and the Town of Markdale in 1888.

In 1978, Glenelg Township had a population of only 1416 (Black et al., 1948; Mika & Mika, 1981; Neville, 1985). In 2001, Glenelg Township amalgamated with the Townships of Bentnick and Normanby, the Village of Neustadt, and the Town of Durham to form the Municipality of West Grey.

Hamlet of Traverston

In the early 1850s, two would-be developers, Milton Schofield the Provincial Land Surveyor and Thomas Collier, purchased the land on which the hamlet of Traverston sits today with the intention of founding a town called Waverley.



This plan, however, never came into fruition. John Travers, the owner of the sawmill and the man for whom the eventual settlement of Traverston was named, purchased the whole 100-acre lot including the land meant for the Town of Waverley. In 1867-1868, Reverend James Sims bought the lot west of the Traverston mill and constructed a large woolen mill. The woolen mill was destroyed by fire in 1880. Some years later, Abel Wright took over the site and constructed a shingle and chopping mill on the foundations of the previous woolen mill. This mill would operate from approximately 1893 to 1910 (Neville, 1985). Traverston did grow into a bustling hamlet centred around the mills. The first post office was opened in 1870 and, in 1871, the census shows a large grist mill added to Travers' operation. The following census a decade later also lists two blacksmiths and a general store. The Traverston Mills were in operation until the late 1950s under the management a few different millers (Neville, 1985).

1.2.3 Map Review

The 1880 *Illustrated Historical Atlas of the Counties of Grey and Bruce* and topographic maps from 1945 and 1993 (Belden, 1880; Department of National Defence, 1945; Department of Energy, Mines and Resources, Canada, 1993) were examined to determine the presence of historic features within the Study Area during the nineteenth and twentieth centuries (Figure 2 to Figure 4).

The 1880 map (Figure 2) shows the Traverston Road bridge following an alignment west of the present-day though this is likely a mapping error as the locations of the extant mill structures in relation to the roadway indicate that the road alignment has not changed since the construction of the mills. A sawmill, grist mill, post office, and a store are some of the buildings represented near the Study Area. The Northline Road Study Area is shown crossing the river within the road allowance between Concession 2 and Concession 3. There are no historic features present within 100 metres.

The 1945 map (Figure 3) shows both bridges and roads within their present-day alignments. The Northline Road structure is indicated as being constructed of concrete and the Traverston Road structure is noted as being made of wood. The 1993 map (Figure 4) indicates the Study Area remained relatively unchanged.



1.2.4 Aerial and Orthoimagery Review

Figure 5 presents historical aerial imagery from 1954 (Hunting Survey Corporation Limited, 1954) which indicates the rural nature of the Study Areas and the wooded land surrounding the Rocky Saugeen River and the Saugeen River.

A review of available Google satellite imagery from 2009 to 2023 shows no instances of significant land alterations within the Study Area during this time frame.

1.3 Archaeological Context

This section provides background research pertaining to previous archaeological fieldwork conducted within and in the vicinity of the Study Area, its environmental characteristics (including drainage, soils or surficial geology and topography, etc.), and current land use and field conditions. Three sources of information were consulted to provide information about previous archaeological research: the site record forms for registered sites available online from the MCM through “Ontario’s Past Portal”; published and unpublished documentary sources; and the files of ASI.

1.3.1 Geography

In addition to the known archaeological sites, the state of the natural environment is a helpful indicator of archaeological potential. Accordingly, a description of the physiography and soils are briefly discussed for the Study Area.

The S & G stipulates that primary water sources (lakes, rivers, streams, creeks, etc.), secondary water sources (intermittent streams and creeks, springs, marshes, swamps, etc.), ancient water sources (glacial lake shorelines indicated by the presence of raised sand or gravel beach ridges, relic river or stream channels indicated by clear dip or swale in the topography, shorelines of drained lakes or marshes, cobble beaches, etc.), as well as accessible or inaccessible shorelines (high bluffs, swamp or marsh fields by the edge of a lake, sandbars



stretching into marsh, etc.) are characteristics that indicate archaeological potential.

Water has been identified as the major determinant of site selection and the presence of potable water is the single most important resource necessary for any extended human occupation or settlement. Since water sources have remained relatively stable in Ontario since 5,000 B.P. (Karrow & Warner, 1990, fig. 2.16), proximity to water can be regarded as a useful index for the evaluation of archaeological site potential. Indeed, distance from water has been one of the most commonly used variables for predictive modeling of site location.

Other geographic characteristics that can indicate archaeological potential include elevated topography (eskers, drumlins, large knolls, and plateaux), pockets of well-drained sandy soil, especially near areas of heavy soil or rocky ground, distinctive land formations that might have been special or spiritual places, such as waterfalls, rock outcrops, caverns, mounds, and promontories and their bases. There may be physical indicators of their use, such as burials, structures, offerings, rock paintings or carvings. Resource areas, including; food or medicinal plants (migratory routes, spawning areas) are also considered characteristics that indicate archaeological potential (S & G, Section 1.3.1).

The Study Area is located within spillways of the Horseshoe Moraines physiographic region of southern Ontario (Chapman & Putnam, 1984). The Horseshoe Moraine forms the core of a horseshoe shaped area flanking the upland that lies to the west of the highest part of the Niagara cuesta (Chapman & Putnam, 1984). The southwestern limb of the region, located in the southern part of Huron County, has a fairly simple landscape consisting of morainic ridges composed of pale brown, hard calcareous, fine-textured till, with a moderate degree of stoniness. Huron clay loam is the most representative soil type, and it occurs widely throughout the region.

Figure 6 shows the surficial geology of the Study Area which indicates Traverston Road Structure 33 is underlain by Paleozoic bedrock and Northline Road Structure 44 is underlain with modern alluvial deposits.



The soil type within both sections of the Study Area is Bottomland, an alluvial soil with poor drainage. Figure 7 shows soil drainage within the Study Area.

The Saugeen River is within the Northline Road Structure 44 Study Area. It is the third largest river system in southern Ontario, measuring approximately 198 kilometres in length. The river flows from the headwaters in Dundalk and empties into Lake Huron at the Town of Southampton, flowing through Bruce, Dufferin, Grey, Huron, and Wellington Counties. The Saugeen River watershed covers 4675 kilometres squared and is overseen by the Saugeen Conservation Authority (Saugeen Conservation, 2022). The Rocky Saugeen River and Traverston Creek are within the Traverston Road Structure 33 portion of the Study Area. The Rocky Saugeen River is 51.4 kilometres long originating at Bells Lake and Beaverdale Bog. The watershed is heavily forested and covers 282 kilometres squared. The Rocky Saugeen River flows through the communities of Traverston and Markdale.

1.3.2 Previously Registered Archaeological Sites

In Ontario, information concerning archaeological sites is stored in the Ontario Archaeological Sites Database maintained by the MCM. This database contains archaeological sites registered within the Borden system. Under the Borden system, Canada has been divided into grid blocks based on latitude and longitude. A Borden block is approximately 13 kilometres east to west, and approximately 18.5 kilometres north to south. Each Borden block is referenced by a four-letter designator, and sites within a block are numbered sequentially as they are found. The Study Area under review is located in Borden block *BbHe*.

According to the Ontario Archaeological Sites Database, there are no previously registered archaeological sites are located within one kilometre of the Study Area (MCM 2023).

1.3.3 Previous Archaeological Assessments

Background research indicates there are no previous archaeological assessments that detail fieldwork within 50 metres of the Study Area.



2.0 Property Inspection

2.1 Field Methods

A Stage 1 property inspection must adhere to the S & G, Section 1.2, Standards 1-6, which are discussed below. The entire property and its periphery must be inspected. The inspection may be either systematic or random. Coverage must be sufficient to identify the presence or absence of any features of archaeological potential. The inspection must be conducted when weather conditions permit good visibility of land features. Natural landforms and watercourses are to be confirmed if previously identified. Additional features such as elevated topography, relic water channels, glacial shorelines, well-drained soils within heavy soils and slightly elevated areas within low and wet areas should be identified and documented, if present. Features affecting assessment strategies should be identified and documented such as woodlots, bogs or other permanently wet areas, areas of steeper grade than indicated on topographic mapping, areas of overgrown vegetation, areas of heavy soil, and recent land disturbance such as grading, fill deposits and vegetation clearing. The inspection should also identify and document structures and built features that will affect assessment strategies, such as heritage structures or landscapes, cairns, monuments or plaques, and cemeteries.

The Stage 1 archaeological assessment property inspection was conducted under the field direction of Blake Williams (P383), of ASI, on July 13, 2023, in order to gain first-hand knowledge of the geography, topography, and current conditions and to evaluate and map archaeological potential of the Study Area. It was a systematic visual inspection from public right-of-ways only and did not include excavation or collection of archaeological resources. Fieldwork was conducted when weather conditions were deemed clear with good visibility (over sunny with seasonal temperatures), per S & G Section 1.2., Standard 2. Field photography is presented in Section 7.0 (Image 1 to Image 12), and field observations are overlaid onto the existing conditions of the Study Area in Section 8.0 (Figure 9).



2.2 Current Land Use and Field Conditions

The Traverston portion of the Study Area contains a single span bridge, through truss bridge with a concrete deck constructed in 1930 that carries Traverston Road over the Rocky Saugeen River approximately 0.5 kilometres north of Concession Road 8. Fencing, gravel driveways and Bell utilities are in this section of the Study Area.

The Northline portion of the Study Area contains a single-span concrete barrel arch culvert constructed in 1920 on Northline Road, approximately 330 metres east of Glenelg Road 23. The culvert carries the Saugeen River under Northline Road. Guide rails, boreholes, fencing, hydro and gravel are within or near this section of the Study Area.

3.0 Analysis of Archaeological Potential

The S & G, Section 1.3.1, lists criteria that are indicative of archaeological potential. The Study Area meets the following criteria indicative of archaeological potential:

- Water sources: primary, secondary, or past water source (Saugeen River, Rocky Saugeen River, Traverston Creek);
- Proximity to early settlements (Traverston, mills); and,
- Early historic transportation routes (Northline Road, Traverston Road)

According to the S & G, Section 1.4 Standard 1e, no areas within a property containing locations listed or designated by a municipality can be recommended for exemption from further assessment unless the area can be documented as disturbed. Background research indicates that there is no publicly available Municipal Heritage Register for West Grey.

The property inspection determined that parts of the Study Area exhibit archaeological potential. These areas will require Stage 2 archaeological assessment prior to any construction activities or other proposed impacts. According to the S & G Section 2.1.2, test pit survey is required on terrain where ploughing is not viable, such as wooded areas, properties where existing



landscaping or infrastructure would be damaged, overgrown farmland with heavy brush or rocky pasture, and narrow linear corridors up to 10 metres wide (Images 4, 5, 7 to 9; Figure 9 and Figure 8: areas highlighted in green).

The Study Area has been subjected to deep soil disturbance events due to the initial construction of Structure 44 and Structure 33 and the road right-of-ways which include fencing, gravel driveways, and utility lines. According to the S & G Section 1.3.2 these areas do not retain archaeological potential (Images 1 to 3, 6, 10 to 12); Figure 9 and Figure 8: areas highlighted in yellow) and do not require further survey.

3.1 Conclusions

Stage 1 background research determined there are no previously registered archaeological sites located within one kilometre of the Study Area. The property inspection determined that parts of the Study Area exhibit archaeological potential and will require further archaeological assessment.

4.0 Recommendations

The following recommendations are made:

- 1) Parts of the Study Area exhibit archaeological potential. These lands require Stage 2 archaeological assessment by test pit survey at five metre intervals, where appropriate (Figure 9 and Figure 8). Stage 2 is required prior to any proposed construction activities on these lands;
- 2) The remainder of the Study Area does not retain archaeological potential on account of deep and extensive land disturbance. These lands do not require further archaeological assessment; and,
- 3) Should the proposed work extend beyond the current Study Area, further archaeological assessment should be conducted to determine the archaeological potential of the surrounding lands.

NOTWITHSTANDING the results and recommendations presented in this study, ASI notes that no archaeological assessment, no matter how thorough or



carefully completed, can necessarily predict, account for, or identify every form of isolated or deeply buried archaeological deposit. In the event that archaeological remains are found during subsequent construction activities, the consultant archaeologist, approval authority, and the Archaeology Programs Unit of the MCM should be immediately notified.

The above recommendations are subject to MCM approval, and it is an offence to alter any archaeological site without MCM concurrence. No grading or other activities that may result in the destruction or disturbance of any archaeological sites are permitted until notice of MCM approval has been received.

5.0 Legislation Compliance Advice

ASI advises compliance with the following legislation:

- This report is submitted to the MCM as a condition of licensing in accordance with Part VI of the *Ontario Heritage Act*, RSO 2005, c 0.18. The report is reviewed to ensure that it complies with the standards and guidelines that are issued by the Minister, and that the archaeological field work and report recommendations ensure the conservation, preservation, and protection of the cultural heritage of Ontario. When all matters relating to archaeological sites within the project area of a development proposal have been addressed to the satisfaction of the MCM a letter will be issued by the Ministry stating that there are no further concerns with regards to alterations to archaeological sites by the proposed development.
- It is an offence under Sections 48 and 69 of the *Ontario Heritage Act* for any party other than a licensed archaeologist to make any alteration to a known archaeological site or to remove any artifact or other physical evidence of past human use or activity from the site, until such time as a licensed archaeologist has completed archaeological field work on the site, submitted a report to the Minister stating that the site has no further cultural heritage value or interest, and the report has been filed in the Ontario Public Register of Archaeology Reports referred to in Section 65.1 of the *Ontario Heritage Act*.



- Should previously undocumented archaeological resources be discovered, they may be a new archaeological site and therefore subject to Section 48 (1) of the *Ontario Heritage Act*. The proponent or person discovering the archaeological resources must cease alteration of the site immediately and engage a licensed consultant archaeologist to carry out archaeological fieldwork, in compliance with sec. 48 (1) of the *Ontario Heritage Act*.
- The *Funeral, Burial and Cremation Services Act, 2002, S.O. 2002, c.33*, requires that any person discovering or having knowledge of a burial site shall immediately notify the police or coroner. It is recommended that the Registrar of Cemeteries at the Ministry of Consumer Services is also immediately notified.
- Archaeological sites recommended for further archaeological field work or protection remain subject to Section 48(1) of the *Ontario Heritage Act* and may not be altered, nor may artifacts be removed from them, except by a person holding an archaeological license.

6.0 Bibliography and Sources

Archaeological Services Inc. (2006). *Historical Overview and Assessment of Archaeological Potential Don River Watershed, City of Toronto*. Report on file with the Ontario Ministry of Tourism, Culture and Sport.

Belden, H. (1880). *Illustrated Historical Atlas of the Counties of Grey & Bruce, Ont.* [Map]. H. Belden & Co.

Birch, J., Manning, S. W., Sanft, S., & Conger, M. A. (2021). Refined Radiocarbon Chronologies for Northern Iroquoian Site Sequences: Implications for Coalescence, Conflict, and the Reception of European Goods. *American Antiquity*, 86(1), 61–89.

Birch, J., & Williamson, R. F. (2013). *The Mantle Site: An Archaeological History of an Ancestral Wendat Community*. Rowman & Littlefield Publishers, Inc.



Black, J. S., Binnie, G., R.T. Edwards, & Scott, E. (1948). *Glenelg History: Early Settlement and Pioneer Life*. Township Council of Glenelg; Toronto Reference Library.

Brown, J. (1995). On Mortuary Analysis – with Special Reference to the Saxe-Binford Research Program. In L. A. Beck (Ed.), *Regional Approaches to Mortuary Analysis* (pp. 3–23). Plenum Press.

Chapman, L. J., & Putnam, F. (1984). *The Physiography of Southern Ontario* (3rd ed., Vol. 2). Ontario Ministry of Natural Resources.

Copway, G. (1850). *The Traditional History and Characteristic Sketches of the Ojibway Nation*. Charles Gilpin.

Crown-Indigenous Relations and Northern Affairs. (2016). *Saugeen Treaty 1836 No. 45 1/2*. Treaty Texts – Upper Canada Land Surrenders. <https://www.rcaanc-cirnac.gc.ca/eng/1370372152585/1370372222012#ucls17>

Department of Energy, Mines and Resources, Canada. (1993). *1993 National Topographic System Durham Sheet* [Map].

Department of National Defence. (1945). *1945 National Topographic System Durham Sheet* [Map].

Dodd, C. F., Poulton, D. R., Lennox, P. A., Smith, D. G., & Warrick, G. A. (1990). The Middle Ontario Iroquoian Stage. In C. J. Ellis & N. Ferris (Eds.), *The Archaeology of Southern Ontario to A.D. 1650* (pp. 321–360). Ontario Archaeological Society Inc.

Edwards, T. W. D., & Fritz, P. (1988). Stable-Isotope Paleoclimate Records from Southern Ontario, Canada: Comparison of Results from Marl and Wood. *Canadian Journal of Earth Sciences*, 25, 1397–1406.

Ellis, C. J., & Deller, D. B. (1990). Paleo-Indians. In C. J. Ellis & N. Ferris (Eds.), *The Archaeology of Southern Ontario to A.D. 1650* (pp. 37–64). Ontario Archaeological Society Inc.



Ellis, C. J., Kenyon, I. T., & Spence, M. W. (1990). The Archaic. In C. J. Ellis & N. Ferris (Eds.), *The Archaeology of Southern Ontario to A.D. 1650* (pp. 65–124). Ontario Archaeological Society Inc.

Ellis, C. J., Timmins, P. A., & Martelle, H. (2009). At the Crossroads and Periphery: The Archaic Archaeological Record of Southern Ontario. In T. D. Emerson, D. L. McElrath, & A. C. Fortier (Eds.), *Archaic Societies: Diversity and Complexity across the Midcontinent*. (pp. 787–837). State University of New York Press.

Ferris, N. (2013). Place, Space, and Dwelling in the Late Woodland. In M. K. Munson & S. M. Jamieson (Eds.), *Before Ontario: The Archaeology of a Province* (pp. 99–111). McGill-Queen's University Press.
<http://www.jstor.org/stable/j.ctt32b7n5.15>

Fox, W. (1990). The Odawa. In *The Archaeology of Southern Ontario to A.D. 1650* (Vol. 5, pp. 457–473). Ontario Archaeological Society.

Hunting Survey Corporation Limited. (1954). *Ottawa aerial* [Map]. Hunting Survey Corporation Limited.

Karrow, P. F., & Warner, B. G. (1990). The Geological and Biological Environment for Human Occupation in Southern Ontario. In *The Archaeology of Ontario to A.D. 1650* (pp. 5–36). London Chapter, Ontario Archaeological Society.

Langton, H. H., & Ganong, W. F. (Eds.). (1971). *The Works of Samuel De Champlain: 1629-1632* (H. P. Biggar, Trans.; Reprint from 1936, Vol. 6). The Champlain Society; Internet Archive.
<https://archive.org/details/worksofsamueldec06chamuoft/page/n7/mode/2up>

Mika, N., & Mika, H. (1981). *Places In Ontario: Their Name Origins and History, Part II, F-M* (<https://archive.org/details/placesinontariot0002mika>; Vol. 2). Mika Publishing Company; Internet Archive.

Ministry of Citizenship and Multiculturalism. (1990). *Ontario Heritage Act, R.S.O. c. O.18*.



Ministry of Citizenship and Multiculturalism. (2022). *Ontario's Past Portal*. PastPortal. <https://www.pastport.mtc.gov.on.ca>

Ministry of Citizenship and Multiculturalism. (2023). *Ontario's Past Portal*. PastPortal. <https://www.pastport.mtc.gov.on.ca>

Ministry of Indigenous Affairs. (2020). *Map of Ontario Treaties and Reserves*. Government of Ontario. <https://www.ontario.ca/page/map-ontario-treaties-and-reserves#t16>

Ministry of Indigenous Affairs. (2022). *Treaties in Ontario: Saugeen Tract Purchase Treaty 45 ½*. <https://www.ontario.ca/page/map-ontario-treaties-and-reserves#treaties>

Environmental Assessment Act, R.S.O. c. E.18, (1990).

MTC, (Ministry of Tourism and Culture). (2011). *Standards and Guidelines for Consultant Archaeologists*. Archaeology Programs Branch, Ontario Ministry of Tourism and Culture.

Municipal Engineers Association. (2023). *Municipal Class Environmental Assessment*.

Neville, M. A. (1985). *A History of Glenelg Township*. Township of Glenelg; Toronto Reference Library.

Olthuis Kleer Townshend L.L.P. (2021). *Saugeen Ojibway Nation Treaty and Title Claim*. OKT Olthuis Kleer Townshend - LLP. https://www.oktlaw.com/services/cases/son_titleclaim/

Rankin, L. (2000). *Interpreting Long-term Trends in the Transition to Farming: Reconsidering the Nodwell Site, Ontario, Canada*. British Archaeological Reports.

Rogers, E. S. (1962). *The Round Lake Ojibwa*. Royal Ontario Museum.

Saugeen Conservation. (2022, January 31). *Canoeing and Kayaking* [Conservation Authority]. Saugeen Conservation.



<https://www.saugeenconservation.ca/en/outdoors-and-recreation/canoeing-and-kayaking.aspx>

Saugeen Ojibway Nation. (2011). *Saugeen Ojibway Nation Claims Update Newsletter Mnookmi*.

Saugeen Ojibway Nation. (2021a). *Treaty History*.
<https://www.saugeenojibwaynation.ca/treaty-history>

Saugeen Ojibway Nation. (2021b, August 25). *SAUGEEN & NAWASH COMMUNITY UPDATE: TITLE AND TREATY COURT DECISION | Saugeen Ojibway Nation Environment Office*. Saugeen Ojibway Nation Environment Office.
<https://www.saugeenojibwaynation.ca/news/saugeen-nawash-community-update-title-and-treaty-court-decision>

Spence, M. W., Pihl, R. H., & Murphy, C. (1990). Cultural Complexes of the Early and Middle Woodland Periods. In C. J. Ellis & N. Ferris (Eds.), *The Archaeology of Southern Ontario to A.D. 1650*. Ontario Archaeological Society Inc.

Thwaites, R. G. (1896). *The Jesuit Relations and Allied Documents: Travel and Explorations of the Jesuit Missionaries in New France, 1610-1791; the Original French, Latin, and Italian Texts, with English Translations and Notes (1–73)*. Burrows Brothers.

Treaty History | Saugeen Ojibway Nation Environment Office. (n.d.). Retrieved January 6, 2022, from <https://www.saugeenojibwaynation.ca/treaty-history>

Williamson, R. F. (1990). The Early Iroquoian Period of Southern Ontario. In C. J. Ellis & N. Ferris (Eds.), *The Archaeology of Southern Ontario to A.D. 1650* (pp. 291–320). Ontario Archaeological Society Inc.



7.0 Images

7.1 Field Photography



Image 1: Northline Road Structure 44; test pit survey required beyond disturbed gravel roadbed.



Image 2: Northline Road Structure 44; disturbed roadbed approaching bridge, no archaeological potential.



Image 3: Northline Road Structure 44; stabilized bank and channelized watercourse are disturbed, no archaeological potential.



Image 4: Northline Road Structure 44; archaeological potential in woodlot beyond disturbed roadbed, test pit survey required.



Image 5: Northline Road Structure 44; archaeological potential in woodlot beyond disturbed roadbed, test pit survey required.



Image 6: Northline Road Structure 44; roadbed disturbed, no archaeological potential.



Image 7: Traverston Road Structure 33; archaeological potential beyond disturbed roadbed, test pit survey required.



Image 8: Traverston Road Structure 33; archaeological potential beyond disturbed roadbed, test pit survey required.



Image 9: Traverston Road Structure 33; archaeological potential beyond disturbed roadbed, test pit survey required.



Image 10: Traverston Road Structure 33; disturbed, no archaeological potential.



Image 11: Traverston Road Structure 33; stabilized bank disturbed, no archaeological potential.



Image 12: Traverston Road Structure 33; archaeological potential beyond disturbed roadbed, test pit survey required.

8.0 Maps

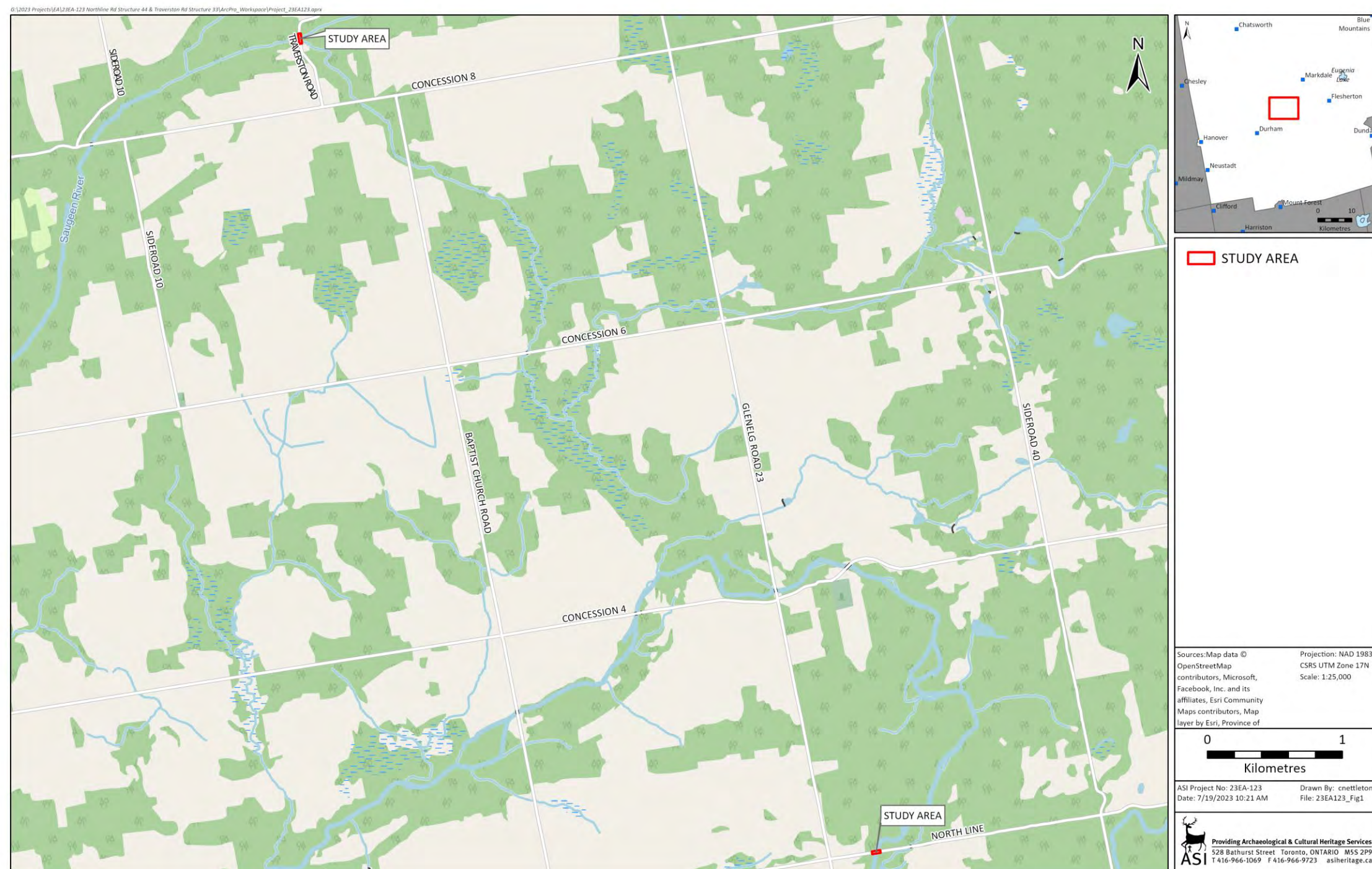


Figure 1: Stage 1 Traverston Road Structure 33 and Northline Road Structure 44 Study Area.





Figure 2: The Study Area (approximate location) overlaid on the 1880 Grey Supplement in the Illustrated Atlas of the Dominion of Canada.

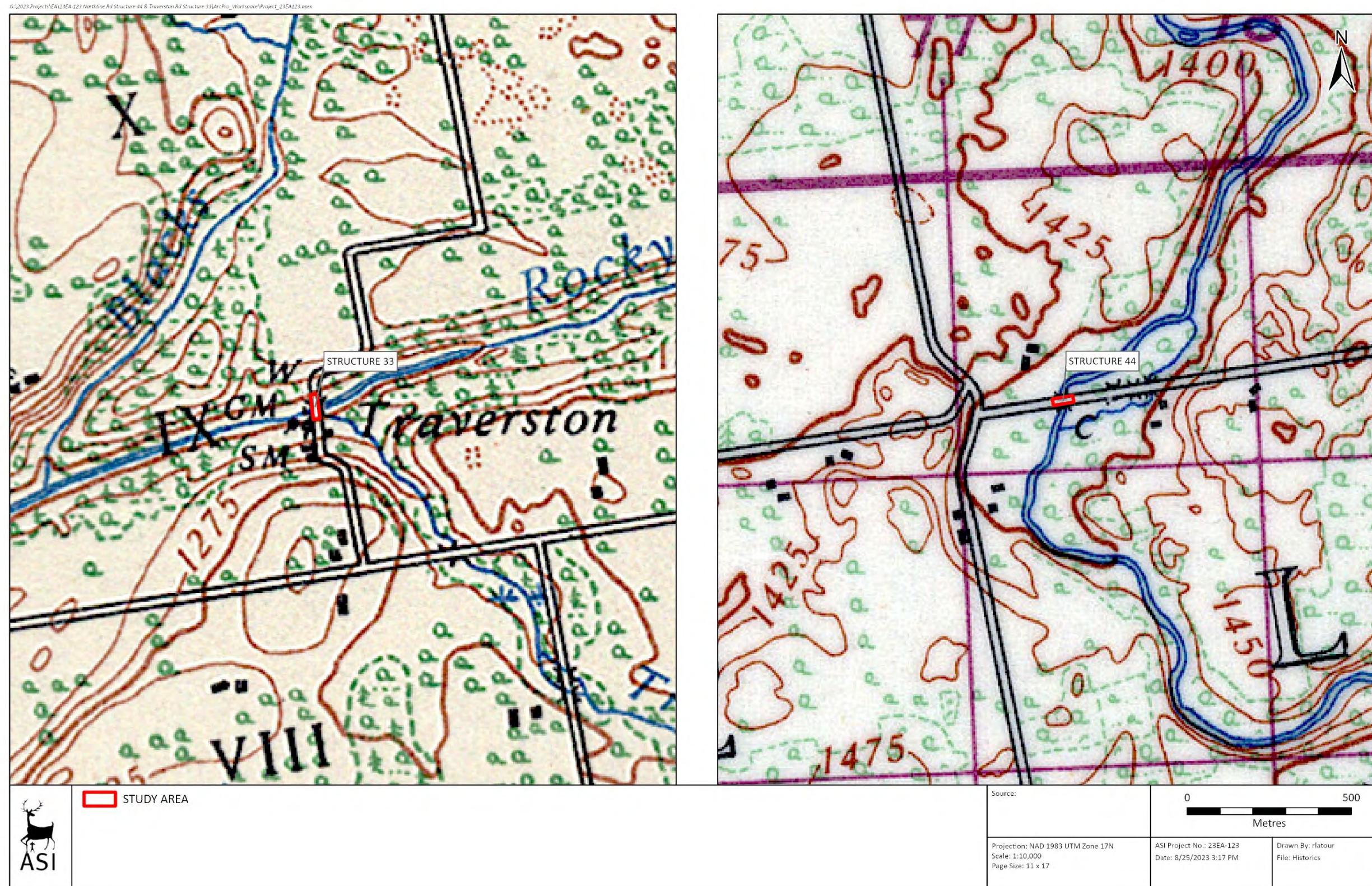


Figure 3: The Study Area (approximate location) overlaid on the 1945 topographic map of Durham sheet.

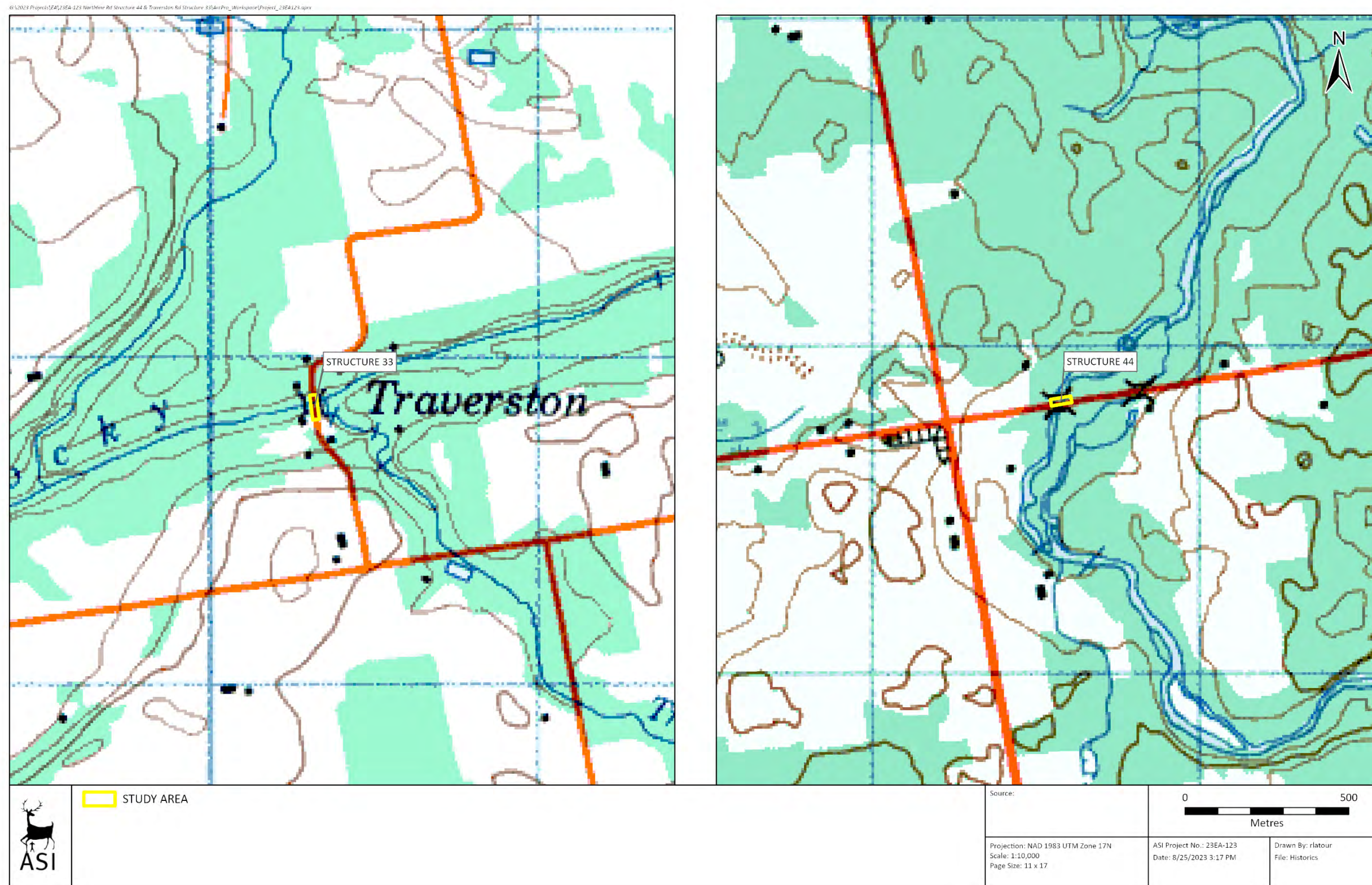


Figure 4: The Study Area (approximate location) overlaid on the 1993 topographic map of Durham sheet.



Figure 5: The Study Area (approximate location) overlaid on 1954 aerial photographs.

G:\2023 Projects\EA\23EA-123 Northline Rd Structure 44 & Traverston Rd Structure 33\ArcPro_Workspace\Project_23EA123.aprx



Figure 6: Study Area – Surficial Geology





Figure 7: Study Area – Soil Drainage





Figure 8: Stage 1 Results for the Northline Road Structure 44 Study Area.





Figure 9: Stage 1 Results for the Traverston Road Structure 33 Study Area.

Appendix C – Cultural Heritage Evaluation Report & Heritage Impact Assessment

Cultural Heritage Evaluation Report

Northline Road Culvert (Structure 44)

Municipality of West Grey, Ontario

Final Report

Prepared for:

Triton Engineering Services Limited

The Old Post – 39 Elora Street
Harriston ON N0G 1Z0

Archaeological Services Inc. File: 23CH-98

September 2023 (revised October 2023 and June 2024)



Executive Summary

Archaeological Services Incorporated (A.S.I.) was contracted by Triton Engineering Services Limited on behalf of the Municipality of West Grey to conduct a Cultural Heritage Evaluation Report (C.H.E.R.) for the Northline Road Culvert (Structure Number 44)¹ in the Municipality of West Grey, Ontario. The C.H.E.R. is being undertaken as part of the Structure G-044 Bridge Municipal Class Environmental Assessment (M.C.E.A.). The structure is a single-span concrete barrel arch culvert constructed by 1920 on Northline Road, approximately 330 metres east of Glenelg Road 23 (Burgess Engineering Inc., 2022). As the subject bridge was constructed before 1956, it requires a C.H.E.R. to determine cultural heritage value or interest as part of this Environmental Assessment (Municipal Engineers Association, 2023).

This report includes an evaluation of the cultural heritage value or interest of the structure as determined by the criteria in Ontario Regulation 9/06 of the *Ontario Heritage Act*. This evaluation determined that the culvert has design and physical value in the local context. In particular, the subject culvert is considered to be one of few remaining representative examples of early-twentieth century concrete barrel arch structures in the area and is a significant as a rare, surviving example of the cast-in-place method of construction.

Based on the results of the assessment, the following recommendations have been developed:

1. A Heritage Impact Assessment (H.I.A.) should be completed for the Northline Road Culvert as early as possible during the detailed design phase. This assessment should be completed by a qualified person who has relevant and recent experience in the conservation of culverts (see Section 3.0 of the *Standards and Guidelines for Conservation of Provincial Heritage*

¹ Note: in some documents the Northline Road Culvert is called a bridge. For the purposes of this report, the structure will be referred to as a culvert consistent with the Ontario Structure Inspection Manual reports.



Properties [M.T.C.S. 2014] as a guide for best practice) and submitted to heritage staff at the Municipality of West Grey for review and approval and to the Ministry of Citizenship and Multiculturalism (M.C.M.) for review.

2. The proponent should submit this report to planning staff at the Municipality of West Grey, the M.C.M. and to any other relevant stakeholder that has an interest in the heritage of the subject culvert for their reference.



Report Accessibility Features

This report has been formatted to meet the Information and Communications Standards under the *Accessibility for Ontarians with Disabilities Act, 2005* (A.O.D.A.). Features of this report which enhance accessibility include: headings, font size and colour, alternative text provided for images, and the use of periods within acronyms. Given this is a technical report, there may be instances where additional accommodation is required in order for readers to access the report's information. If additional accommodation is required, please contact Annie Veilleux, Manager of the Cultural Heritage Division at Archaeological Services Incorporated, by email at aveilleux@asiheritage.ca or by phone 416-966-1069 ext. 255.



Project Personnel

- **Senior Project Manager:** Kristina Martens, B.A., Dipl. Heritage Conservation, Senior Cultural Heritage Specialist, Assistant Manager - Cultural Heritage Division
- **Project Coordinator:** Jessica Bisson, B.F.A. (Hon), Project Administrator – Cultural Heritage Division
- **Project Manager:** Meredith Stewart, M.A., M.S.c., C.A.H.P., Cultural Heritage Specialist, Project Manager - Cultural Heritage Division
- **Field Review:** Leora Bebko, M.M.St., Cultural Heritage Technician, Technical Writer and Researcher – Cultural Heritage Division
- **Historical Research:** Leora Bebko
- **Report Production:** Leora Bebko
- **Graphics Production:** Jonas Fernandez, M.S.c., Manager, Geomatics - Operations Division
- Robin Latour, B.A., M.Phil., Archaeologist, Geomatics Specialist - Operations Division
- Peter Bikoulis, P.h.D., Archaeologist, Geomatics Technician – Operations Division
- **Report Reviewer(s):** Kristina Martens and John Sleath, M.A., Cultural Heritage Specialist, Project Manager - Cultural Heritage Division



Table of Contents

Executive Summary	1
Report Accessibility Features	3
Project Personnel	4
1.0 Introduction	9
1.1 Project Overview	9
1.2 Legislation and Policy Context	11
1.3 Approach to Cultural Heritage Evaluation Reports	12
2.0 Community Engagement	12
2.1 Relevant Agencies/Stakeholders Engaged and/or Consulted	13
2.2 Agency Review	14
2.3 Indigenous Nations Engagement	14
3.0 Description of the Structure and Crossing	14
3.1 Existing Conditions	14
3.2 Heritage Recognitions	16
3.3 Adjacent Lands	16
4.0 Research	17
4.1 List of Key Sources, Report Limitations, and Site Visit Information	17
4.1.1 Key Sources	17
4.1.2 Research and Report Limitations	18
4.1.3 Site Visit	18
4.2 Discussion of Historical or Associative Value	19
4.2.1 Summary of Early Indigenous History in Southern Ontario	19
4.2.2 Township of Glenelg	22



4.2.3	Saugeen River	23
4.2.4	Early Culvert Building	24
4.2.5	Concrete Arch Culverts	24
4.2.6	Historical Chronology and Setting of the Subject Crossing	26
4.3	Discussion of Physical and Design Value	29
4.3.1	Physical Characteristics	30
4.3.2	Existing Conditions Photographs	31
4.3.3	Bridge Construction, Evolution, and Alterations	37
4.4	Discussion of Contextual Value	39
4.4.1	Setting and Character of the Culvert and Surroundings	39
4.4.2	Community Landmark	40
4.5	Comparative Analysis	40
4.5.1	Comparable Concrete Barrel Arch Bridges/Culverts	41
5.0	Heritage Evaluation	43
5.1	Ontario Regulation 9/06	44
6.0	Draft Statement of Cultural Heritage Value and Heritage Attributes	47
6.1	Description of Property	47
6.2	Cultural Heritage Value or Interest	47
6.3	Potential Heritage Attributes	48
7.0	Conclusions and Recommendations	48
8.0	List of Resources Consulted	50
	Appendix A: Qualified Persons Involved in the Project	56
	Appendix B: Comparable Structures	58



Appendix C: Existing Structure Drawings – Northline Road Culvert (Structure 44)

59

List of Figures

Figure 1: Location of the Northline Road Culvert (structure 44) on Northline Road in the Municipality of West Grey. Source: (c) Open Street Map contributors, Creative Commons n.d.	10
Figure 2: South elevation of the Northline Road Culvert (Structure 44), looking northeast (A.S.I., 2023).	15
Figure 3: Aerial image of the subject bridge in the Municipality of West Grey (Google Maps)	16
Figure 4: Concrete arch culvert design and proportions recommended by the Ontario Department of Public Works, 1900 (Ontario Department of Public Works 1900)	25
Figure 5: The location of the subject culvert overlaid on the 1880 Illustrated Historical Atlas of the Counties of Grey and Bruce (Base Map: Belden, 1880).	27
Figure 6: The location of the subject culvert overlaid on the 1945 topographic map of Durham (Base Map: Department of National Defence, 1945).	28
Figure 7: The location of the subject culvert overlaid on the 1954 aerial photograph (Base Map: Ontario Department of Lands and Forests, 1954).	28
Figure 8: The location of the subject culvert overlaid on the 1993 topographic map of Durham (Department of Energy, Mines and Resources, Canada, 1993).	29
Figure 9: North elevation of Northline Road Culvert, looking southwest (A.S.I., 2023).	31
Figure 10: South elevation of the Northline Road Culvert, looking west (A.S.I., 2023).	31
Figure 11: Western approach to the Northline Road Culvert, looking east (A.S.I., 2023).	32



Figure 12: Eastern approach to the Northline Road Culvert, looking west (A.S.I., 2023).	32
Figure 13: Detail view of gravel deck and concrete curbs and barrier. Note significant visible deterioration to concrete (A.S.I., 2023).	33
Figure 14: Detail view of north side of eastern abutment. Significant deterioration is visible at the waterline and at the berm (A.S.I., 2023).	33
Figure 15: Detail view of barrel underside showing concrete deterioration and exposed rebar (A.S.I., 2023).	34
Figure 16: Detail view of southern concrete barrier (A.S.I., 2023).	34
Figure 17: Detail view of significant deterioration on barrier and growth of vegetation on curbs on western approach (A.S.I., 2023).	35
Figure 18: Detail view of exposed rebar on concrete barrier (A.S.I., 2023).	35
Figure 19: Detail view of significant deterioration to concrete barrier and curb (A.S.I., 2023).	36
Figure 20: Trees and tree stumps right next to the culvert's northeastern abutment (A.S.I., 2023).	36
Figure 21: Saugeen River looking north from the Northline Road Culvert (A.S.I., 2023).	37
Figure 22: Saugeen River looking south from the Northline Road Culvert (A.S.I., 2023).	37
Figure 23: View of the Northline Road Culvert and surrounding wooded area, looking east (A.S.I., 2023).	40
Figure 24: One of the Twin Bridges (historicbridges.org).	42
Figure 25: The North Line Saugeen River Bridge (A.S.I., 2023).	43
Figure 26: Detail view of the deck, barriers, and curbs of the North Line Saugeen River Bridge (A.S.I., 2023).	43

1.0 Introduction

Archaeological Services Incorporated (A.S.I.) was contracted by Triton Engineering Services Limited on behalf of the Municipality of West Grey to conduct a Cultural Heritage Evaluation Report (C.H.E.R.) for the Northline Road Culvert (Structure Number 44) in the Municipality of West Grey, Ontario (Figure 1). The C.H.E.R. is being undertaken as part of the Structure G-044 Bridge Municipal Class Environmental Assessment (M.C.E.A.). The structure is a single-span concrete barrel arch culvert constructed by 1920 on Northline Road, approximately 330 metres east of Glenelg Road 23. The culvert carries the Saugeen River under Northline Road (Burgess Engineering Inc., 2022).

1.1 Project Overview

The Structure G-044 Bridge M.C.E.A. is being completed to address structural deficiencies in the Northline Road Culvert and to determine a preferred alternative for the structure. The 2018 Ontario Structural Inspection Report (O.S.I.M.) recommended major rehabilitation work to significant elements of the structure to be completed within 1 to 5 years. The Structure G-044 Bridge M.C.E.A. will be evaluated for replacement of the structure with one of the following three alternatives: replacement with a single or narrow two-lane concrete span structure, replacement with a single or narrow two-lane wood bridge structure, or replacement with a single-lane modular steel panel structure.

The subject culvert is not identified as a built heritage resource by the municipality and is not included on the *Ontario Heritage Bridge List* (Ministry of Transportation, 2010). As the subject bridge was constructed before 1956, it requires a C.H.E.R. to determine cultural heritage value or interest as part of this Environmental Assessment (Municipal Engineers Association, 2023). Research was completed to investigate, document, and evaluate the cultural heritage value of the subject culvert. The C.H.E.R. was completed by Meredith Stewart, Cultural Heritage Specialist and Leora Bebko, Cultural Heritage Technician, under the senior project management of Kristina Martens, Senior Project Manager, of the Cultural Heritage Division, A.S.I.





Figure 1: Location of the Northline Road Culvert (structure 44) on Northline Road in the Municipality of West Grey. Source: (c) Open Street Map contributors, Creative Commons n.d.

1.2 Legislation and Policy Context

Pursuant to the *Environmental Assessment Act* (Ministry of the Environment 1990), applicable infrastructure projects are subject to heritage assessment and/or evaluation to identify built heritage resources and cultural heritage landscapes and to determine related impacts on identified heritage properties (Ministry of Transportation, 2007). Infrastructure projects have the potential to impact built heritage resources and cultural heritage landscapes in a variety of ways such as loss or displacement of resources through removal or demolition and the disruption of resources by introducing physical, visual, audible, or atmospheric elements that are not in keeping with the resources and/or their setting.

The analysis used throughout the cultural heritage evaluation process addresses cultural heritage resources under other various pieces of legislation and their supporting guidelines. These policies form the broad context which frame this assessment, and are included as relevant to this undertaking based on professional opinion and with regard for best practices:

- *Environmental Assessment Act* (Ministry of the Environment 1990);
- *Ontario Heritage Act* (Ontario Heritage Act, R.S.O. c. O.18, 1990 [as Amended in 2021], 1990);
- *Ontario Heritage Tool Kit* (Ministry of Citizenship and Multiculturalism, 2006);
- *Ontario Heritage Bridge Guidelines* (Ministry of Culture and Ministry of Transportation, 2008);
- *Municipal Heritage Bridges Cultural, Heritage and Archaeological Assessment Checklist* (Municipal Engineers Association, 2023); and
- *Ontario Regulation 160/02, Standards for Bridges* (Public Transportation and Highway Improvement Act, R.S.O. 1990, c.P.50, 2002).



1.3 Approach to Cultural Heritage Evaluation Reports

The scope of a C.H.E.R. is guided by the *Ontario Heritage Tool Kit* (Ministry of Citizenship and Multiculturalism, 2006).

Generally, C.H.E.R.s include the following components:

- A general description of the history of the study area as well as detailed historical summary of property ownership and building(s) or structure development;
- A description of the cultural heritage landscapes and/or built heritage resources that are under evaluation in the report;
- Representative photographs of the exterior and interior of a building or structure, and character-defining architectural details;
- A cultural heritage resource evaluation guided by the *Ontario Heritage Act* criteria;
- A summary of heritage attributes;
- Historical mapping, photographs; and
- A location plan.

Using background information and data collected during the site visits, the property is evaluated using criteria contained within Ontario Regulation 9/06 of the *Ontario Heritage Act*. The criteria require a full understanding, given the resources available, of the history, design and associations of all cultural heritage resources of the property in the community context. If a property meets one criterion in Ontario Regulation 9/06, it is eligible for inclusion on a municipal heritage register as a non-designated, listed property. If a property meets two or more criteria, then it is eligible for designation under the *Ontario Heritage Act* (Ontario Heritage Act, R.S.O. c. O.18, 1990, as amended in 2022).

2.0 Community Engagement

The following section outlines the community consultation that was undertaken to gather and review information about the subject culvert.



2.1 Relevant Agencies/Stakeholders Engaged and/or Consulted

The following stakeholders were contacted with inquiries regarding the heritage status and for information concerning the subject culvert and any additional adjacent built heritage resources or cultural heritage landscapes:

- Geoff Aitken, Manager of Public Works, Municipality of West Grey (email communication 28 July 2023). Email correspondence confirmed that there were no known municipally listed or designated heritage properties or structures within or adjacent to the study area.
- The Ministry of Citizenship and Multiculturalism (email communication 10 August 2023). Email correspondence confirmed that there are no properties designed by the Minister and there are not believed to be any Provincial Heritage properties within the study area.
- The Ontario Heritage Trust (email communications 9 August 2023). A response indicated that there are no conservation easements or Trust-owned properties within or adjacent to the study area.
- Kate Jackson, Assistant Archivist, Grey Roots Archives (email communications 3 and 10 August 2023). A request for any information or documents relating to the construction date, engineer, or original design drawings for the Northline Road Culvert was sent to the Archives. No documents relating to the subject culvert were located by staff.

2.2 Agency Review

The draft report will be submitted to the Municipality of West Grey for review and comment. Any feedback received will be considered and incorporated into this report as appropriate. The final Cultural Heritage Evaluation Report will be submitted to the Ministry of Citizenship and Multiculturalism, and the Municipality of West Grey for their information.

2.3 Indigenous Nations Engagement

Indigenous Nation Engagement for this project is being completed by Triton Engineering Services Limited to Indigenous Nations that have an interest in the study area. An email was sent from Archaeological Services Incorporated (A.S.I.) to Triton Engineering Services Limited on 16 June 2023 inquiring about the scope of Indigenous engagement occurring as part of the project and requesting that A.S.I. be provided with feedback relating to Indigenous groups. No additional information or feedback had been received at the time of final report preparation.

3.0 Description of the Structure and Crossing

The following section provides a description of the subject culvert and crossing.

3.1 Existing Conditions

The Northline Road Culvert is a single-span concrete barrel arch culvert. The culvert carries the Saugeen River under Northline Road, approximately 330 metres east of Glenelg Road 23. The subject culvert was constructed by 1920 and is not known to have undergone any significant rehabilitation work (W.S.P., 2018). The culvert is located in a rural context with wooded lots on all sides. The Saugeen River flows under Northline Road in a generally north-south alignment.





Figure 2: South elevation of the Northline Road Culvert (Structure 44), looking northeast (A.S.I., 2023).



Figure 3: Aerial image of the subject bridge in the Municipality of West Grey (Google Maps)

3.2 Heritage Recognitions

The subject culvert is not recognized as a known or potential heritage property by the municipality, region, county, province, or federal government.

3.3 Adjacent Lands

The subject culvert is located in a rural context with wooded areas on all sides. No adjacent properties are listed or designated under the *Ontario Heritage Act*.

4.0 Research

This section provides: the results of primary and secondary research; a discussion of historical or associative value; a discussion of physical and design value; a discussion of contextual value; and results of comparative analysis.

4.1 List of Key Sources, Report Limitations, and Site Visit Information

The following section describes the sources consulted and research activities undertaken for this report.

4.1.1 Key Sources

Background historical research, which includes consulting primary and secondary source documents, photos, and historic mapping, was undertaken to identify early settlement patterns and broad agents or themes of change in the study area. In addition, online historical research was undertaken through the websites of the following libraries and archives to build upon information gleaned from other primary and secondary materials:

- The Toronto Reference Library
- The Grey Roots Archives

Available federal, provincial, and municipal heritage inventories and databases were also consulted to obtain information about the structure. These included:

- The *Ontario Heritage Act Register* (Ontario Heritage Trust, n.d.b);
- The *Places of Worship Inventory* (Ontario Heritage Trust, n.d.c);
- The inventory of Ontario Heritage Trust easements (Ontario Heritage Trust, n.d.a);
- The Ontario Heritage Trust's Ontario Heritage Plaque Guide: an online, searchable database of Ontario Heritage Plaques (Ontario Heritage Trust, n.d.d);



- Parks Canada's *Directory of Federal Heritage Designations*, an online database that identifies National Historic Sites, National Historic Events, National Historic People, Heritage Railway Stations, Federal Heritage Buildings, and Heritage Lighthouses (Parks Canada, n.d.b);
- Parks Canada's *Historic Places* website, an online register that provides information on historic places recognized for their heritage value at all government levels (Parks Canada, n.d.a);
- Inventory of bridges included at *Historicbridges.com*; and

No previous consultant reports associated with potential above-ground cultural heritage resources and archaeological resources within and/or adjacent and/or in the vicinity of the subject culvert in the Municipality of West Grey were available for review as part of this assessment.

A full list of references consulted can be found in Section 8.0 of this document.

4.1.2 Research and Report Limitations

No original design drawings of the subject culvert were available as part of this assessment, which presents a research limitation as the engineer responsible for designing the structure is unknown. Original design drawings were requested by Triton Engineering Services Limited from the Municipality of West Grey at project commencement; however, the municipality has no record of existing drawings in their possession (email communication 16 June and 4 July 2023). Triton Engineering Services Limited did provide as-built drawings for the subject culvert that provides dimensions of the structure on 4 July 2023.

4.1.3 Site Visit

A site visit to the subject culvert was conducted on 16 August 2023 by Leora Bebko of Archaeological Services Incorporated (A.S.I.). The site visit included photographic documentation of the exterior of the structure from the Northline Road right-of-way. Permission to enter was not required for adjacent properties, as all work was conducted from the publicly-accessible right-of-way.



4.2 Discussion of Historical or Associative Value

Historically, the property is located in the Township of Glenelg on the border between Lot 32, Concession 2 and Lot 32, Concession 3 in the County of Grey. It is now located in the Municipality of West Grey, approximately 330 metres east of Glenelg Road 23.

4.2.1 Summary of Early Indigenous History in Southern Ontario

Southern Ontario has been occupied by human populations since the retreat of the Laurentide glacier approximately 13,000 years before present (B.P.) (Ferris, 2013). Populations at this time would have been highly mobile, inhabiting a boreal-parkland similar to the modern sub-arctic. By approximately 10,000 B.P., the environment had progressively warmed (Edwards & Fritz, 1988) and populations now occupied less extensive territories (Ellis & Deller, 1990).

Between approximately 10,000-5,500 B.P., the Great Lakes basins experienced low-water levels, and many sites which would have been located on those former shorelines are now submerged. This period produces the earliest evidence of heavy wood working tools, an indication of greater investment of labour in felling trees for fuel, to build shelter, and watercraft production. These activities suggest prolonged seasonal residency at occupation sites. Polished stone and native copper implements were being produced by approximately 8,000 B.P.; the latter was acquired from the north shore of Lake Superior, evidence of extensive exchange networks throughout the Great Lakes region. The earliest evidence for cemeteries dates to approximately 4,500-3,000 B.P. and is indicative of increased social organization, investment of labour into social infrastructure, and the establishment of socially prescribed territories (Brown, 1995, p. 13; Ellis et al., 1990, 2009).

Between 3,000-2,500 B.P., populations continued to practice residential mobility and to harvest seasonally available resources, including spawning fish. The Woodland period begins around 2,500 B.P. and exchange and interaction



networks broaden at this time (Spence et al., 1990, pp. 136, 138) and by approximately 2,000 B.P., evidence exists for small community camps, focusing on the seasonal harvesting of resources (Spence et al., 1990, pp. 155, 164). By 1,500 B.P. there is macro botanical evidence for maize in southern Ontario, and it is thought that maize only supplemented people's diet. There is earlier phytolith evidence for maize in central New York State by 2,300 B.P. - it is likely that once similar analyses are conducted on Ontario ceramic vessels of the same period, the same evidence will be found (Birch et al., 2021). As is evident in detailed Anishinaabek ethnographies, winter was a period during which some families would depart from the larger group as it was easier to sustain smaller populations (Rogers, 1962). It is generally understood that these populations were Algonquian-speakers during these millennia of settlement and land use.

From the beginning of the Late Woodland period at approximately 1,000 B.P., lifeways became more similar to that described in early historical documents. Between approximately 1000-1300 Common Era (C.E.), the communal site is replaced by the village focused on horticulture. Seasonal disintegration of the community for the exploitation of a wider territory and more varied resource base was still practised (Williamson, 1990, p. 317). By 1300-1450 C.E., this episodic community disintegration was no longer practised and populations now communally occupied sites throughout the year (Dodd et al., 1990, p. 343). By the mid-sixteenth century these small villages had coalesced into larger communities (Birch et al., 2021). Through this process, the socio-political organization of the First Nations, as described historically by the French and English explorers who first visited southern Ontario, was developed. The arrival of European trade goods in the sixteenth century, Europeans themselves in the seventeenth century, and increasing settlement efforts in the eighteenth century all significantly impacted traditional ways of life in Southern Ontario. Over time, war and disease contributed to death, dispersion, and displacement of many Indigenous peoples across the region. The Euro-Canadian population grew in both numbers and power through the eighteenth and nineteenth centuries and treaties between colonial administrators and First Nations representatives began to be negotiated.



The study area is located in the traditional territory of the Saugeen Ojibway Nation (S.O.N.), the collective name for the Saugeen Ojibway First Nation and the Chippewas of Nawash Unceded First Nation, known as *Saukiing Anishnaabekiing*. *Saukiing Anishnaabekiing* includes the Saugeen Peninsula (or Bruce Peninsula), the waters and islands of Lake Huron and Georgian Bay surrounding the Saugeen Peninsula, and extends south to include the Maitland River watershed and east to include the Nottawasaga River watershed in part of Grey, Bruce, Huron, Perth, Wellington, Dufferin, and Simcoe Counties (Saugeen Ojibway Nation, 2011).

The study area is within Treaty 45 ½, The Saugeen Tract Purchase, which was agreed upon on August 9, 1836 along with Treaty 45 (Treaty of Manitowaning/Manitoulin Island Treaty). The treaty covers land of the Saugeen Ojibway Nation's traditional territory. The treaty was signed by representatives of the Crown and Anishinaabek leaders in Manitowaning during an annual distribution of gifts for Indigenous peoples (Ministry of Indigenous Affairs, 2022). In exchange for the 1.5 million acres the Crown was to provide economic assistance in the form of housing and the means to cultivate land as well as protection from white settlers' encroachment onto their lands. The land covered by Treaty 45 ½ extends from the town of Arthur in the southeast to approximately the town of Kingsbridge on Lake Huron to the southwest, then north to Southampton in the northwest and across to the northwestern corner of the former Sydenham Township on Georgian Bay in the northeast (Ministry of Indigenous Affairs, 2020; *Treaty History | Saugeen Ojibway Nation Environment Office*, n.d.).

With the signing of the 1818 Lake Simcoe-Nottawasaga Treaty 18 and the 1836 "Saugeen Tract Agreement" Treaty 45 ½, Ojibway chiefs granted the Crown approximately 1.5 million acres of land south of the Peninsula in an effort to secure a land base on Manitoulin Island along the shores of Lake Huron and southern Georgian Bay (Crown-Indigenous Relations and Northern Affairs, 2016). In exchange for the land surrendered under Treaty 45 ½, the Crown promised to protect the Saugeen Peninsula forever (Saugeen Ojibway Nation, 2021).



4.2.2 Township of Glenelg

The first Europeans to arrive in the area were transient merchants and traders from France and England. These traders followed existing transit routes established by Indigenous peoples and set up trading posts at strategic locations along the well-traveled river routes. All of these occupations occurred at sites that afforded both natural landfalls and convenient access, by means of the various waterways and overland trails into the hinterlands. Early transportation routes followed existing Indigenous trails, both along the lakeshore and adjacent to various creeks and rivers (A.S.I. 2006). Early European settlements occupied similar locations as Indigenous settlements as they were generally accessible by trail or water routes and would have been in locations with good soil and suitable topography to ensure adequate drainage.

Historically, the property is located in the Township of Glenelg on the border between Lot 32 Concession 2 and Lot 32 Concession 3.

Glenelg Township, in Grey County, is named for Charles Grant, the first and only Baron Glenelg, who served as the British Colonial Secretary under Lord Grey. His indecisiveness is often credited partial responsibility for the Upper Canada Rebellion of 1837. It was said of Lord Glenelg that, “with the best intentions in the world, he had a positive genius for doing the wrong thing” (Neville, 1985).

In 1842, with the Garafraxa Road mostly completed from Fergus to Owen Sound, the Crown Lands Commissioner began advertising qualifications for free land grants of 50 acres along the Garafraxa Road through Glenelg Township. The first settler in the township was John Jessiman of Scotland. The first hotel, called the British Hotel, was opened in the early 1840s by Archibald Hunter on land on the northeast corner of the Garafraxa and Durham Roads. This would be the beginning of the settlement that would become the Town of Durham (Black et al., 1948; Neville, 1985).

The 1840s to the 1860s saw a great wave of immigration to the Township, with its population reaching 3,065 in 1861. The early settlers in Glenelg Township were almost exclusively from Britain and Ireland, with the exception of several



Black settlers who had escaped enslavement in the United States. The first church was Methodist and opened in 1851 and the first post office opened in Latona in 1853 (Black et al., 1948; Mika & Mika, 1981; Neville, 1985).

The population declined sharply between 1861 and 1867 as 70 families left the township, many moving to Kansas and other American states. In 1873, the Georgian Bay and Wellington Railway reached the northeastern corner of the township creating a small boom in the town of Markdale and its surrounding area. However, the township's population decreased steadily over the following decades and into the twentieth century, particularly with the separation of the Town of Durham in 1872 and the Town of Markdale in 1888.

The population decline continued and by 1978, Glenelg Township had a population of only 1,416 (Black et al., 1948; Mika & Mika, 1981; Neville, 1985). In 2001, Glenelg Township amalgamated with the Townships of Bentnick and Normanby, the Village of Neustadt, and the Town of Durham to form the Municipality of West Grey.

4.2.3 Saugeen River

The subject culvert carries the Saugeen River under Northline Road. The Saugeen River system is the third longest river system in southern Ontario, measuring approximately 198 kilometres in length. The river flows from the headwaters in Dundalk and empties into Lake Huron at the Town of Southampton, flowing through Bruce, Dufferin, Grey, Huron, and Wellington Counties. Altogether, the Saugeen River watershed covers 4,675 kilometres squared and is overseen by the Saugeen Conservation Authority (Saugeen Conservation, 2022).

Historically, the Saugeen River has served as an important transport route and food source for the Indigenous communities who inhabited the Bruce Peninsula centuries before the arrival of Europeans, including the Saugeen Ojibway Nation (S.O.N.) who share a name with the river. Early European settlers used the river as a trade route and as a means of traveling to the northern townships where access by road or inland trails was often difficult or impossible. As settlers



claimed the land on the banks of the river, it became an important power source to numerous mills and industries. Today, the Saugeen River continues to be important to local communities and visitors and is a popular destination for outdoor recreational activities including canoeing/kayaking, fishing, hiking, and camping (Barkwell, 2007; Bruce County Genealogical Society, 2021; Saugeen Conservation, 2023).

4.2.4 Early Culvert Building

In the early days of European settlement in Ontario, wooden structures were generally used for short span bridges and culverts, due to the relative ease of construction and the low costs associated. Beginning in the late nineteenth century, simple wooden box-culverts and sluices were replaced with more durable concrete pipe, arch, and box culverts as supplies of inexpensive quality lumber dwindled, and population growth caused increased traffic on roadways (Ontario Department of Public Works, 1899). By the early twentieth century, wooden culverts were largely replaced by more durable cast-in-place concrete structures. These cast-in-place concrete culverts were in turn increasingly replaced with precast concrete culverts in the late twentieth century due to the ease of installation, low cost, and minimal site disturbance (Stesel, 2014). The Northline Road Culvert is an early twentieth century cast-in-place concrete structure that has not been replaced by a later pre-cast culvert.

4.2.5 Concrete Arch Culverts

As part of general background research on culvert construction, the Ontario Department of Public Works Annual Reports for 1899 and the early 1900s were consulted. The archival research revealed that in 1899 the Ontario Department of Public Works was recommending the replacement of timber culverts with more durable materials. According to the 1899 Annual Report, cedar was principally used for culvert construction, however, even with the rot-resistant properties the cedar structures were subject to warping, frost displacement, and decay making them structurally unsound generally after eight years (Ontario Department of Public Works, 1899). Instead, sewer pipe, concrete pipe, and



4.2.6 Historical Chronology and Setting of the Subject Crossing

The following provides a brief overview of the historical chronology of the subject crossing, as provided in available sources, as well as a mapping review. It is based on a variety of primary and secondary source materials, including maps, archival images, and historic photographs.

The 1880 *Illustrated Historical Atlas of the County of Grey and Bruce* (Belden, 1880) was reviewed to determine the historical setting of the subject culvert in the nineteenth century (Figure 5). It should be noted, however, that not all features of interest were mapped systematically in the Ontario series of historical atlases, given that they were financed by subscription, and subscribers were given preference with regard to the level of detail provided on the maps. Moreover, not every feature of interest would have been within the scope of the atlases.

The mapping from 1880 depicts Northline Road as a historically surveyed settlement road following its present alignment. Northline Road is shown crossing the Saugeen River, which follows a similar alignment to the present, at the site of the current crossing, though no specifics of the bridge or culvert are given. No owners are indicated for the lots surrounding the subject crossing.

In addition to nineteenth-century mapping, historical topographic mapping and aerial photographs from the twentieth century were examined. This report presents maps and aerial photographs from 1945, 1954, and 1993 (Figure 6 to Figure 8). Generally, these maps demonstrate that the study area retained a rural context throughout the late nineteenth century and into the late twentieth century.

The 1945 map (Figure 6) depicts the subject culvert, constructed by 1920, for the first time in the historical maps reviewed as part of this assessment (W.S.P., 2018). The construction of the subject culvert is described in Section 4.3.3. The culvert is labeled as a concrete structure. There are trees depicted on both sides



of the crossing. The area surrounding the culvert has several structures, likely farms or rural residential properties, showing the continued rural context of the crossing. This context is still evident in the 1954 aerial photograph (Figure 7). The trees on the west side of the crossing have been cleared for agricultural use. No details of the subject culvert are discernable in this mapping.

The 1993 topographic map (Figure 8) shows the crossing within a continued rural setting with no noticeable development in the surrounding area. The culvert is depicted in this mapping, but no construction material is indicated.

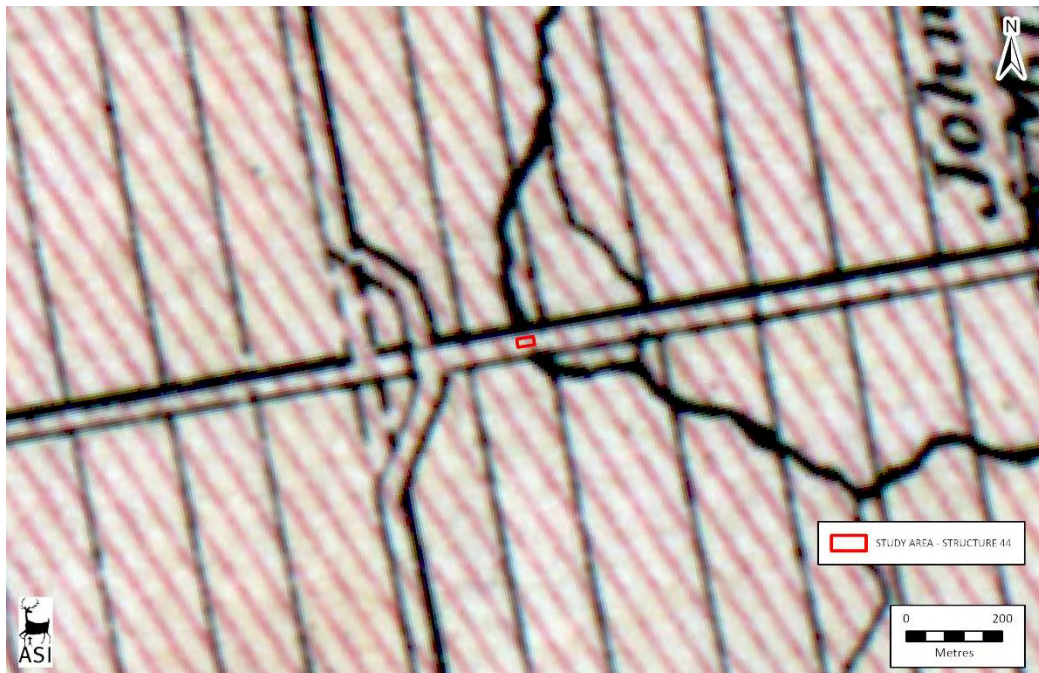


Figure 5: The location of the subject culvert overlaid on the 1880 Illustrated Historical Atlas of the Counties of Grey and Bruce (Base Map: Belden, 1880).

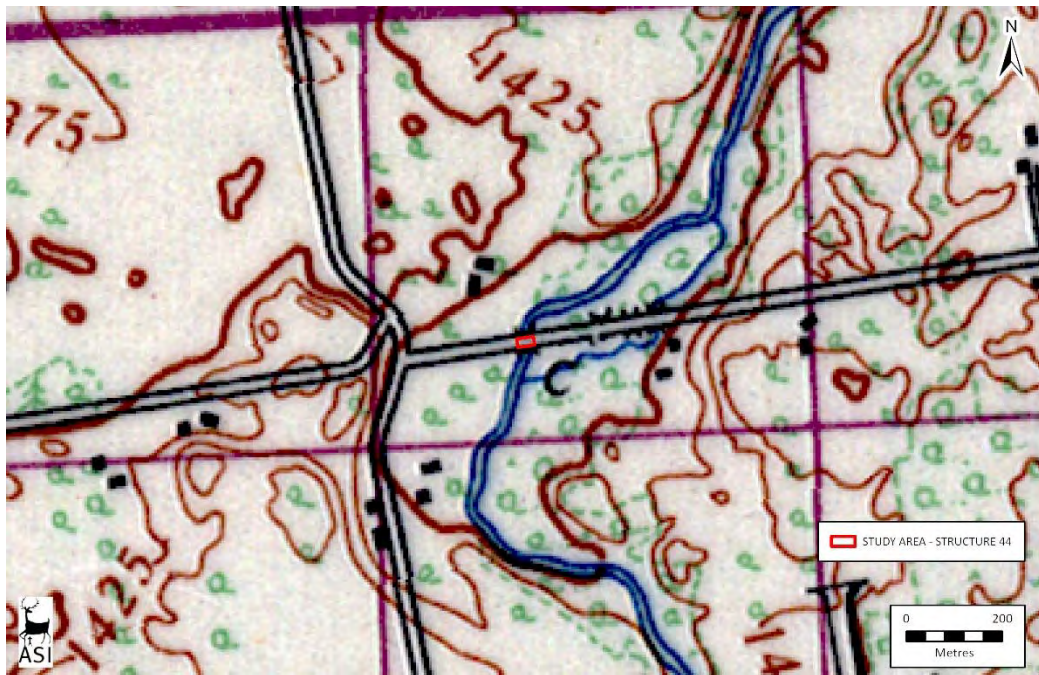


Figure 6: The location of the subject culvert overlaid on the 1945 topographic map of Durham (Base Map: Department of National Defence, 1945).

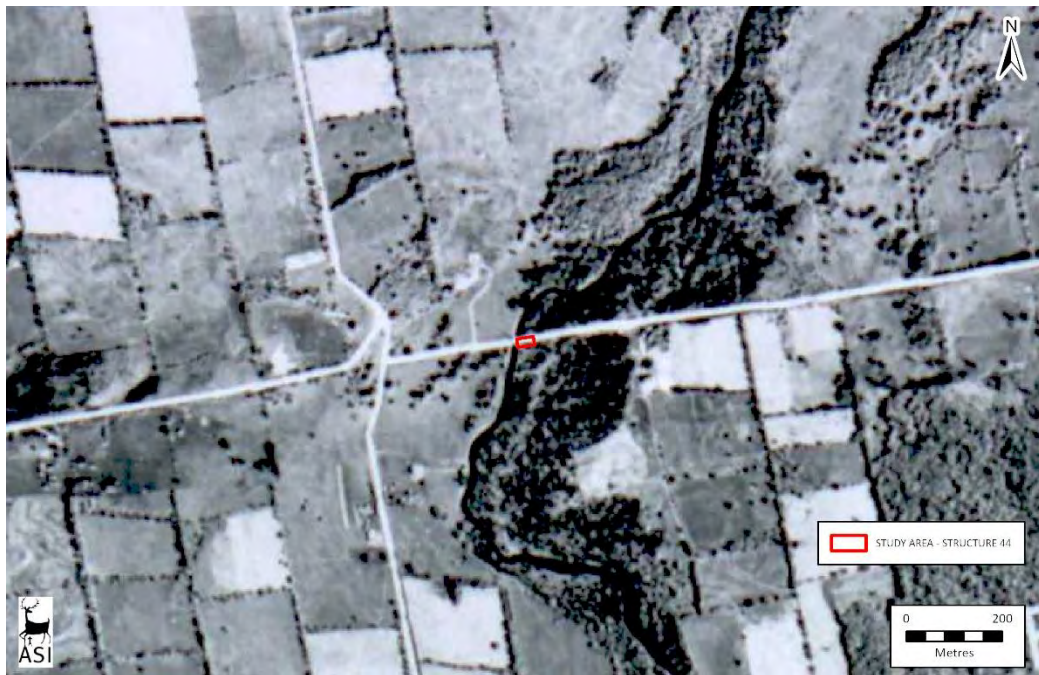


Figure 7: The location of the subject culvert overlaid on the 1954 aerial photograph (Base Map: Ontario Department of Lands and Forests, 1954).

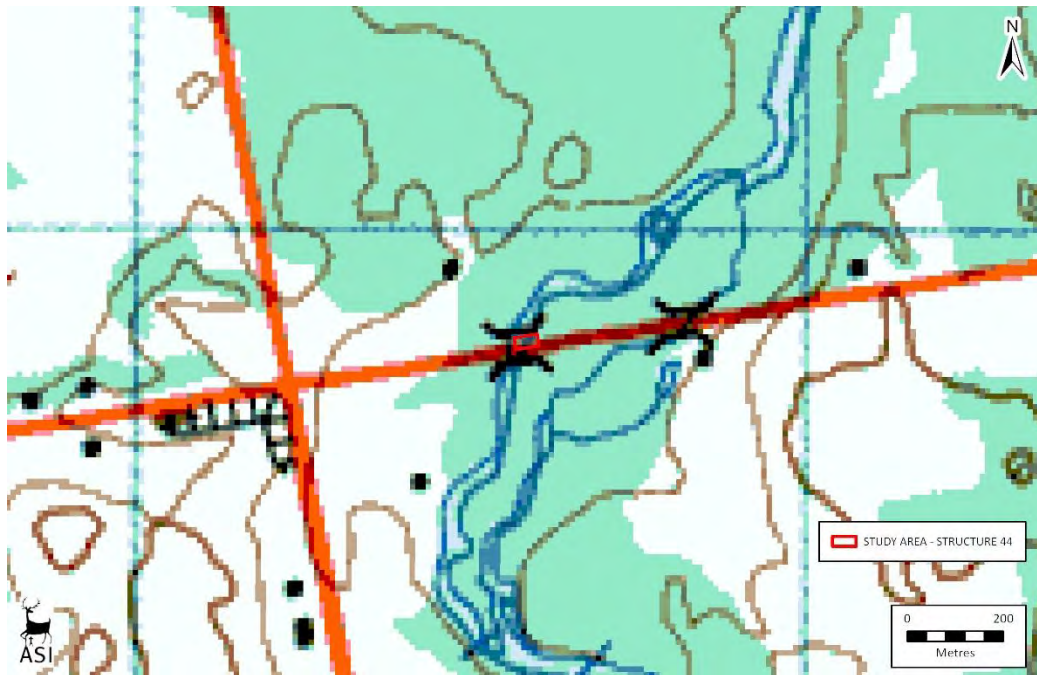


Figure 8: The location of the subject culvert overlaid on the 1993 topographic map of Durham (Department of Energy, Mines and Resources, Canada, 1993).

4.3 Discussion of Physical and Design Value

The 2018 and 2022 Ontario Structure Inspection Manual (O.S.I.M.) reports of the subject culvert were reviewed as part of this assessment to describe the physical and design value of the subject culvert (Burgess Engineering Inc., 2022; W.S.P., 2018). No original structural drawings were available at the time of report preparation. A field review was undertaken to conduct photographic documentation of the culvert and to collect data relevant for completing a heritage evaluation of the structure. The following description of the structure, including the dates of interventions and existing conditions, is based on a combination of the results of the field review and historical background research on the subject culvert. Photographic documentation of the current conditions of the culvert is provided in Figure 9 to Figure 22. Further, photographs of comparative concrete arch culverts in Southern Ontario are also provided in Section 4.5.1.

4.3.1 Physical Characteristics

The Northline Road Culvert is a single-span concrete barrel arch culvert built by 1920. The culvert carries the Saugeen River under Northline Road in a generally north-south alignment. The subject culvert has an overall length of 16.7 metres, a span length of 13.7 metres, and an overall width of 6.1 metres (Figure 2) (Burgess Engineering Inc., 2022).

Concrete barrel arch culverts are cast-in place with the deck of the culvert integrated with the concrete abutments. The deck of the subject culvert is overlaid with a gravel wearing surface that is 5.5-metres-wide. On either side of the roadway are concrete curbs and barriers that are integrated into the concrete culvert's superstructure. The culvert does not have any decoration or ornamentation. Evidence of the wooden forms used during construction are visible on both bridge elevations, the underside of the span, and the barriers (Figure 9 to Figure 12). The culvert's simple construction and the presence of rebar in a twisted bar design (visible due to concrete deterioration) indicates that the culvert may be older than the 1920 date contained in the bridge inventory or indicates that it was constructed using earlier construction methods and materials than were common in the time period (Holth, 2020). Considerable damage and deterioration to the culvert's concrete substructure and superstructure were evident at the time of field review. There was also considerable vegetation growth along the curbs on both sides of the culvert deck (Figure 13 to Figure 19). The Saugeen River passes under the subject culvert in a generally north-south direction with pine woodlots on both sides. The trees directly abut the roadway and several of them are within very close proximity to element of the culvert (Figure 20 to Figure 22).

The culvert is owned by the municipality and carries approximately 100 vehicles per day (Burgess Engineering Inc., 2022). No information on any previous rehabilitations was available at the time of report submission. No original design drawings for the subject culvert were available at the time of report submission, however, as-built drawings completed in September 2021 detail the culvert's design and dimensions. These drawings are included in Appendix C.



4.3.2 Existing Conditions Photographs



Figure 9: North elevation of Northline Road Culvert, looking southwest (A.S.I., 2023).



Figure 10: South elevation of the Northline Road Culvert, looking west (A.S.I., 2023).



Figure 11: Western approach to the Northline Road Culvert, looking east (A.S.I., 2023).



Figure 12: Eastern approach to the Northline Road Culvert, looking west (A.S.I., 2023).



Figure 13: Detail view of gravel deck and concrete curbs and barrier. Note significant visible deterioration to concrete (A.S.I., 2023).



Figure 14: Detail view of north side of eastern abutment. Significant deterioration is visible at the waterline and at the berm (A.S.I., 2023).



Figure 15: Detail view of barrel soffit showing concrete deterioration and exposed rebar (A.S.I., 2023).



Figure 16: Detail view of southern concrete barrier (A.S.I., 2023).



Figure 17: Detail view of significant deterioration on barrier and growth of vegetation on curbs on western approach (A.S.I., 2023).



Figure 18: Detail view of exposed rebar on concrete barrier (A.S.I., 2023).



Figure 19: Detail view of significant deterioration to concrete barrier and curb (A.S.I., 2023).



Figure 20: Trees and tree stumps right next to the culvert's northeastern abutment (A.S.I., 2023).



Figure 21: Saugeen River looking north from the Northline Road Culvert (A.S.I., 2023).



Figure 22: Saugeen River looking south from the Northline Road Culvert (A.S.I., 2023).

4.3.3 Bridge Construction, Evolution, and Alterations

The subject culvert was reportedly constructed by 1920 (Burgess Engineering Inc., 2022) based on the designs of an unknown engineer. The culvert is assumed to have been designed in-house by an engineer with the County of

Grey and approved by the Department of Highways, Ontario, as was common practice at the time, however, this could not be verified as original structural drawings of the culvert showing the name of the engineer were not available at the time of report preparation.

No information about the original culvert or bridge at this crossing was available at the time of report preparation, however, it is assumed to have been an expedient timber structure based on historical research into bridge building in Glenelg Township and common practices at the time. In the early decades of the township, Council constructed 24 wooden bridges at sites suggested by a government survey. Timber bridges could be erected cheaply and expediently due to the abundance of timber available in the area and didn't require specialised contractors or equipment like concrete and steel structures did, but proved difficult to maintain due to springtime flooding. Many of these bridges were replaced with steel structures with wooden decks that were later re-decked with concrete. Later bridge and culvert replacements were concrete structures: a contract with Township Council from 1924 lists a price of \$6,200 for two "cement" bridges in the township (Black et al., 1948; Neville, 1985).

To construct the culvert, a wood plank formwork would have been constructed in-situ and concrete poured in around reinforcing steel. Once cast, the wooden formwork would be removed. The abutments, span, barriers, and curbs of the culvert would have been constructed in this way. In Figure 10 and Figure 19, lines created by the wooden planks of the formwork can be seen across the southern elevation of the culvert. The wearing gravel surface was then added above the structure.

According to available documentation, the subject culvert has not been subject to any major rehabilitations since its construction by 1920 (Holth, 2020).

The 2022 Ontario Structure Inspection Manual (O.S.I.M.) Inspection Form determined that the culvert was in overall poor condition with a Bridge Condition Index (B.C.I.) of 51 and noted severe spalling and disintegration throughout the barriers and parapet walls; severe spalling of the curbs; severe



spalling, disintegration, and waterline scouring to the outlets and inlets; and severe spalling with exposed reinforcements and disintegration at the waterline to the barrel. Based on the poor condition of the culvert and an estimated rehabilitation cost of \$888,000, the O.S.I.M. recommended the structure be replaced in 1 to 5 years.

4.4 Discussion of Contextual Value

The following section discusses the contextual value of the subject culvert.

4.4.1 Setting and Character of the Culvert and Surroundings

The subject culvert is within a rural setting surrounded by wooded lots. The Saugeen River flows in a generally north-south direction under the Northline Road Culvert at the subject crossing.

Northline Road is a historically surveyed concession road which is shown crossing the Saugeen River in the 1880 *Illustrated Historical Atlas of Grey and Bruce* (Figure 5). The subject culvert was reportedly constructed by 1920 (Burgess Engineering Inc., 2022) and is one of several cast-in-place concrete culverts and bridges that cross the Saugeen River along Northline Road. The subject culvert supports the rural character of the surroundings by maintaining the history of the crossing, established in the late 1800s, and providing access to the surrounding rural properties. Northline Road and the subject crossing are also used for leisure activities like Quad-biking (as observed during field review).





Figure 23: View of the Northline Road Culvert and surrounding wooded area, looking east (A.S.I., 2023).

4.4.2 Community Landmark

The subject culvert is not considered to be a significant community landmark. The annual average daily traffic (A.A.D.T.) volume for Northline Road Culvert is low, estimated at 100 vehicles per day, and the culvert structure is minimally visible from the roadway. There are no significant views of the culvert structure from nearby areas. The culvert is also not believed to be a landmark for boaters on the waterway as it is plainly designed and appears similar to several other nearby bridges and culverts on the Saugeen River.

4.5 Comparative Analysis

The Northline Road Culvert is a single-span concrete barrel arch culvert reportedly constructed by 1920 on Northline Road approximately 330 metres east of Glenelg Road 23. The culvert carries the Saugeen River under Northline Road. The culvert has a deck length of 16.7 metres, a span length of 13.7

metres, and an overall width of 6.1 metres (Burgess Engineering Inc., 2022). For the purposes of this comparative analysis, the Ministry of Transportation's (M.T.O.) Bridge Inventory (West Region) and the inventory on *historicbridges.org* were examined for similar concrete barrel arch culverts or bridges.² The M.T.O. inventory did not list any similar bridges or culverts. *Historicbridges.org* listed three similar bridges (two of which are listed together as "Twin Bridges") in Grey County. A list of bridges used in this comparative analysis is provided in Appendix B.

4.5.1 Comparable Concrete Barrel Arch Bridges/Culverts

There is no construction date listed for the Twin Bridges (Figure 24), only the North Line Saugeen River Bridge (Structure 38), constructed in 1920 (Holth, 2020), has a construction date (Figure 25). The subject culvert also has a construction date of circa 1920.

No information on deck length was available at the time of report production for the three comparable bridges, however a visual inspection of the North Line Saugeen River Bridge, undertaken during field review, determined the bridge to be of a similar length to the subject culvert. The comparable structures in this analysis are all also single-span structures with visually similar span shapes.

The North Line Saugeen River Bridge has a very similar construction to the subject culvert with integrated concrete curbs and barriers. The barriers, like the subject culvert, slant downwards slightly at the ends. The North Line Saugeen River Bridge has an asphalt wearing surface (Figure 26).

The subject culvert is one of four comparable concrete barrel arch structures in this sample. While the construction date of the Twin Bridges is unknown they are assumed to have been constructed in the early twentieth century. As none

² Information on municipally operated structures within the Municipality of West Grey constructed of a similar time and/or method to Structure 44 were requested but not provided by the time of report production. In the absence of municipal comparable structures, the M.T.O. Bridge Inventory and *historicbridges.org* were consulted.



of the comparative structures have listed dimensions, their relative size had to be inferred from a visual inspection during field review (North Line Saugeen River Bridge) or from photographic evidence (Twin Bridges).

The subject culvert is one of few remaining representative examples of early twentieth-century concrete barrel arch structures in the local context. While the subject culvert is similar in terms of age, size, and number of spans within this comparative sample, when the very small size of the comparative sample is taken into account, it is clear that the subject culvert is significant in the local context in terms of its construction and typology. It is also significant in terms of age when compared to the M.T.O.'s Bridge Inventory (West Region) which lists a 1924 construction date for its earliest structure of any type.



Figure 24: One of the Twin Bridges
(historicbridges.org).



Figure 25: The North Line Saugeen River Bridge (A.S.I., 2023).



Figure 26: Detail view of the deck, barriers, and curbs of the North Line Saugeen River Bridge (A.S.I., 2023).

5.0 Heritage Evaluation

The evaluation of the Northline Road Culvert using the criteria set out in Ontario Regulation 9/06 is presented in the following section (Section 5.1). The following

evaluation has been prepared in consideration of data regarding the design/physical, historical/associative, and contextual values in the County of Grey.

5.1 Ontario Regulation 9/06

Evaluation of the Northline Road Culvert using Ontario Regulation 9/06 of the *Ontario Heritage Act*:

1. The property has design value or physical value because it is a rare, unique, representative or early example of a style, type, expression, material or construction method.
 - The Northline Road Culvert is a single-span concrete barrel arch structure with a length of 16.7 metres and was constructed by 1920 to carry the Saugeen River under Northline Road (Holth, 2020). The subject culvert was constructed using a cast-in-place method of construction, which was a construction technique that was gaining traction in the early twentieth century. The subject culvert exhibits traits of this method through the visible impressions of the wood formwork in the concrete surface. The subject culvert is also one of a few remaining examples of early-twentieth century concrete barrel arch structures to be constructed using a cast-in-place method of construction in the Municipality of West Grey. As a result, the subject culvert represents a rare, surviving example of an early method of the cast-in-place construction method.
 - The subject culvert meets this criterion.
2. The property has design value or physical value because it displays a high degree of craftsmanship or artistic merit.
 - The subject culvert is of a simple cast-in-place concrete construction with no decoration or ornamentation, evidenced by the impression of the wooden forms used during construction that remain visible on the bridge superstructure and substructure and were never covered with a



- finishing coat. It does not display a high degree of craftsmanship or artistic merit.
- The subject culvert does not meet this criterion.
3. The property has design value or physical value because it demonstrates a high degree of technical or scientific achievement.
- The subject culvert exhibits a low degree of technical or scientific achievement given its short span, common construction materials for the period, and the easy access and gentle flow of the watercourse below.
 - The subject culvert does not meet this criterion.
4. The property has historical value or associative value because it has direct associations with a theme, event, belief, person, activity, organization or institution that is significant to a community.
- The subject culvert is located within a sparsely populated rural context. It was reportedly constructed by 1920 on an existing concession road (Burgess Engineering Inc., 2022) and is not directly associated with any person, event, or settlement significant to the history or settlement patterns of Glenelg Township or the Municipality of West Grey.
 - The subject culvert does not meet this criterion.
5. The property has historical value or associative value because it yields, or has the potential to yield, information that contributes to an understanding of a community or culture.
- The subject culvert does not contribute information to an understanding of a community or culture and does not meet this criterion.
6. The property has historical value or associative value because it demonstrates or reflects the work or ideas of an architect, artist, builder, designer or theorist who is significant to a community.



- The subject culvert is assumed to have been designed by an engineer with the County of Grey and approved by the Department of Highways, Ontario. The individual engineer responsible for its design is not known, nor is the builder/contractor.
 - The subject culvert does not meet this criterion.
7. The property has contextual value because it is important in defining, maintaining or supporting the character of an area.
- The subject culvert carries the Saugeen River under Northline Road in the Municipality of West Grey. The culvert is not an original structure at this location and is presumed to be a replacement to an earlier structure at this crossing. The crossing itself, and not the subject culvert, contributes and maintains the nineteenth-century rural settlement context of the area.
 - The subject culvert does not meet this criterion.
8. The property has contextual value because it is physically, functionally, visually or historically linked to its surroundings.
- The location of the subject culvert has served as an historical bridging point for vehicles and farm equipment over the Saugeen River since the nineteenth century, and is physically associated with Northline Road, a historically-surveyed roadway. However, the subject culvert is not an original structure at this crossing, and as such, it is not significantly linked to its surroundings and does not meet this criterion.
9. The property has contextual value because it is a landmark.
- The Northline Road Culvert is not considered to be a gateway feature or to act as a significant physical or contextual division between streetscapes or landscapes.
 - The subject culvert does not meet this criterion.

Based on available information, it has been determined that the Northline Road Culvert meets one of the criteria contained in Ontario Regulation 9/06 of the *Ontario Heritage Act*.



6.0 Draft Statement of Cultural Heritage Value and Heritage Attributes

The Northline Road Culvert (Structure Number 44) in the Municipality of West Grey meets one out of the nine criteria outlined in Ontario Regulation 9/06, which considered the bridge within the local context. As such, the subject bridge should be considered to have cultural heritage value or interest at the local level. In particular, the subject culvert is considered to be one of few remaining representative examples of early-twentieth century concrete barrel arch structures in the area and is therefore significant in terms of its age, construction, and typology.

This section provides the description of the culvert, a description of its cultural heritage value or interest, and a list of associated heritage attributes.

6.1 Description of Property

The Northline Road Culvert (Structure Number 44) is a single-span concrete barrel arch culvert constructed in 1920 on Northline Road, approximately 330 metres east of Glenelg Road 23. The culvert carries the Saugeen River under Northline Road.

6.2 Cultural Heritage Value or Interest

The Northline Road Culvert (Structure Number 44) has physical and design value as one of a few remaining representative examples of early-twentieth century concrete barrel arch structures in the local context. It is therefore significant in terms of its age, construction, and typology.

The Northline Road Culvert is a single-span concrete barrel arch culvert reportedly constructed in 1920 on Northline Road, approximately 330 metres east of Glenelg Road 23. The culvert carries the Saugeen River under Northline Road. The Northline Road Culvert was constructed using a cast-in-place method of construction, which was a technique that was gaining in popularity in the



early twentieth century. Lines in the concrete from the wood board or plank formwork used to construct the culvert in-situ are still visible on the substructure and barriers. The structure features a concrete barrel arch with integrated barriers and concrete curbs. The culvert follows a utilitarian design with no decorative elements. The simple construction and design of the culvert, cast-in-place concrete construction method, along with the use of rebar in a twisted bar design may indicate a potentially earlier construction date than the recorded date of 1920. The Northline Road Culvert is also one of a few remaining examples of early-twentieth century concrete barrel arch structure to be constructed using a cast-in-place method of construction in the Municipality of West Grey. As a result, the subject culvert represents a rare surviving example of the typology.

6.3 Potential Heritage Attributes

Physical attributes of the Northline Road Culvert that express the physical and design value of the structure include:

- Single span structure including the scale and massing,
- Simple concrete barrel arch design with integrated barriers and curbs,
- Impressions of the wood forms used demonstrating the method of construction for the culvert and barriers..

7.0 Conclusions and Recommendations

This evaluation was prepared in consideration of data regarding the design/physical, historical/associative, and contextual values within the Municipality of West Grey. This evaluation determined that the Northline Road Culvert meets one of the nine criteria outlined in Ontario Regulation 9/06 of the *Ontario Heritage Act*, and therefore has cultural heritage value or interest at the local level. In particular, the subject culvert is considered to be one of few remaining representative examples of early-twentieth century concrete barrel arch structures in the area and is a significant as a rare, surviving example of the cast-in-place method of construction.



The following recommendations are proposed:

1. A Heritage Impact Assessment (H.I.A.) should be completed for the Northline Road Culvert as early as possible during the detailed design phase. This assessment should be completed by a qualified person who has relevant and recent experience in the conservation of culverts (see Section 3.0 of the *Standards and Guidelines for Conservation of Provincial Heritage Properties* [M.T.C.S. 2014] as a guide for best practice) and submitted to heritage staff at the Municipality of West Grey for review and approval and to the Ministry of Citizenship and Multiculturalism (M.C.M.) for review.
2. The proponent should submit this report to planning staff at the Municipality of West Grey, the M.C.M. and to any other relevant stakeholder that has an interest in the heritage of the subject culvert for their reference.



8.0 List of Resources Consulted

Archaeological Services Inc. (2006). *Historical Overview and Assessment of Archaeological Potential Don River Watershed, City of Toronto*. Report on file with the Ontario Ministry of Tourism, Culture and Sport.

Barkwell, L. J. (2007). *Saugeen*. Scribd.
<https://www.scribd.com/document/66536547/Saugeen>

Belden, H. (1880). *Illustrated Historical Atlas of the Counties of Grey & Bruce, Ont.* [Map]. H. Belden & Co.

Birch, J., Manning, S. W., Sanft, S., & Conger, M. A. (2021). Refined Radiocarbon Chronologies for Northern Iroquoian Site Sequences: Implications for Coalescence, Conflict, and the Reception of European Goods. *American Antiquity*, 86(1), 61–89.

Black, J. S., Binnie, G., R.T. Edwards, & Scott, E. (1948). *Glenelg History: Early Settlement and Pioneer Life*. Township Council of Glenelg; Toronto Reference Library.

Brown, J. (1995). On Mortuary Analysis – with Special Reference to the Saxe-Binford Research Program. In L. A. Beck (Ed.), *Regional Approaches to Mortuary Analysis* (pp. 3–23). Plenum Press.

Bruce County Genealogical Society. (2021, April 4). *History*. Bruce County Genealogical Society. <https://brucecountygenealogicalsociety.ca/history/>

Burgess Engineering Inc. (2022). *Northline Bridge (G-044) OSIM Biennial Inspection Report* [Ontario Structural Inspection Manual (OSIM) Report].

Crown-Indigenous Relations and Northern Affairs. (2016). *Saugeen Treaty 1836 No. 45 1/2*. Treaty Texts – Upper Canada Land Surrenders. <https://www.rcaanc-cirnac.gc.ca/eng/1370372152585/1370372222012#ucls17>



Department of Energy, Mines and Resources, Canada. (1993). *1993 National Topographic System Durham Sheet* [Map].

Department of National Defence. (1945). *1945 National Topographic System Durham Sheet* [Map].

Dodd, C. F., Poulton, D. R., Lennox, P. A., Smith, D. G., & Warrick, G. A. (1990). The Middle Ontario Iroquoian Stage. In C. J. Ellis & N. Ferris (Eds.), *The Archaeology of Southern Ontario to A.D. 1650* (pp. 321–360). Ontario Archaeological Society Inc.

Edwards, T. W. D., & Fritz, P. (1988). Stable-Isotope Paleoclimate Records from Southern Ontario, Canada: Comparison of Results from Marl and Wood. *Canadian Journal of Earth Sciences*, 25, 1397–1406.

Ellis, C. J., & Deller, D. B. (1990). Paleo-Indians. In C. J. Ellis & N. Ferris (Eds.), *The Archaeology of Southern Ontario to A.D. 1650* (pp. 37–64). Ontario Archaeological Society Inc.

Ellis, C. J., Kenyon, I. T., & Spence, M. W. (1990). The Archaic. In C. J. Ellis & N. Ferris (Eds.), *The Archaeology of Southern Ontario to A.D. 1650* (pp. 65–124). Ontario Archaeological Society Inc.

Ellis, C. J., Timmins, P. A., & Martelle, H. (2009). At the Crossroads and Periphery: The Archaic Archaeological Record of Southern Ontario. In T. D. Emerson, D. L. McElrath, & A. C. Fortier (Eds.), *Archaic Societies: Diversity and Complexity across the Midcontinent*. (pp. 787–837). State University of New York Press.

Environmental Assessment Act, R.S.O. c. E.18 (1990).

Ferris, N. (2013). Place, Space, and Dwelling in the Late Woodland. In M. K. Munson & S. M. Jamieson (Eds.), *Before Ontario: The Archaeology of a Province* (pp. 99–111). McGill-Queen's University Press.
<http://www.jstor.org/stable/j.ctt32b7n5.15>



Holth, N. (2020). *Northline Road Bridge*. HistoricBridges.Org.
<https://historicbridges.org/bridges/browser/?bridgebrowser=ontario/northlineroadwest/>

Mika, N., & Mika, H. (1981). *Places In Ontario: Their Name Origins and History, Part II, F-M* (<https://archive.org/details/placesinontariot0002mika>; Vol. 2). Mika Publishing Company; Internet Archive.

Ministry of Citizenship and Multiculturalism. (1990). *Ontario Heritage Act, R.S.O. c. O.18*.

Ministry of Citizenship and Multiculturalism. (2006). *Ontario Heritage Tool Kit*.

Ministry of Citizenship and Multiculturalism. (2014). *Standards and Guidelines for Conservation of Provincial Heritage Properties: Identification and Evaluation Process*. http://www.mtc.gov.on.ca/en/heritage/MTCS_Heritage_IE_Process.pdf

Ministry of Culture and Ministry of Transportation. (2008). *Ontario Heritage Bridge Guidelines (OHBG) (Interim – January 11 2008)*.

Ministry of Indigenous Affairs. (2020). *Map of Ontario Treaties and Reserves*. Government of Ontario. <https://www.ontario.ca/page/map-ontario-treaties-and-reserves#t16>

Ministry of Indigenous Affairs. (2022). *Treaties in Ontario: Saugeen Tract Purchase Treaty 45 ½*. <https://www.ontario.ca/page/map-ontario-treaties-and-reserves#treaties>

Ministry of Transportation. (2007). *Environmental Guide for Built Heritage and Cultural Heritage Landscapes*.
[http://www.raqsbc.mto.gov.on.ca/techpubs/eps.nsf/0/0c286507a82cde53852572d70059fdf9/\\$FILE/FINAL_MTO%20Env%20Guide%20BHCHL%20Final%202007%20ACC.pdf](http://www.raqsbc.mto.gov.on.ca/techpubs/eps.nsf/0/0c286507a82cde53852572d70059fdf9/$FILE/FINAL_MTO%20Env%20Guide%20BHCHL%20Final%202007%20ACC.pdf)



Ministry of Transportation. (2010). *The Ontario Heritage Bridge List—December 2010*. On file with the author.

Ministry of Transportation. (2017). *MTO Bridge Inventory*.

Municipal Engineers Association. (2023). *Municipal Bridges Criteria for Evaluating Potential for Cultural Heritage Resources*.

Neville, M. A. (1985). *A History of Glenelg Township*. Township of Glenelg; Toronto Reference Library.

Ontario Department of Lands and Forests. (1954). *Air Photos of Southern Ontario*. *McMaster University Library Digital Archive*.
<https://digitalarchive.mcmaster.ca/islandora/object/macrepo%3A73290>

Ontario Department of Public Works. (1899). *Department of Highways Annual Report, 1899*.

Ontario Department of Public Works. (1900). *Department of Highways Annual Report, 1900*.

Ontario Heritage Act, R.S.O. c. O.18, 1990 [as Amended in 2021] (1990).

Ontario Heritage Trust. (n.d.a). *Easement Properties*. Ontario Heritage Trust.
<https://www.heritagetrust.on.ca/en/property-types/easement-properties>

Ontario Heritage Trust. (n.d.b). *Ontario Heritage Act Register*.
<https://www.heritagetrust.on.ca/en/pages/tools/ontario-heritage-act-register>

Ontario Heritage Trust. (n.d.c). *Places of Worship Inventory*. Ontario Heritage Trust. <https://www.heritagetrust.on.ca/en/places-of-worship/places-of-worship-database>

Ontario Heritage Trust. (n.d.d). *Provincial Plaque Program*. Ontario Heritage Trust. <https://www.heritagetrust.on.ca/en/pages/programs/provincial-plaque-program>



Parks Canada. (n.d.a). *Canadian Register of Historic Places*.
<https://www.historicplaces.ca/en/home-accueil.aspx>

Parks Canada. (n.d.b). *Directory of Federal Heritage Designations*.
https://www.pc.gc.ca/apps/dfhd/search-recherche_eng.aspx

Public Transportation and Highway Improvement Act, R.S.O. 1990, c.P.50,
Ontario Regulation 160/02, Standards for Bridges. (2002).
<https://www.ontario.ca/laws/regulation/r02160>

Rogers, E. S. (1962). *The Round Lake Ojibwa*. Royal Ontario Museum.

Saugeen Conservation. (2022, January 31). *Canoeing and Kayaking*
[Conservation Authority]. Saugeen Conservation.
<https://www.saugeenconservation.ca/en/outdoors-and-recreation/canoeing-and-kayaking.aspx>

Saugeen Conservation. (2023, March 31). *About Us* [Conservation Authority].
Saugeen Conservation. <https://www.saugeenconservation.ca/en/about-us/about-us.aspx>

Saugeen Ojibway Nation. (2011). *Saugeen Ojibway Nation Claims Update Newsletter Mnookmi*.

Saugeen Ojibway Nation. (2021, August 25). *SAUGEEN & NAWASH COMMUNITY UPDATE: TITLE AND TREATY COURT DECISION | Saugeen Ojibway Nation Environment Office*. Saugeen Ojibway Nation Environment Office.
<https://www.saugeenojibwaynation.ca/news/saugeen-nawash-community-update-title-and-treaty-court-decision>

Spence, M. W., Pihl, R. H., & Murphy, C. (1990). Cultural Complexes of the Early and Middle Woodland Periods. In C. J. Ellis & N. Ferris (Eds.), *The Archaeology of Southern Ontario to A.D. 1650*. Ontario Archaeological Society Inc.



Stesel, K. (2014). Precast Concrete Culverts: More than meets the eye. *National Precast Concrete Association, Precast Solutions Magazine, Winter 2014*.

<http://precast.org/2014/01/precast-concrete-culvert-more-than-meets-eye/>

Treaty History | Saugeen Ojibway Nation Environment Office. (n.d.). Retrieved January 6, 2022, from <https://www.saugeenojibwaynation.ca/treaty-history>

Williamson, R. F. (1990). The Early Iroquoian Period of Southern Ontario. In C. J. Ellis & N. Ferris (Eds.), *The Archaeology of Southern Ontario to A.D. 1650* (pp. 291–320). Ontario Archaeological Society Inc.

W.S.P., (WSP Canada Inc.). (2018). *2018 OSIM Report for Structure No.44* (On file with the author) [Ontario Structural Inspection Manual (OSIM) Report].



Appendix A: Qualified Persons Involved in the Project

Kristina Martens, B.A., Dipl. Heritage Conservation **Senior Cultural Heritage Specialist, Assistant Manager - Cultural Heritage Division**

The Senior Project Manager for this Cultural Heritage Evaluation Report is **Kristina Martens** (B.A., Diploma Heritage Conservation), who is a Senior Cultural Heritage Specialist and Assistant Manager within the Cultural Heritage Division. She was responsible for: overall project scoping and approach; development and confirmation of technical findings and study recommendations; application of relevant standards, guidelines and regulations; and implementation of quality control procedures. She has over ten years of experience in the field of cultural heritage planning and management as a conservator and heritage consultant with Vitreous Glassworks and Taylor Hazell Architects prior to joining A.S.I. in 2018. Kristina brings a cultural landscape focus to the heritage planning process and draws on holistic methods for understanding the interrelationships between natural, built and intangible heritage. Kristina has extensive experience conducting field surveys and heritage analysis, including the comprehensive documentation and evaluation of cultural heritage resources in urban and rural settings. She brings together her experience in research, project management, documentation, built form and spatial analysis, architectural history, and built heritage conservation with the practical application of Ontario Regulation 9/06 and 10/06 of the Ontario Heritage Act and writing statements of cultural heritage value. Kristina is a graduate of the prestigious Willowbank School.

Meredith Stewart, M.A., M.S.c., C.A.H.P. **Cultural Heritage Specialist, Project Manager - Cultural Heritage Division**

The Project Manager for this Cultural Heritage Evaluation Report is **Meredith Stewart** (M.A., Art History, M.S.c., Historic Preservation), who is a Cultural Heritage Specialist and Project Manager within the Cultural Heritage Division. She was responsible for the day-to-day management activities, including scoping of research activities and site surveys and drafting of study findings and



recommendations. Meredith's work as a cultural heritage professional has focused on historical research, large-area studies, and survey work. Meredith holds a M.A. in Art History from Carleton University, where she focused on architectural history and the built environment, and graduated with a M.S.c. in Historic Preservation from the School of the Art Institute of Chicago. Meredith utilizes her knowledge of architectural history and building materials in the identification and evaluation of heritage buildings and structures. Meredith is a member of the Canadian Association of Heritage Professionals (C.A.H.P).

Leora Bebko, M.M.St.

Cultural Heritage Technician, Technical Writer and Researcher - Cultural Heritage Division

The Cultural Heritage Technician for this Cultural Heritage Evaluation Report is **Leora Bebko** (M.M.St.), who is a Cultural Heritage Technician and Technical Writer and Researcher within the Cultural Heritage Division. She was responsible for preparing and contributing research and technical reporting. In Leora's career as a cultural heritage and museum professional she has worked extensively in public programming and education within built heritage spaces. Leora is particularly interested in the ways in which our heritage landscapes can be used to facilitate public engagement and interest in our region's diverse histories. While completing her Master of Museum Studies she was able to combine her interest in heritage architecture and museums by focusing on the historic house museum and the accessibility challenges they face. As a thesis project, Leora co-curated the award-winning exhibit *Lost & Found: Rediscovering Fragments of Old Toronto* on the grounds of Campbell House Museum. Since completing her degree she has worked as a historical interpreter in a variety of heritage spaces, learning a range of traditional trades and has spent considerable time researching heritage foodways and baking in historic kitchens. In 2022, she joined A.S.I.'s Cultural Heritage team as a Cultural Heritage Technician.

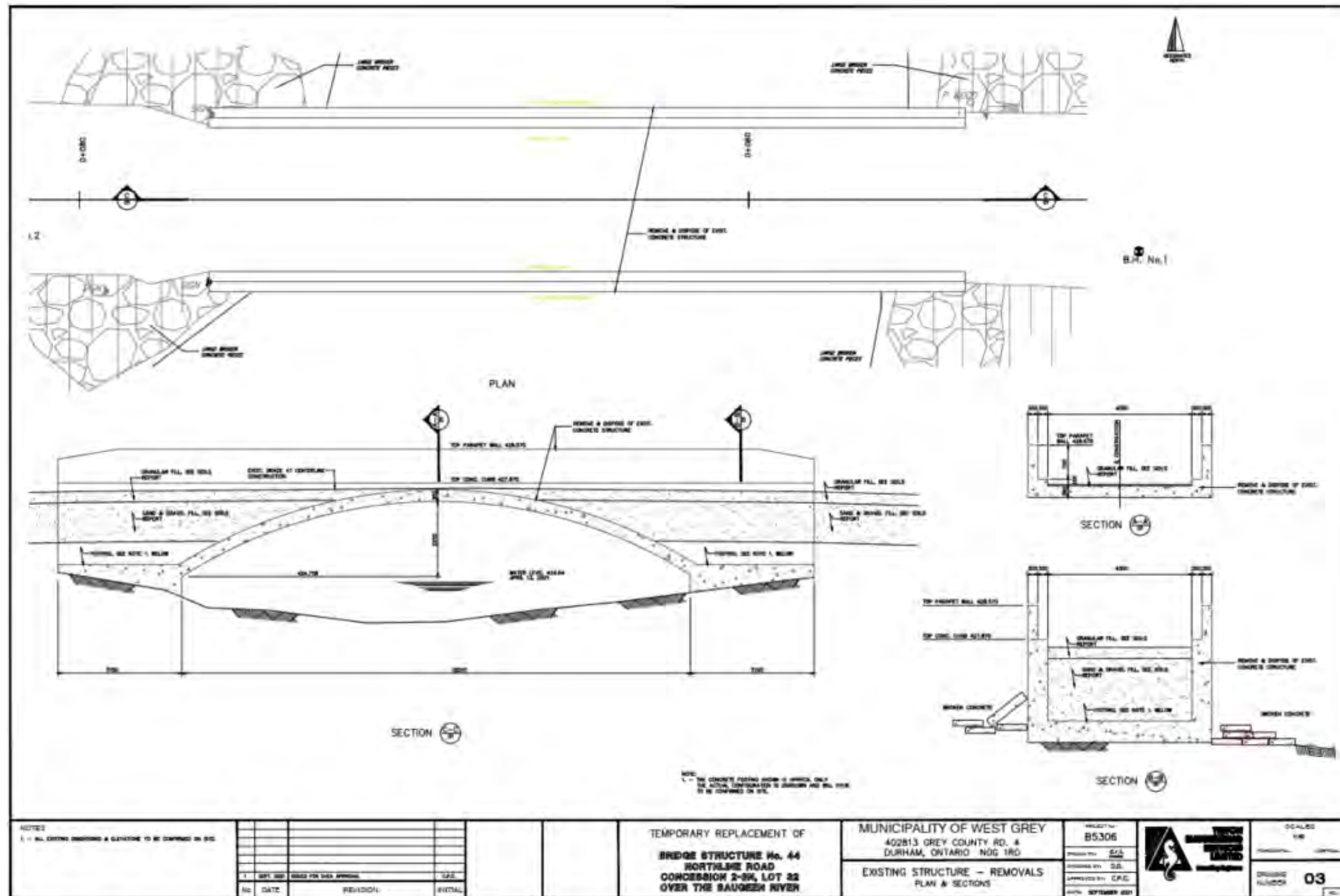


Appendix B: Comparable Structures

Compiled by Archaeological Services Inc. based on the Ministry of Transportation (M.T.O.) Bridge Inventory (West Region)(Ministry of Transportation, 2017) and the inventory on *Historicbridges.org* were reviewed.

Bridge ID	Name	Year Built	Deck Length	OA Width	# Spans
44	Northline Road Culvert	1920	36 metres	5.8 metres	1
38	North Line Saugeen River Bridge	1920	Unknown	Unknown	1
Unknown	Twin Bridges	Unknown	Unknown	Unknown	1 (each)

Appendix C: Existing Structure Drawings – Northline Road Culvert (Structure 44)



Heritage Impact Assessment

Northline Road Culvert (Structure 44)

Municipality of West Grey, Ontario

Final Report

Prepared for:

Triton Engineering Services Limited

The Old Post – 39 Elora Street
Harriston, ON N0G 1Z0

Archaeological Services Inc. File: 23CH-212

December 2023 (revised June 2024)



Executive Summary

Archaeological Services Incorporated (A.S.I.) was contracted by Triton Engineering Services Limited on behalf of the Municipality of West Grey to conduct a Heritage Impact Assessment (H.I.A.) for the Northline Road Culvert (Structure Number 44)¹ in the Municipality of West Grey, Ontario. The structure is a single-span concrete barrel arch culvert constructed circa 1920 on Northline Road, approximately 330 metres east of Glenelg Road 23 (Burgess Engineering Inc., 2022). A Cultural Heritage Evaluation Report (C.H.E.R.) previously completed by A.S.I. determined that the Northline Road Culvert has cultural heritage value or interest (C.H.V.I.) and recommended an H.I.A. for the culvert. This report satisfies that recommendation.

The culvert requires an H.I.A. to provide an assessment of how the proposed work will impact the structure's cultural heritage value. A 2022 Ontario Structural Inspection Manual (O.S.I.M.) report determined the culvert to be in poor condition and recommended the replacement of the structure in 1 to 5 years (Burgess Engineering Inc., 2022). Three alternatives are being considered for the Northline Road Culvert, these include: do nothing, restoration, and replacement. Based on the condition of the culvert, the municipality's preferred alternative is the destruction of the subject culvert and replacement with a new structure at the crossing. The impact assessment of the subject culvert is being conducted in accordance with the following guiding documents: the Ministry of Citizenship and Multiculturalism's *Ontario Heritage Toolkit* (Ministry of Culture, 2006), the *Standards and Guidelines for the Conservation of Historic Places in Canada* (Parks Canada, 2010), the *Municipal Heritage Bridges Cultural, Heritage and Archaeological Assessment Checklist* (Municipal Engineers Association, 2023), and *Ontario Regulation 160/02, Standards for Bridges* (Public Transportation and Highway Improvement Act, R.S.O. 1990, c.P.50, 2002).

¹ Note: in some documents the Northline Road Culvert is called a bridge. For the purposes of this report, the structure will be referred to as a culvert consistent with the Ontario Structure Inspection Manual reports.



The municipality's preferred alternative is anticipated to result in direct, permanent, negative impacts to the cultural heritage attributes of the subject culvert through its destruction and replacement with a new structure at the crossing. Mitigation measures provided in this report have been prepared to minimize these impacts and should be implemented as appropriate to the extent practicable to ensure impacts to the cultural heritage value of the crossing are reduced.

The following recommendations and mitigation measures have been developed and should be implemented:

1. The proposed undertaking should be designed and executed to ensure the fewest direct and permanent, non-reversible impacts to the identified heritage attributes of the subject culvert where feasible. However, the retention and rehabilitation of the structure was determined to be unfeasible based on the current condition of the structure, as described in the 2022 O.S.I.M. report, and replacement was carried forward as the municipality's preferred alternative.
2. As rehabilitating and retaining the subject culvert was determined to be unfeasible due to deficiencies in the structure, replacement of the structure with a sympathetically-designed replacement structure is preferred from a cultural heritage perspective to preserve the historical associations of the crossing which has been in active use since the nineteenth century.
3. Where interventions are undertaken that will result in alterations to construction material and fabric, documentation should be undertaken in advance of construction activities. The purpose of documentation is to record existing conditions of the structure at a level of detail for the purposes of implementing a program to reverse impacts in the future due to changes in technology or operational priorities. The C.H.E.R. (Archaeological Services Inc., 2023) and this H.I.A. are considered to be sufficient documentation in this regard.



4. As the municipality's preferred alternative will result in the removal of the subject bridge, which has been determined to retain cultural heritage value or interest, the development of a suitable commemoration strategy should be considered to reduce negative impacts to the historical and associative value of the crossing. Consultation should be completed with the Municipality of West Grey regarding any potential commemorative interpretation.

5. The proponent should submit this report to planning staff at the Municipality of West Grey and to the Ministry of Citizenship and Multiculturalism for their reference.



Report Accessibility Features

This report has been formatted to meet the Information and Communications Standards under the *Accessibility for Ontarians with Disabilities Act, 2005* (A.O.D.A.). Features of this report which enhance accessibility include: headings, font size and colour, alternative text provided for images, and the use of periods within acronyms. Given this is a technical report, there may be instances where additional accommodation is required in order for readers to access the report's information. If additional accommodation is required, please contact Annie Veilleux, Manager of the Cultural Heritage Division at Archaeological Services Inc., by email at aveilleux@asiheritage.ca or by phone 416-966-1069 ext. 255.



Project Personnel

- **Senior Project Manager:** Kristina Martens, B.A., Dipl. Heritage Conservation, Cultural Heritage Specialist, Assistant Manager - Cultural Heritage Division
- **Project Coordinator:** Jessica Bisson, B.F.A. (Hon.), Cultural Heritage Technician, Division Coordinator – Cultural Heritage Division
- **Project Manager:** Meredith Stewart, M.A., M.S.c., C.A.H.P., Cultural Heritage Specialist, Project Manager - Cultural Heritage Division
- **Field Review:** Leora Bebko, M.M.St., Cultural Heritage Technician, Technical Writer and Researcher – Cultural Heritage Division
- **Report Production:** Leora Bebko
- **Graphics Production:** Carolyn Nettleton, B.A., Archaeologist, Geomatics Technician – Operations Division
- **Report Reviewer(s):** Meredith Stewart and Kristina Martens
John Sleath, M.A., Cultural Heritage Specialist, Project Manager - Cultural Heritage Division



Table of Contents

Executive Summary	1
Report Accessibility Features	4
Project Personnel	5
1.0 Introduction	8
1.1 Description of Property	9
2.0 Draft Statement of Cultural Heritage Value or Interest	10
3.0 Assessment of Existing Condition	11
4.0 Description and Purpose of Proposed Activity	19
5.0 Impact Assessment	19
5.1 Approach to Impact Assessment	19
5.2 Impact Assessment Analysis	21
6.0 Considered Alternatives	22
7.0 Mitigation Measures	22
8.0 Summary of Community Engagement	24
9.0 Recommendations	25
10.0 References	27
Appendix A: Qualified Persons Involved in the Project	28
Appendix B: Burgess Engineering 2023 Follow-Up Inspection Letter	30
Appendix C: Bridge Commemoration Examples	31



List of Figures

Figure 1: Location of the Northline Road Culvert in the Municipality of West Grey
(Base Map: ©OpenStreetMap and contributors, Creative Commons-
Share Alike License (CC-BY-SA)) 9

List of Plates

Plate 1: North elevation of Northline Road Culvert, looking southwest (A.S.I.,
2023). 13

Plate 2: South elevation of the Northline Road Culvert, looking west (A.S.I., 2023).
..... 14

Plate 3: Western approach to the Northline Road Culvert, looking east (A.S.I.,
2023). 14

Plate 4: Eastern approach to the Northline Road Culvert, looking west (A.S.I.,
2023). 15

Plate 5: Detail view of gravel deck and concrete curbs and barrier. Note significant
visible deterioration to concrete (A.S.I., 2023). 15

Plate 6: Detail view of north side of eastern abutment. Significant deterioration is
visible at the waterline and at the berm (A.S.I., 2023). 16

Plate 7: Detail view of barrel underside showing concrete deterioration and
exposed rebar (A.S.I., 2023). 16

Plate 8: Detail view of southern concrete barrier (A.S.I., 2023). 17

Plate 9: Detail view of significant deterioration on barrier and growth of
vegetation on curbs on western approach (A.S.I., 2023). 17

Plate 10: Detail view of exposed rebar on concrete barrier (A.S.I., 2023). 18

Plate 11: Detail view of significant deterioration to concrete barrier and curb
(A.S.I., 2023). 18



1.0 Introduction

Archaeological Services Incorporated (A.S.I.) was contracted by Triton Engineering Services Limited on behalf of the Municipality of West Grey to conduct a Heritage Impact Assessment (H.I.A.) for the Northline Road Culvert (Structure Number 44) in the Municipality of West Grey, Ontario. The structure is a single-span concrete barrel arch culvert constructed circa 1920 on Northline Road, approximately 330 metres east of Glenelg Road 23 (Burgess Engineering Inc., 2022). A Cultural Heritage Evaluation Report (C.H.E.R.) previously completed by A.S.I. determined that the Northline Road Culvert has cultural heritage value or interest (C.H.V.I.) and recommended an H.I.A. for the culvert. This report satisfies that recommendation.

The 2022 Ontario Structural Inspection Manual (O.S.I.M.) report and a 2023 follow-up inspection completed by Burgess Engineering evaluated the structure as being in poor condition with severe deterioration to the structural elements and concluded that the culvert was nearing the end of its functional life (Burgess, 2023; Burgess Engineering Inc., 2022). Based on these conclusions, the municipality's preferred alternative is the destruction of the subject culvert and replacement with a new culvert or bridge at the crossing was selected. The impact assessment of the subject culvert is being conducted in accordance with the following guiding documents: the Ministry of Citizenship and Multiculturalism's *Ontario Heritage Toolkit* (Ministry of Culture, 2006), the *Standards and Guidelines for the Conservation of Historic Places in Canada* (Parks Canada, 2010), the *Municipal Heritage Bridges Cultural, Heritage and Archaeological Assessment Checklist* (Municipal Engineers Association, 2014), and *Ontario Regulation 160/02, Standards for Bridges* (Public Transportation and Highway Improvement Act, R.S.O. 1990, c.P.50, 2002).

The municipality's preferred alternative is anticipated to result in direct, permanent, negative impacts to the cultural heritage attributes of the subject structure through its destruction and replacement with a new structure at the crossing. Mitigation measures provided in this report have been prepared to minimize these impacts and should be implemented as appropriate to the



extent practicable to ensure impacts to the cultural heritage value of the crossing are reduced.

1.1 Description of Property

The structure is a single-span concrete barrel arch culvert constructed circa 1920 on Northline Road, approximately 330 metres east of Glenelg Road 23 in the Municipality of West Grey. The culvert carries the Saugeen River under Northline Road (Burgess Engineering Inc., 2022).



Figure 1: Location of the Northline Road Culvert in the Municipality of West Grey (Base Map: ©OpenStreetMap and contributors, Creative Commons-Share Alike License (CC-BY-SA))

2.0 Draft Statement of Cultural Heritage Value or Interest

The Northline Road Culvert (Structure Number 44) in the Municipality of West Grey meets one out of the nine criteria in Ontario Regulation 9/06, which considered the culvert within the local context. As such, the subject culvert should be considered to have cultural heritage value or interest (C.H.V.I.) at the local level. In particular, the subject culvert is considered to be one of a few remaining representative examples of early-twentieth century cast-in-place concrete barrel arch structures in the area and is therefore significant in terms of its age, construction, and typology.

This section provides the Statement of Cultural Heritage Value or Interest in three parts: description of the culvert; a description of its cultural heritage value or interest; and a list of associated heritage attributes.

Description of Property

The Northline Road Culvert (Structure Number 44) is a single-span concrete barrel arch culvert constructed circa 1920 on Northline Road, approximately 330 metres east of Glenelg Road 23. The culvert carries the Saugeen River under Northline Road.

Cultural Heritage Value or Interest

The Northline Road Culvert (Structure Number 44) has physical and design value as one of a few remaining representative examples of early-twentieth century concrete barrel arch structures in the local context. It is therefore significant in terms of its age, construction, and typology.

The Northline Road Culvert is a single-span concrete barrel arch culvert reportedly constructed in 1920 on Northline Road, approximately 330 metres east of Glenelg Road 23. The culvert carries the Saugeen River under Northline Road. The Northline Road Culvert was constructed using a cast-in-place method of construction, which was a technique that was gaining in popularity in the



early twentieth century. Lines in the concrete from the wood board or plank formwork used to construct the culvert in-situ are still visible on the substructure and barriers. The structure features a concrete barrel arch with integrated barriers and concrete curbs. The culvert follows a utilitarian design with no decorative elements. The simple construction and design of the culvert, cast-in-place concrete construction method, along with the use of rebar in a twisted bar design may indicate a potentially earlier construction date than the recorded date of 1920. The Northline Road Culvert is also one of a few remaining examples of early-twentieth century concrete barrel arch structure to be constructed using a cast-in-place method of construction in the Municipality of West Grey. As a result, the subject culvert represents a rare surviving example of the typology.

Potential Heritage Attributes

Physical attributes of the Northline Road Culvert that express the physical and design value of the structure include:

- Single span structure including the scale and massing,
- Simple concrete barrel arch design with integrated barriers and curbs,
- Impressions of the wood forms used demonstrating the method of construction for the culvert and barriers.

3.0 Assessment of Existing Condition

A field review of the study area was undertaken by Leora Bebko of Archaeological Services Incorporated, on 16 August 2023 to document the existing conditions of the study area from existing rights-of-way.

The Northline Road Culvert is a single-span concrete barrel arch culvert built circa 1920. The culvert carries the Saugeen River under Northline Road in a generally east-west alignment. The subject culvert has an overall length of 16.7 metres, a span length of 13.7 metres, and an overall width of 6.1 metres (Plate 1) (Burgess Engineering Inc., 2022).



Concrete barrel arch culverts are cast-in place with the deck of the culvert directly integrated with the concrete abutments. The deck of the subject culvert is overlaid with a gravel wearing surface that is 5.5-metres-wide. On either side of the roadway are concrete curbs and barriers that are integrated into the concrete culvert's superstructure. The culvert does not have any decoration or ornamentation. Evidence of the wooden forms used during construction are visible on both culvert elevations, the underside of the span, and the barriers (Plate 2 to Plate 5). The culvert's simple construction and the presence of rebar in a twisted bar design (visible due to concrete deterioration) indicates that the culvert may be older than the 1920 date contained in the bridge inventory or indicates that it was constructed using earlier construction methods and materials than were common in the time period (Holth, 2020). Considerable damage and deterioration to the culvert's concrete substructure and superstructure were evident at the time of field review. There was also considerable vegetative growth along the curbs on both sides of the culvert deck (Plate 6 to Plate 11).

The 2022 Ontario Structure Inspection Manual (O.S.I.M.) Inspection Form was reviewed to understand the existing condition of the subject culvert. The report determined the culvert to be in poor condition with a Bridge Condition Index (B.C.I.) rating of 51 and recommended the culvert be replaced within a period of one to five years. The report noted the following deficiencies to the culvert structure:

- Potholing to the wearing surface,
- Severe spalling and disintegration throughout the barrier/parapet walls,
- Severe spalling to the curbs,
- Impact damage to the southwest approach barrier,
- Severe spalling and disintegration throughout the inlet,
- Severe spalling and disintegration throughout the outlet including severe scouring at the waterline resulting in the undermining of the structure,
- Severe spalling and exposed reinforcing throughout the barrel,
- And disintegration at the waterline at both ends of the barrel (Burgess Engineering Inc., 2022).



A letter from Burgess Engineering Inc. detailing a follow-up inspection completed in October 2023 reiterated the culvert's advanced state of deterioration and stated that while the culvert does not need to be closed at this time, it should be inspected every six months and that the culvert may need to be closed to traffic as early as spring 2024 (Burgess, 2023). The letter is attached in full in Appendix B.



Plate 1: North elevation of Northline Road Culvert, looking southwest (A.S.I., 2023).



Plate 2: South elevation of the Northline Road Culvert, looking west (A.S.I., 2023).



Plate 3: Western approach to the Northline Road Culvert, looking east (A.S.I., 2023).



Plate 4: Eastern approach to the Northline Road Culvert, looking west (A.S.I., 2023).



Plate 5: Detail view of gravel deck and concrete curbs and barrier. Note significant visible deterioration to concrete (A.S.I., 2023).



Plate 6: Detail view of north side of eastern abutment. Significant deterioration is visible at the waterline and at the berm (A.S.I., 2023).



Plate 7: Detail view of barrel underside showing concrete deterioration and exposed rebar (A.S.I., 2023).



Plate 8: Detail view of southern concrete barrier (A.S.I., 2023).



Plate 9: Detail view of significant deterioration on barrier and growth of vegetation on curbs on western approach (A.S.I., 2023).



Plate 10: Detail view of exposed rebar on concrete barrier (A.S.I., 2023).



Plate 11: Detail view of significant deterioration to concrete barrier and curb (A.S.I., 2023).

4.0 Description and Purpose of Proposed Activity

The proposed replacement of the subject culvert is being undertaken as part of the Structure G-044 Bridge Municipal Class Environmental Assessment (M.C.E.A.). Based on the poor condition of the culvert as described in the 2022 Ontario Structural Inspection Manual (O.S.I.M.) report and an estimated rehabilitation cost of \$888,000, the O.S.I.M. recommended the structure be replaced in one to five years (Burgess Engineering Inc., 2022). The cost of rehabilitation, as estimated in the 2022 O.S.I.M. report, is prohibitive for the municipality and, therefore, alternatives were considered for maintaining the crossing in this area. Due to the structural and safety deficiencies of the existing culvert, the “do nothing” approach was determined to be inappropriate alternative. Replacement of the existing culvert was the remaining alternative considered.

The municipality’s preferred alternative is the demolition of the subject culvert at this crossing and replacement with a new structure. The proposed replacement structure would allow for the continuation of this location as a crossing point on Northline Road in the Municipality of West Grey. The options for the proposed replacement structure include a modular steel structure, timber frame structure, concrete span structure, or a precast concrete structure.

5.0 Impact Assessment

5.1 Approach to Impact Assessment

The approach to this Heritage Impact Assessment (H.I.A.) is guided by the Ministry of Citizenship and Multiculturalism’s *Ontario Heritage Toolkit* (Ministry of Culture, 2006). As outlined in the *Ontario Heritage Toolkit*, an H.I.A. is a useful tool to help identify cultural heritage value and provide guidance in supporting



environmental assessment work. As part of an H.I.A., proposed site alterations and project alternatives are analysed to identify impacts of the undertaking on the heritage resource and its heritage attributes. The impact of the proposed development on the culvert is assessed, with attention paid to identifying potential negative impacts, which may include, but are not limited to:

- Destruction of any, or part of any, significant heritage attributes or features;
- Alteration that is not sympathetic, or is incompatible, with the historic fabric and appearance;
- Shadows created that alter the appearance of a heritage attribute or change the viability of an associated natural feature or plantings, such as a garden;
- Isolation of a heritage attribute from its surrounding environment, context or a significant relationship;
- Direct or indirect obstruction of significant views or vistas within, from, or of built and natural features;
- A change in land use (such as rezoning a church to a multi-unit residence) where the change in use negates the property's cultural heritage value;
- Land disturbances such as a change in grade that alters soils, and drainage patterns that adversely affect a cultural heritage resource, including archaeological resources.

Where negative impacts of the development on the culvert and/or attributes are identified, mitigative or avoidance measures or alternative development or site alteration approaches are considered. Conservation options are outlined in the *Ontario Heritage Bridge Guidelines (O.H.B.G.)* (Ministry of Culture and Ministry of Transportation, 2008), which is regarded as current best practice for conserving heritage bridges in Ontario. While intended for use in the assessment of provincially-owned structures and not directly applicable to the municipal context, the O.H.B.G. ensures that heritage concerns and appropriate mitigation options are considered.



Indirect adverse impacts are identified where activities on or near the structure may adversely affect its cultural heritage value or interest and/or heritage attributes. Positive impacts may also result where a structure's cultural heritage value or interest and/or heritage attributes is conserved or enhanced. As the subject culvert was determined to have cultural heritage value or interest, the proposed structure replacement should be planned in a manner that is visually, physically, and functionally sympathetic to the original structure at the crossing.

To assess the potential impacts of the proposed works on the cultural heritage value of the Northline Road Culvert, the identified heritage attributes outlined in Section 2.0 were considered against a range of possible impacts.

5.2 Impact Assessment Analysis

The results of this impact assessment are based on the information provided in the Northline Road Culvert Cultural Heritage Evaluation Report (C.H.E.R.) (Archaeological Services Inc., 2023) and the 2022 Ontario Structure Inspection Manual (O.S.I.M.) Inspection Form (Burgess Engineering Inc., 2022). It considers possible direct adverse impacts, indirect adverse impacts, and positive impacts.

The destruction and replacement of the subject culvert is considered to be a direct, permanent, negative impact to the identified cultural heritage value or interest (C.H.V.I.) of the culvert. All identified physical heritage attributes including the culvert's single span structure, height, massing, simple concrete barrel arch design with integrated barriers and curbs, and impressions of the wood forms used in the construction of the culvert are anticipated to be removed. As such, to retain the structure's C.H.V.I. the retention and rehabilitation of the culvert is the preferred alternative from a cultural heritage perspective, however, given the poor condition of the culvert as outlined above, replacement of the culvert with a new culvert or bridge was determined as a feasible alternative.

The O.S.I.M. report estimated a total rehabilitation cost of \$888,000 (Burgess Engineering Inc., 2022), which is a prohibitive cost for the municipality to undertake the rehabilitation work. Due to the extensive disintegration to the



structure of the Northline Road Culvert and the prohibitively-high estimated cost of the rehabilitation work, rehabilitation and retention of the subject culvert was deemed unfeasible. The alternative recommendation is the replacement of the Northline Road Culvert with a new culvert or bridge at the subject crossing.

6.0 Considered Alternatives

The municipality's preferred alternative, the removal and replacement of the subject culvert, was selected over a "do nothing" or retention and rehabilitation approach. Replacement was decided following a thorough review of the 2022 Ontario Structure Inspection Manual (O.S.I.M.) Inspection Form (Burgess Engineering Inc., 2022) and in consideration of potential rehabilitation work and associated costs therein.

Where feasible, the preferred alternative for any bridge or culvert with identified cultural heritage value or interest (C.H.V.I.) should involve rehabilitating and retaining the structure in situ to maintain the physical/design value, historical, and contextual values of the culvert and crossing. Retention and sympathetic rehabilitation with allowances made for inclusion of modern materials to meet current design and safety codes is the preferred option from a heritage perspective as it would retain the heritage attributes identified in Section 2.0 and retain the physical and design value of the subject culvert. This alternative has been deemed unfeasible based on the extent of rehabilitation work required, the extent of material and structural failure observed and the prohibitive cost of rehabilitating the culvert.

A "do nothing" option was also considered for the Northline Road Culvert. This option was also deemed unfeasible due to the severe structural deficiencies of the culvert and the safety hazard the current structure exhibits.

7.0 Mitigation Measures

The municipality's preferred alternative, the removal of the subject culvert and replacement with either a modular steel structure, timber frame structure,



concrete span structure, or precast concrete structure, will result in direct, negative, permanent impacts to the culvert's identified cultural heritage value. By demolishing the culvert structure, all identified heritage attributes associated with the culvert's physical and design value, including its single span structure, height, massing, and simple concrete barrel arch design with integrated barriers and curbs, will be lost. During the project's preliminary design phase, the recommendations provided in this Heritage Impact Assessment (H.I.A.) should be considered in developing preliminary plans for the replacement structure.

As the retention and rehabilitation of the Northline Road Culvert was deemed unfeasible, removal of the culvert and its replacement with a sympathetically-designed structure should be considered as a means of mitigating the effects of the culvert removal to the subject crossing. A sympathetic replacement superstructure should be designed to be compatible with the style and character of the subject culvert, be based on physical and documentary evidence such as photographs and original structural drawings, and be mindful of the context, scale, massing, and material of the original structure (Ministry of Culture and Ministry of Transportation, 2008). The structure may incorporate identified heritage attributes of Northline Road Culvert including a concrete barrel arch and integrated barriers and curbs into the new design.

The replacement alternatives contemplated by the municipality include:

- Modular steel structure
- Timber frame structure
- Concrete span structure
- Precast concrete structure

In consideration of the replacement alternatives, a concrete span structure is preferable from a cultural heritage standpoint.

Prior to removal, full recording of the structure would ensure proper documentation for archival purposes. The Cultural Heritage Evaluation Report (C.H.E.R.) (Archaeological Services Inc., 2023) and this Heritage Impact Assessment (H.I.A.) are considered to be sufficient documentation.



In addition to the above-listed mitigation measures, the development of a suitable commemoration strategy should also be considered for the Northline Road Culvert. A sympathetically-designed replacement bridge featuring suitable commemoration and interpretation would serve to recognize the historical and associative value of the crossing as it will allow for the continued use of the Northline Road crossing over the Saugeen River established in the nineteenth century. The specifics of this commemoration will be evaluated and incorporated where feasible in subsequent stages of detailed design. Examples of commemorative features used at the sites of previous bridge replacements in the Municipality of West Grey are included in Appendix C. Consultation should be completed with the Municipality of West Grey regarding any potential commemorative interpretation.

8.0 Summary of Community Engagement

The following individuals, groups, and/or organizations were contacted with inquiries regarding the heritage status and for information concerning the subject property and any additional adjacent built heritage resources or cultural heritage landscapes:

- Geoff Aitken, Manager of Public Works, Municipality of West Grey (email communication 28 July 2023). Email correspondence confirmed that there were no known municipally listed or designated heritage properties or structures within or adjacent to the study area. Further correspondence (email communication 8 November 2023) related to consultation on requirements for municipal commemorative plaques, including sending exemplars of existing bridge commemoration within the municipality.
- The Ministry of Citizenship and Multiculturalism (email communication 10 August 2023). Email correspondence confirmed that there are no additional previously identified heritage resources or concerns regarding the study area.



- The Ontario Heritage Trust (email communications 9 August 2023). A response indicated that there are no conservation easements or Trust-owned properties within or adjacent to the study area.
- Kate Jackson, Assistant Archivist, Grey Roots Archives (email communications 3 and 10 August 2023). A request for any information or documents relating to the construction date, engineer, or original design drawings for the Northline Road Culvert was sent to the Archives. No documents relating to the subject culvert were located by staff.
- This report should be submitted to the above-mentioned agencies as well as the Grey Roots Archives for archival purposes.

9.0 Recommendations

The municipality's preferred alternative is anticipated to result in direct, permanent, negative impacts to the cultural heritage attributes of the structure through the destruction of the original culvert and replacement with a new structure at the original crossing. Mitigation measures outlined in this report have been prepared to further minimize these impacts and should be implemented as appropriate to the extent practicable to ensure impacts to the cultural heritage value of the crossing are reduced.

The following recommendations and mitigation measures have been developed and should be implemented:

1. The proposed undertaking should be designed and executed to ensure the fewest direct and permanent, non-reversible impacts to the identified heritage attributes of the subject culvert where feasible. However, the retention and rehabilitation of the structure was determined to be unfeasible based on the current condition of the structure, as described in the 2022 Ontario Structural Inspection Manual (O.S.I.M.) report, and replacement was carried forward as the municipality's preferred alternative.



2. As rehabilitating and retaining the subject culvert was determined to be unfeasible due to deficiencies in the structure, replacement of the structure with a sympathetically-designed replacement structure is preferred from a cultural heritage perspective to preserve the historical associations of the crossing which has been in active use since the nineteenth century.
3. Where interventions are undertaken that will result in alterations to construction material and fabric, documentation should be undertaken in advance of construction activities. The purpose of documentation is to record existing conditions of the structure at a level of detail for the purposes of implementing a program to reverse impacts in the future due to changes in technology or operational priorities. The C.H.E.R. (Archaeological Services Inc., 2023) and this H.I.A. are considered to be sufficient documentation in this regard.
4. As the municipality's preferred alternative will result in the removal of the subject bridge, which has been determined to retain Cultural Heritage Value or Interest, the development of a suitable commemoration strategy should be considered to reduce negative impacts to the historical and associative value of the crossing. Consultation should be completed with the Municipality of West Grey regarding any potential commemorative interpretation.
5. The proponent should submit this report to planning staff at the Municipality of West Grey and to the Ministry of Citizenship and Multiculturalism for their reference.



10.0 References

Archaeological Services Inc., (A.S.I.). (2023). *Northline Road Culvert (Structure 44) Cultural Heritage Evaluation Report* [Cultural Heritage Evaluation Report]. On file with A.S.I.

Burgess, A. D. (2023). *G-044 Concession 2-3N, Lot 32 (Follow-Up Inspection)*.

Burgess Engineering Inc. (2022). *Northline Bridge (G-044) OSIM Biennial Inspection Report* [Ontario Structural Inspection Manual (OSIM) Report].

Holth, N. (2020). *Northline Road Bridge*. HistoricBridges.Org.
<https://historicbridges.org/bridges/browser/?bridgebrowser=ontario/northlineroadwest/>

Ministry of Culture. (2006). *Property Evaluation*.
http://www.mtc.gov.on.ca/en/publications/Heritage_Tool_Kit_HPE_Eng.pdf

Ministry of Culture and Ministry of Transportation. (2008). *Ontario Heritage Bridge Guidelines (OHBG) (Interim – January 11 2008)*.

Public Transportation and Highway Improvement Act, R.S.O. 1990, c.P.50, Ontario Regulation 160/02, Standards for Bridges. (2002).
<https://www.ontario.ca/laws/regulation/r02160>

Municipal Engineers Association. (2014). *Municipal Heritage Bridges Cultural, Heritage and Archaeological Resources Assessment Checklist*.
<http://www.municipalclassea.ca/files/Clarifications/Bridges%20Check%20List%20April%202014.pdf>

Municipal Engineers Association. (2023). *Municipal Bridges Criteria for Evaluating Potential for Cultural Heritage Resources*.

Parks Canada. (2010). *Standards and Guidelines for the Conservation of Historic Places in Canada*. Canada's Historic Places.
<https://www.historicplaces.ca/media/18072/81468-parks-s+g-eng-web2.pdf>



Appendix A: Qualified Persons Involved in the Project

Kristina Martens, B.A., Dipl. Heritage Conservation **Cultural Heritage Specialist, Assistant Manager - Cultural Heritage Division**

The Senior Project Manager for this Cultural Heritage Report is **Kristina Martens** (B.A., Diploma Heritage Conservation), who is a Cultural Heritage Specialist and Assistant Manager within the Cultural Heritage Division. She was responsible for: overall project scoping and approach; development and confirmation of technical findings and study recommendations; application of relevant standards, guidelines and regulations; and implementation of quality control procedures. She has ten years of experience in the field of cultural heritage planning and management as a conservator and heritage consultant with Vitreous Glassworks and Taylor Hazell Architects prior to joining A.S.I. in 2018. Kristina brings a cultural landscape focus to the heritage planning process and draws on holistic methods for understanding the interrelationships between natural, built and intangible heritage. Kristina has extensive experience conducting field surveys and heritage analysis, including the comprehensive documentation and evaluation of cultural heritage resources in urban and rural settings. She brings together her experience in research, project management, documentation, built form and spatial analysis, architectural history, and built heritage conservation with the practical application of Ontario Regulation 9/06 and 10/06 of the Ontario Heritage Act and writing statements of cultural heritage value. Kristina is a graduate of the prestigious Willowbank School.

Meredith Stewart, M.A., M.S.c., C.A.H.P. **Cultural Heritage Specialist, Project Manager - Cultural Heritage Division**

The Project Manager for this report is **Meredith Stewart** (M.A., Art History, M.S.c., Historic Preservation), who is a Cultural Heritage Specialist within the Cultural Heritage Division. She was responsible for the day-to-day management activities, including scoping of research activities and drafting of study findings and recommendations. Meredith's work as a cultural heritage professional has focused on historical research, large-area studies, and survey work. Meredith holds a M.A. in Art History from Carleton University, where she focused on



architectural history and the built environment, and graduated with a M.S.c. in Historic Preservation from the School of the Art Institute of Chicago. Meredith utilizes her knowledge of architectural history and building materials in the identification and evaluation of heritage buildings and structures. Meredith is a member in good standing of C.A.H.P.

Leora Bebko, M.M.St.

Cultural Heritage Technician, Technical Writer and Researcher - Cultural Heritage Division

The report writer for this for this project is **Leora Bebko** (M.M.St.), who is a Cultural Heritage Technician and Technical Writer and Researcher within the Cultural Heritage Division. She was responsible for preparing and contributing research and technical reporting. In Leora's career as a cultural heritage and museum professional she has worked extensively in public programming and education within built heritage spaces. Leora is particularly interested in the ways in which our heritage landscapes can be used to facilitate public engagement and interest in our region's diverse histories. While completing her Master of Museum Studies she was able to combine her interest in heritage architecture and museums by focusing on the historic house museum and the accessibility challenges they face. As a thesis project, Leora co-curated the award-winning exhibit *Lost & Found: Rediscovering Fragments of Old Toronto* on the grounds of Campbell House Museum. Since completing her degree she has worked as a historical interpreter in a variety of heritage spaces, learning a range of traditional trades and has spent considerable time researching heritage foodways and baking in historic kitchens. In 2022, she joined A.S.I.'s Cultural Heritage team as a Cultural Heritage Technician.



Appendix B: Burgess Engineering 2023 Follow-Up Inspection Letter





October 26th, 2023

Geoff Aitken, CET
Manager of Public Works
Municipality of West Grey
402813 Grey Road 4
RR 2 Durham, ON N0G 1R0

Re: G-044 Concession 2-3N, Lot 32

Dear Geoff,

As recommended, we recently completed a follow up inspection of the above captioned concrete arch bridge.

In general, the bridge's deterioration has not noticeably advanced since our previous inspection and it is showing no signs of structural distress. Bridge structures of this type typically have significant reserve in capacity, and we don't see any need at this point to close the site. That being said, it is in an advanced state of deterioration and, moreover, the ends of the arch are badly undermined and deteriorated. We do recommend plans for closure or complete replacement be carried out and continuing monitoring every 6 months. It is quite possible that closure will be required after this coming Spring.

If you have any questions or require further clarification, please contact me.

Yours truly,

A handwritten signature in black ink, appearing to read 'Andrew D. Burgess'. The signature is fluid and somewhat abstract, with overlapping loops and a long horizontal stroke at the bottom.

Andrew D. Burgess, P.Eng.
President
ADB/km

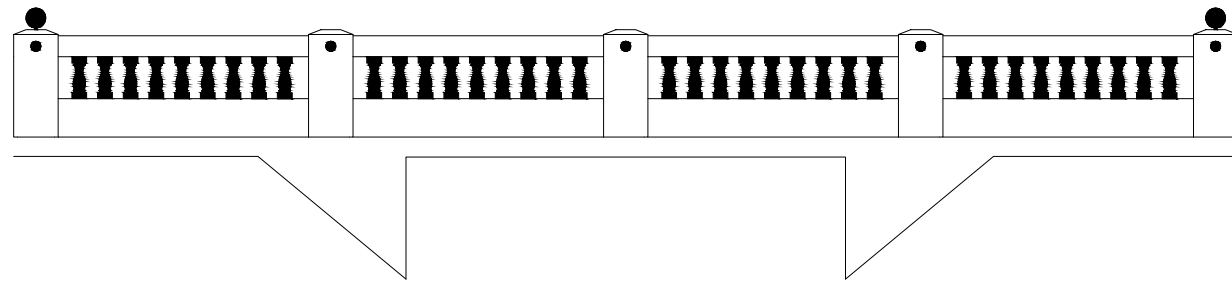
Appendix C: Bridge Commemoration Examples



12"

.25" wide raised shoulder

STATION STREET BRIDGE



**STATION STREET BRIDGE WAS A
POURED CONCRETE STRUCTURE
ORIGINALLY BUILT IN 1917 BY
CHARLES HENRY SMITH
REPLACED IN 2020**



**HILLSBURGH
TOWN OF ERIN**

12"



Garafraxa Street Bridge Structure #D001

Ministry of Transportation, Ontario
Connecting Link Rehabilitation Project 2022
Original Concrete Structure Built in 1972

Mayor: Christine Robinison Deputy Mayor: Tom Hutchinson

Councillors: Beth Hamilton, Rebecca Hergert, Doug Hutchinson,
Geoffrey Shea, Stephen Townsend

Chief Administrative Officer:
Laura Johnston

Director of infrastructure & Public Works: Brent Glasier
Director of Finance/Treasurer: Kerri Mighton

Contractor: McLean Taylor
Consultant: Triton Engineering

Bronze Plaque 12"H x 16"W, Leatherette Texture, Dark Brown Background
(4) small lugs 6" c/c vertically and 12" c/c horizontally

Please confirm the content of this layout.
Please sign, date and return when
approved and we will proceed.

Signed Ch. Ace

Date 22/09/08

REV 1

Canada

Ontario 

*West
Grey*

Lantz Bridge Structure #28

Replacement through the
Investing in Canada Infrastructure Program 2021

Mayor: Christine Robinison Deputy Mayor: Tom Hutchinson

Councillors: Beth Hamilton, Rebecca Hergert, Doug Hutchinson,
Geoffrey Shea, Stephen Townsend

Chief Administrative Officer:
Laura Johnston

Director of infrastructure & Public Works: Brent Glasier
Director of Finance/Treasurer: Kerri Mighton

Contractor: McLean Taylor
Consultant: BM Ross

Bronze Plaque 12"H x 16"W, Leatherette Texture, Dark Brown Background
Drill for and supply (4) 3-1/2" long wood screws

Please confirm the content of this layout
Please sign, date and return when
approved and we will proceed.

Signed 

Date 22/09/08

Appendix D - Natural Heritage Study – Existing Conditions Report

Structure 44, Northline Road (DRAFT)

Municipality of West Grey, Grey County
Natural Environment Assessment Report

Prepared for:
Triton Engineering Services Limited

Prepared by:
Heather Dixon
Aquatic Ecologist
Aboud & Associates Inc.

Reviewed by:
Cheryl-Anne Ross
Lead Ecologist
Aboud & Associates Inc.

Date:
October 18, 2023



Table of Contents

1.0	INTRODUCTION.....	4
1.1	PROPOSED DEVELOPMENT.....	4
1.2	EXISTING LAND USE AND STUDY AREA.....	4
1.3	EXISTING REGULATIONS.....	4
1.4	TERMS OF REFERENCE.....	5
2.0	METHODS.....	6
2.1	BACKGROUND REVIEW.....	6
2.2	WETLAND BOUNDARY DELINEATION.....	6
2.3	VEGETATION.....	6
2.3.1	<i>Ecological Land Classification</i>	6
2.3.2	<i>Botanical Inventory</i>	7
2.4	WILDLIFE.....	8
2.4.1	<i>Incidental Wildlife Observations</i>	8
2.4.2	<i>Breeding Bird Surveys</i>	8
2.4.3	<i>Significant Wildlife Habitat</i>	8
2.4.4	<i>Species at Risk Habitat</i>	8
2.5	AQUATIC HABITAT ASSESSMENT.....	9
3.0	EXISTING CONDITIONS.....	10
3.1	BACKGROUND REVIEW.....	10
3.1.1	<i>Natural Heritage Information Centre - Species at Risk</i>	10
3.1.2	<i>Ontario Breeding Bird Atlas</i>	10
3.1.3	<i>Ontario Reptile and Amphibian Atlas</i>	10
3.1.4	<i>Atlas of the Mammals of Ontario</i>	11
3.1.5	<i>Ontario Butterfly Atlas</i>	11
3.1.6	<i>eBird</i>	11
3.1.7	<i>iNaturalist</i>	11
3.1.8	<i>Department of Fisheries and Oceans Species at Risk Mapping</i>	11
3.1.9	<i>Aquatic Resource Area</i>	11
3.1.10	<i>Ministry of Northern Development, Mines, Natural Resources and Forestry</i>	12
3.1.11	<i>Ministry of Environment, Conservation and Parks</i>	12
3.2	VEGETATION.....	14
3.2.1	<i>Ecological Land Classification and Botanical Inventory</i>	14
3.2.2	<i>Botanical Inventory</i>	15
3.2.2.1	<i>Species at Risk, Regional and Local Significance</i>	15
3.3	WILDLIFE.....	16
3.3.1	<i>Incidental Wildlife Observations</i>	16
3.3.2	<i>Breeding Bird Surveys</i>	16
3.3.2.1	<i>SAR, Regional, and Local Significance</i>	17
3.3.2.2	<i>Regional Priority Species</i>	17
3.3.3	<i>Significant Wildlife Habitat</i>	17
3.3.4	<i>Species at Risk Habitat</i>	18
3.4	AQUATIC HABITAT ASSESSMENT.....	23
3.4.1	<i>Site 1</i>	23
3.4.2	<i>Site 2</i>	23
3.5	GEOLOGY AND SOILS.....	24
4.0	IMPACT ANALYSIS.....	25
4.1	POTENTIAL IMPACTS AND MITIGATION RECOMMENDATIONS.....	25

4.2	HYDROLOGICAL FUNCTION OF THE WETLAND	25
5.0	LEGISLATION AND POLICY COMPLIANCE	26
5.1	PROVINCIAL POLICY STATEMENT	26
5.2	ENDANGERED SPECIES ACT	26
5.3	FISHERIES ACT, 1985	27
5.4	SPECIES AT RISK ACT	27
5.3	SAUGEEN VALLEY CONSERVATION AUTHORITY	27
5.4	GREY COUNTY OFFICIAL PLAN (2023)	27
5.5	MUNICIPALITY OF WEST GREY ZONING BY-LAW 37-2006 (2017)	28
6.0	SUMMARY AND CONCLUSIONS	29
6.1	BIOLOGICAL CONSTRAINTS	29
6.2	IMPACT ASSESSMENT	29
6.3	LEGISLATION AND POLICY COMPLIANCE	30
7.0	RECOMMENDATIONS	31
7.0	REFERENCES	34

List of Tables

Table 1.	Species at Risk Identified in Background Review	13
Table 2.	Ecological Land Classification	14
Table 3.	Incidental Wildlife Observations.....	16
Table 4.	Point Count Surveys- Highest Breeding Evidence (HBE)	17

List of Figures

- Figure 1 Existing Conditions & Survey Locations
- Figure 2 Natural Heritage Features & Constraints

List of Appendices

- Appendix 1 Applicable Policies and Conformity
- Appendix 2 Terms of Reference and Approval
- Appendix 3 Site Investigation Details
- Appendix 4 Ecological Land Classification Forms
- Appendix 5 Vascular Plant List
- Appendix 6 Breeding Bird Survey
- Appendix 7 Significant Wildlife Habitat Assessment
- Appendix 8 Species at Risk Habitat Assessment
- Appendix 9 Background Wildlife List
- Appendix 10 Agency Communication
- Appendix 11 Site Photos
- Appendix 12 Mitigation

1.0 Introduction

The Municipality of West Grey is proposing the rehabilitation of Structure 44 on Northline Road, east of County Road 23. The structure is located approximately 500 m east of County Road 23. As a result, they require a Schedule B Municipal Class EA. As part of the Municipal Class EA, the Municipality requires the completion of a Natural Environment Assessment (NEA) to characterize the natural environment and propose reasonable measures to mitigate any potential impacts that may arise through the EA process and determine any mitigation requirements based on the outcome of the EA. About & Associates Inc. (AA) has been retained to complete the NEA to assist in determining what impact the proposed replacement may have on the natural features, and what mitigation measures should be taken to reduce and avoid negative impacts.

1.1 Proposed Development

The structure is a cast-in-place concrete culvert. The 2018 OSIM report recommended the major rehabilitation of this structure in 1 to 5 years, citing the need for major rehabilitation of the culvert, wingwalls, railing systems, soffit, deck top, embankments, foundation, and curbs, and replacement of the parapet wall and signage. A municipal class EA is required to determine the best option for the structure. This study will determine the short- and long-term plan for the crossing.

1.2 Existing Land Use and Study Area

The study area includes the subject structure and staging areas outlined in *Figure 1*, as well as adjacent lands up to 120 metres surrounding the subject area, where access to lands is permitted (right of way).

As needed, the lands adjacent the study were reviewed to assist with understanding the features and functions of natural heritage features. Lands outside of the field study area were reviewed through existing background information e.g., Grey County Official Plan and air photo interpretation using GIS.

The proposed bridge work is within the Saugeen Valley Conservation Authority (SVCA) approximate screening area and is zoned as Natural Environment within the Municipality of West Grey Zoning By-Law 37-2006 (2017).

1.3 Existing Regulations

The Provincial Policy Statement (PPS 2020), Endangered Species Act (ESA 2007), Fisheries Act (FA 1985), Species at Risk Act (SARA, 2002), Policies of the SVCA, Grey

County Official Plan and the Municipality of West Grey Zoning By-Law 37-2006 are relevant to the rehabilitation of Structure 44, and are outlined in detail in *Appendix 1*, including the policy, sections, applicable details, conformity and any proposed mitigation or permitting requirements as it relates to these policies.

1.4 Terms of Reference

Based upon the above Acts, Policies and Regulations, Terms of Reference (ToR) for the Scoped EIS were developed and submitted to the SVCA and Grey County on July 14, 2023. Grey County provided comments on the ToR on July 5, 2023 providing additional natural heritage policies from the County's Official Plan which are relevant to the development, and stating that as long as these policies are addressed that the County had no concerns with the proposal provided in the ToR. The SVCA provided comments on the ToR on July 14, 2023 providing an additional policy relevant to the ToR, and stating that the SVCA has requested a hydraulic analysis for the work. The ToR and associated correspondence are provided in *Appendix 2*.

2.0 Methods

2.1 Background Review

A background information review was conducted, of both biological and physical features within the vicinity of the study area. The following resources were consulted during this review:

- Aerial photography of the subject site,
- Grey County Official Plan (2019) and Schedules,
- “Green in Grey”. Grey County, 2017,
- Municipality of West Grey Zoning By-law 37-2006 (2017 Consolidation),
- Grey County mapping (Grey County Maps, accessed April 25, 2023)
- SVCA mapping (accessed April 25, 2023) of approximate regulated and approximate screening areas,
- Natural Heritage Information Center, Make-a-map, accessed April 25, 2023.
- Ontario Nature. Ontario Reptile and Amphibian Atlas: a citizen science project to map the distribution of Ontario’s reptiles and amphibians. 2019
- Ontario Breeding Bird Atlas. Bird Studies Canada, 2007.
- Atlas of the Mammals of Ontario. Dobbyn, 1994.
- iNaturalist. Accessed May 29, 2023
- eBird. Cornell Lab of Ornithology. Accessed May 29, 2023.
- Ontario Butterfly Atlas. Toronto Entomologists’ Association. Accessed April 25, 2023.
- Aquatic Species at Risk Map. Department of Fisheries and Oceans. Accessed April 25, 2023.
- Aquatic Resource Area Survey Points and Line Segments, Land Information Ontario, accessed May 29, 2023

2.2 Wetland Boundary Delineation

Wetlands are present to the north and south of the subject structure and were identified for delineation per the Terms of Reference. However, upon inspection of the site it was determined that the wetlands were on private property with no access, as a result, a wetland delineation was not possible.

2.3 Vegetation

2.3.1 Ecological Land Classification

Ecological Land Classification (ELC) surveys were completed on June 8, 2023. Site investigation details are provided in *Appendix 3*. Due to not having permission to access the private properties within the study area, the ELC survey was conducted from the roadside, within the Right of Way. Surveys were completed by qualified Ecologist, Shannon Davison, OMNRF Certified in Ecological Land Classification. Vegetation communities within the study area were characterized and delineated following the Ecological Land Classification (ELC) system for Southern Ontario 1st approximation; community codes used generally follow the 2nd approximation (Lee, et al., 1998, 2008). Boundaries of ELC communities were mapped using aerial images and field observations (*Figure 1*). Digitized ELC data sheets are provided in *Appendix 4*.

Identified ELC communities were cross referenced with the NHIC Ontario Plant Community List (NHIC 2015) to determine the presence of rare plant communities (S3-S1). The Subnational, or Provincial Ranks (S Rank) are assigned by the Ontario Ministry of Natural Resources and Forestry (MNR) Natural Heritage Information Centre (NHIC) to help assign protection priorities.

2.3.2 Botanical Inventory

Concurrent with ELC evaluations, the subject lands were inventoried as best as possible from the right of way to provide a comprehensive spring botanical inventory, a summer botanical was conducted on July 27, 2023. Site investigation details are provided in *Appendix 3*.

Identified vascular plant species were compared to provincial and federal SAR lists (COSARO, SARA), provincial ranks (NHIC 2015), global ranks, and Waterloo Region Significant Species List (Region of Waterloo, 1999) to assess federal, provincial, regional, and local conservation status of each species. English colloquial names and scientific binomials of plant species generally follow the Database of Vascular Plants of Canada (VASCAN 2016).

Identification of environmentally sensitive plant species was completed based on assignment of a coefficient of conservatism value (CC) for each native species (Oldham, et al., 1995). The value of CC, ranging from 0 (low) to 10 (high), is based on a species' tolerance of disturbance and fidelity to specific natural habitat parameters. Species with a CC value of 9 or 10 generally exhibit a high degree of fidelity to a narrow range of habitat parameters. These species may be more sensitive to environmental changes (Mortarello et. al., 2010).

A list of all identified plant species is provided in *Appendix 5*. The list provides botanical names, common names, provincial rarity rank (S-rank), global rarity rank (G-rank),

provincial Species at Risk status (SARO), federal Species at Risk status (SARA), local rarity/significance within Grey County (Oldham 1993), CC and coefficient of wetness (CW). Plant species that could only be identified to genus were not assigned the above information.

2.4 Wildlife

2.4.1 Incidental Wildlife Observations

Incidental observations of wildlife were recorded during all field visits. Site investigation details are provided in *Appendix 3*.

2.4.2 Breeding Bird Surveys

Breeding bird surveys were conducted by Brynn Varcoe, Terrestrial Ecologist, to determine if significant breeding bird habitat occurs within, or adjacent to, the study area. Two point count surveys were conducted, comprised of 10-minute point counts positioned at a pre-determined location. Surveys followed the Ontario Breeding Bird Atlas: Guide for Participants (Bird Studies Canada, 2001). The highest observed level of breeding evidence was used to assign breeding status (i.e., confirmed, possible, probable or observed) to each species.

Surveys were performed during the peak breeding season for the bulk of species in southern Ontario (last week of May through early July) and were spaced at least 10 days apart in order to determine presumed permanent territories through territorial singing males. The two surveys took place on the morning of June 8, 2023 and June 28, 2023, between 30 minutes before dawn and 5 hours after dawn. The point count locations are illustrated on *Figure 1*, full survey results are provided in *Appendix 6*, and detailed survey dates and weather information are provided in *Appendix 3*.

2.4.3 Significant Wildlife Habitat

With guidance from the *Significant Wildlife Habitat Technical Guide* (2000) and the SWH EcoRegion Criterion Schedule 6E (2015b), the study area was considered for the presence of Significant Wildlife Habitat (e.g., specialized habitats for wildlife, and habitat for species of conservation concern). An assessment of the study area for all SWH is provided in *Appendix 7*.

2.4.4 Species at Risk Habitat

A thorough review of background documents was conducted to compile a master list of all Species at Risk, and species with conservation designation that may occur in the study area. A review of the site, along with habitat requirements for each species was conducted; the site was then evaluated for potential habitat using Ecological Land Classification, guidance from MNDMNR documents, and on-site knowledge acquired through field surveys. An assessment of the study area for candidate habitat for SAR is provided in *Appendix 8*.

2.5 Aquatic Habitat Assessment

Aquatic habitat assessments (AHA) were completed by Heather Dixon, Aquatic Ecologist, on July 27, 2023. The assessment was completed in an effort to classify stream features present to help inform decisions and mitigate any potential risks to fish and fish habitat as a result of the potential work. Data were collected upstream and downstream of the bridge, where access was allowed and where the creek maintained a safe wading depth. The following criteria were used to characterize features present at each station:

- mean channel width;
- mean wetted width;
- max water depth;
- percent stream shading;
- buffer width;
- substrate;
- flow pattern;
- channel morphology;
- instream cover;
- bank characteristics; and
- presence of specific site features.

Detailed survey and weather information are provided in *Appendix 3*.

3.0 Existing Conditions

3.1 Background Review

3.1.1 Natural Heritage Information Centre - Species at Risk

Preliminary investigation through the Natural Heritage Information Centre (NHIC 2019) uncovered two provincial Species at Risk (SAR) records in the 1 km x 1 km square that contains the study area (17NJ2495), including Bobolink (*Dolichonyx oryzivorus*; THR, THR) and Eastern Meadowlark (*Sturnella magna*; THR, THR). The findings of this review are presented in *Appendix 10* and *Table 1*.

3.1.2 Ontario Breeding Bird Atlas

A list of birds determined to be breeding (Possible, Probable or Confirmed) in the 10 km x 10 km square that contains the study area (17NJ29), according to the 2001-2005 Ontario Breeding Bird Atlas (Cadman et. al. 2007), was compiled. This list includes 104 species; seven of which are considered Species at Risk under the ESA and SARA, respectively: Bank Swallow (*Riparia riparia*; THR, THR), Barn Swallow (*Hirundo rustica*; SC, THR), Bobolink (*Dolichonyx oryzivorus*; THR, THR), Canada Warbler (*Wilsonia canadensis*; SC, THR), Eastern Meadowlark (THR, THR), Eastern Wood-pewee (*Contopus virens*; SC, SC)), and Wood Thrush (*Hylocichla mustelina*; SC, THR). Twenty of the species determined to be breeding in the squares are considered Partners in Flight Conservation Priorities in BCR-13 (PIF, 2008), and 28 species are identified as Area Sensitive by the MNR (MNR 2000). The findings of this review are presented in *Appendix 9* and *Table 1*.

3.1.3 Ontario Reptile and Amphibian Atlas

Review of the Ontario Reptile and Amphibian Atlas (Ontario Nature 2019b) identified 16 species that are known to occur or have historically occurred within the 10 km x 10 km square that contains the study area (17NJ29). This list includes five species which are considered SAR, with two listed under both the ESA and SARA: Eastern Ribbonsnake (*Thamnophis sauritus*; SC, SC) and Snapping Turtle (*Chelydra serpentina*; SC, SC). Milksnake (*Lampropeltis triangulum*) and Midland Painted Turtle (*Chrysemys picta marginata*) are listed federally as Special Concern, and Western Chorus Frog (Great Lakes/St. Lawrence-Canadian Shield Population; *Pseudacris triseriata* pop. 2) is listed as Threatened federally. One species is considered area sensitive (MNR, 2000). The findings of this review are presented in *Appendix 9* and *Table 1*.

3.1.4 Atlas of the Mammals of Ontario

Review of the Atlas of the Mammals of Ontario (Dobbyn 1994) identified eight species that are known to occur or have historically occurred within the 10 km x 10 km square that contains the study area (17NJ29). None of these species were SAR. It should be noted, however, that SAR bat species can be present throughout Ontario. The findings of this review are presented in *Appendix 9*.

3.1.5 Ontario Butterfly Atlas

Review of the Atlas of the Butterflies of Ontario identified 22 species that are known to occur or have historically occurred within the 10 km x 10 km square that contains the study area (17NJ29). One SAR listed under both the ESA and SARA was noted: Monarch (*Danaus plexippus*; SC, SC). The findings of this review are presented in *Appendix 9* and *Table 1*.

3.1.6 eBird

eBird records from Durham Conservation Area, Grey County, 9.5 km southwest of the bridge, indicate the presence of 64 species, including two species of conservation concern: Barn Swallow and Chimney Swift (*Chaetura pelagica*; THR, THR). Six of the species identified are considered Partners in Flight Conservation Priorities in BCR-13 (PIF, 2008), and 13 species are identified as Area Sensitive by the MNR (MNR 2000). The findings of this review are presented in *Appendix 9* and *Table 1*.

3.1.7 iNaturalist

iNaturalist observations (research grade) within 1 km of the subject structure indicate the recent presence of fourteen species, including one species of conservation concern (Midland Painted Turtle). The findings of this review are presented in *Appendix 9* and *Table 1*.

3.1.8 Department of Fisheries and Oceans Species at Risk Mapping

The Federal Department of Fisheries and Oceans Aquatic Species at Risk mapping indicates that the section of the Saugeen River that the structure crosses does not contain critical habitat for SAR but may potentially contain Redside Dace (*Clinostomus elongatus*; END, END). The findings of this review are presented in *Appendix 9* and *Table 1*.

3.1.9 Aquatic Resource Area

The Aquatic Resource Area survey points and line segment data indicate the presence of eleven fish species within 1 km of the subject structure, none of which are SAR. The findings of this review are presented in *Appendix 9*.

3.1.10 Ministry of Northern Development, Mines, Natural Resources and Forestry

A request for information was sent to the Ministry of Northern Development, Mines, Natural Resources and Forestry, Guelph District, on June 12, 2023. A response was provided on June 15, 2023 with additional information for the study area. The response confirmed the presence of unevaluated wetlands and White-tailed Deer wintering area in the study area, that the Saugeen River is classified as a coldwater watercourse, and that 22 fish species are listed in the watercourse, including Redside Dace. The request for information and response are included in *Appendix 10*.

3.1.11 Ministry of Environment, Conservation and Parks

A request for information was sent to the Ministry of Environment, Conservation and Parks (MECP) on June 12, 2023, to inquire whether any further Species at Risk may occur in the study area. A response was received on June 13, 2023, stating that all projects are proponent led. A request for further information on July 16, 2023, elicited a response on the same day providing more information on Redside Dace. The request for information and response is included in *Appendix 10*.

Table 1. Species at Risk Identified in Background Review

Source	Common Name	Scientific Name	SARO	COSEWIC	SARA	S-RANK	G-RANK	N-RANK	Area sensitive	Area required (ha)	PIF Species (BCR 13)
ORAA (2013)	Western Chorus Frog - Great Lakes / St. Lawrence - Canadian Shield Population	<i>Pseudacris triseriata pop. 2</i>	NAR	THR	THR	S4	G5TNR	N4			
OBBA	Bank Swallow	<i>Riparia riparia</i>	THR	THR	THR	S4B	G5	N5B,N5M			✓
OBBA, eBird (2021)	Barn Swallow	<i>Hirundo rustica</i>	SC	THR	THR	S4B	G5	N3N4B,N3N4M			
OBBA, NHIC	Bobolink	<i>Dolichonyx oryzivorus</i>	THR	THR	THR	S4B	G5	N5B,N4N5M	✓	>10ha	✓
OBBA	Canada Warbler	<i>Wilsonia canadensis</i>	SC	SC	THR	S4B	G5	N4B,N3M	✓	>30ha	
eBird (2021)	Chimney Swift	<i>Chaetura pelagica</i>	THR	THR	THR	S3B	G4G5	N4BN3M			✓
OBBA, NHIC	Eastern Meadowlark	<i>Sturnella magna</i>	THR	THR	THR	S4B,S3N	G5	N4B,NUM	✓	>10ha	✓
OBBA	Eastern Wood-Pewee	<i>Contopus virens</i>	SC	SC	SC	S4B	G5	N5B,N5M			✓
OBBA	Wood Thrush	<i>Hylocichla mustelina</i>	SC	THR	THR	S4B	G4	N4B,NUM			✓
DFO, MNDMNRF	Redside Dace	<i>Clinostomus elongatus</i>	END	END	END	S1	G3G4	N1			
OBA (2022)	Monarch	<i>Danaus plexippus</i>	SC	END	SC	S2N,S4B	G5	N3B,NNRM			
ORAA (1980)	Eastern Ribbonsnake	<i>Thamnophis sauritus</i>	SC	SC	SC	S4	G5	N4			
ORAA (2018)	Milksnake	<i>Lampropeltis triangulum</i>	NAR	SC	SC	S4	G5T5	N3			
ORAA (2018), iNat (2022)	Midland Painted Turtle	<i>Chrysemys picta marginata</i>	NAR	SC	SC	S4	G5T5	N4			
ORAA (2019)	Snapping Turtle	<i>Chelydra serpentina</i>	SC	SC	SC	S4	G5T5	N4			

3.2 Vegetation

3.2.1 Ecological Land Classification and Botanical Inventory

The community polygons identified during the ELC survey are summarized in *Table 2* below. Field forms and a comprehensive vascular plant list for the entire study area are presented in *Appendices 4 and 5*, respectively.

Table 2. Ecological Land Classification

ELC Code	Vegetation Type	Community Description
<i>Coniferous Swamp (SWC)</i>		
SWCM1-1	White Cedar Mineral Coniferous Swamp (community A)	This community lies to the north of Northline Road, on the west bank of the Saugeen River. The canopy and sub-canopy are dominated by Eastern White Cedar (<i>Thuja occidentalis</i>) with secondary species including Willow species (<i>Willow</i> sp.) and Sugar Maple (<i>Acer saccharum</i>). The understorey is primarily Sugar Maple and Alternate-leaved Dogwood (<i>Cornus alternifolia</i>) with sparse White Ash (<i>Fraxinus americana</i>) and American Elm (<i>Ulmus americana</i>). The ground layer is sparse due to the coverage provided by the Eastern White Cedar and includes instances of Colt's-foot (<i>Tussilago farfara</i>), Zigzag Goldenrod (<i>Solidago flexicaulis</i>), Common Dandelion (<i>Taraxacum officinale</i>), Tall Buttercup (<i>Ranunculus acris</i>), Creeping Wildrye (<i>Elymus repens</i>), and Smooth Brome (<i>Bromus inermis</i>).
SWCM1-1	White Cedar Mineral Coniferous Swamp (community B)	This community lies to the north and south of Northline Road, on the east bank of the Saugeen River. The canopy is dominated by Eastern White Cedar, with occasional White Ash, Yellow Birch (<i>Betula allegheniensis</i>), and Sugar Maple. The sub-canopy consists of Eastern White Cedar, and the understorey consists of American Basswood (<i>Tilia americana</i>) and Alternate-leaved Dogwood. The ground layer largely consists of Ostrich Fern (<i>Matteuccia struthiopteris</i>), with instances of Tall Meadow-rue (<i>Thalictrum pubescens</i>), Zigzag Goldenrod, Yellow Trout-lily (<i>Erythronium americanum</i>), and Golden Alexanders (<i>Zizia aurea</i>).

Table 2. Ecological Land Classification

ELC Code	Vegetation Type	Community Description
<i>Deciduous Forest (FOD)</i>		
FODM5-1	Dry- Fresh Sugar Maple Deciduous Forest	This community lies to the south of Northline Road, on the west bank of the Saugeen River. The canopy and sub-canopy are dominated by Sugar Maple with occasional Eastern White Cedar, and occasional American Basswood in the sub-canopy. The understorey is comprised of White Ash, Prickly Gooseberry (<i>Ribes cynosbatii</i>), and Alternate-leaved Dogwood. The ground layer is dominated by Canada Anemone (<i>Anemonastrum canadense</i>), with instances of Early Meadow-rue (<i>Thalictrum dioicum</i>), Common Dandelion, Common Crown-vetch (<i>Securigera varia</i>), Zigzag Goldenrod , Colt's-foot , Field Horsetail (<i>Equisetum arvense</i>), Orchard Grass (<i>Dactylis glomerata</i>), and Golden Alexanders.
<i>Open Aquatic (OA)</i>		
OAO	Open Aquatic	The Saugeen River runs through the centre of the study area, passing under Structure 44.

3.2.2 Botanical Inventory

A detailed botanical field inventory of the study area completed from the roadside identified 42 species of vascular plants. All identified plant species are listed in *Appendix 5*. One additional species was identified only to the level of genus and have not been designated as native or non-native or included in the overall species count.

Of the 42 species identified, 28 species (67%) are native, and 14 species (33%) are exotic or cultivars.

3.3.2.1 Species at Risk, Regional and Local Significance

No vegetation communities listed in *Table 2* are considered rare in the province.

Most of the native species are ranked S5 (secure in Ontario) or SNA (S-Rank not applicable) with one species, White Ash, ranked S4 (apparently secure in Ontario), and an additional species, Black Walnut, ranked S4?, indicating uncertainty in its ranking. No S1-S3 species were observed in the study area. None of the species observed in the study area had a coefficient of conservatism of 9 or 10. This indicates the presence of species with moderate to high tolerance for environmental ranges, which may be less impacted by minor site alteration or environmental disturbance.

No nationally or provincially rare, threatened, or endangered species were found.

3.3 Wildlife

3.3.1 Incidental Wildlife Observations

All incidental wildlife observations made outside formal field surveys are presented in *Table 3*. All observations were of single individuals unless otherwise stated.

Table 3. Incidental Wildlife Observations

Common Name	Scientific Name	Taxa	Date	Location/Notes
Sweet Flag Spreadwing	<i>Lestes forcipatus</i>	Damselfly	July 27, 2023	Observed during summer botanical survey
Ebony Jewelwing	<i>Calopteryx maculata</i>	Damselfly	July 27, 2023	Observed during summer botanical survey
American Robin	<i>Turdus migratorius</i>	Bird	June 8, 2023	Observed during ELC and spring botanical surveys.
Eastern Chipmunk	<i>Tamias striatus</i>	Mammal	June 8, 2023	Observed during ELC and spring botanical surveys.
Minnow sp.	Unknown species	Fish	July 27, 2023	Observed during aquatic habitat assessment

3.3.2 Breeding Bird Surveys

The results of the Breeding Bird Survey (BBS) are presented in *Table 4*. During BBS visits, a total of 13 species were detected during point counts.

It is important to note that, despite high levels of breeding evidence, a given species may not have been breeding specifically in the area in which it was observed. This is particularly true where species were only detected during one of the Breeding Bird Surveys. These species may have been foraging in these areas or, may have been wandering during post-breeding dispersal. However, in order to ensure that all potential breeding bird species have been captured by this survey, any species exhibiting possible, probable, or confirmed breeding behaviour was considered to be breeding in the study area. Therefore, 13 species were presumed to be breeding within the study area: Red-bellied Woodpecker, Red-eyed Vireo, Blue Jay, American Crow, Black-capped Chickadee, Gray Catbird, American Robin, Song Sparrow, Brown-headed Cowbird, Common Grackle, Northern Waterthrush, American Redstart, and Black-throated Green Warbler. The Breeding Bird Survey results in their entirety can be found in *Appendix 6*.

Table 4. Point Count Surveys- Highest Breeding Evidence (HBE)

Common Name	Scientific Name	COSARO	COSEWIC	SARA	S-RANK	G-RANK	Area sensitive	Area required (ha)	PIF priority species	June 8		June 28		FINAL HBE
										TOTAL	HBE	TOTAL	HBE	
Red-bellied Woodpecker	<i>Melanerpes carolinus</i>				S5	G5				0	NA	1	S	T
Red-eyed Vireo	<i>Vireo olivaceus</i>				S5B	G5				1	S	1	S	T
Blue Jay	<i>Cyanocitta cristata</i>				S5	G5				1	S	2	S	T
American Crow	<i>Corvus brachyrhynchos</i>				S5	G5				1	S	0	NA	S
Black-capped Chickadee	<i>Poecile atricapillus</i>				S5	G5				2	S	9	M	T
Gray Catbird	<i>Dumetella carolinensis</i>				S5B, S3N	G5				0	NA	1	S	S
American Robin	<i>Turdus migratorius</i>				S5	G5				4	S	0	NA	S
Song Sparrow	<i>Melospiza melodia</i>				S5	G5				1	S	0	NA	S
Brown-headed Cowbird	<i>Molothrus ater</i>				S5	G5				0	NA	1	S	S
Common Grackle	<i>Quiscalus quiscula</i>				S5	G5				1	S	2	S	T
Northern Waterthrush	<i>Seiurus noveboracensis</i>				S5B	G5				1	S	0	NA	S
American Redstart	<i>Setophaga ruticilla</i>				S5B	G5	✓	>100ha		2	S	0	NA	S
Black-throated Green Warbler	<i>Dendroica virens</i>				S5B	G5	✓	>30ha		2	S	0	NA	S

3.3.2.1 SAR, Regional, and Local Significance

No SAR were identified in the study area. Most species detected in the study area are ranked as S5 (very common) in Ontario. The rank qualifier ‘B’ denotes the status of a migratory species during the breeding season, while the rank qualifier ‘N’ denotes a non-migratory population.

3.3.2.2 Regional Priority Species

The Ontario Landbird Conservation Plan (OLCP): Lower Great Lakes/St. Lawrence Plain, North American Bird Conservation Region 13 has identified a number of species that are considered conservation priorities for the region (Ontario Partners in Flight, 2008). No priority species were identified during the breeding bird surveys.

3.3.3 Significant Wildlife Habitat

With guidance from the *Significant Wildlife Habitat Technical Guide* (2000) and the SWH EcoRegion Criterion Schedule 6E (2015), we have determined that confirmed Significant Wildlife Habitat (SWH) is present in the form of Deer Winter Congregation Areas. Candidate SWH is present in the form of Bat Maternity Colony and Special Concern and Rare Wildlife Species, as habitat for Barn Swallow, Rainbow Mussel, Eastern Ribbonsnake, and West Virginia White is present in the study area. Any tree removal should be preceded by a bat habitat assessment to identify whether any candidate bat snags will be removed. See *Appendix 7* for a detailed assessment of SWH.

Candidate habitat for West Virginia White was identified within the coniferous swamp and deciduous forest communities. No individuals were observed during the field investigations. To prevent any potential impact to habitat, any required vegetation removal should be immediately followed by reseeding/planting with native seeds and/or plants.

Candidate habitat for Barn Swallow is present in the form of Structure 44 itself. No individuals were identified in the study area, and no nests were noted under the bridge. To prevent impacts to this SAR, the bridge should be netted off before April 1 to avoid contravening the Migratory Birds Convention Act. Given the current lack of nests, and the required netting, it is unlikely the proposed work will impact this SAR.

Riffles with a cobble substrate were present in the creek, which could provide habitat for Rainbow Mussels. No individuals were identified during site visits, and the species was not identified in the background review. If the footprint of the bridge is to remain the same, the proposed work will have a minimal impact on this SAR. If dewatering is to take place during bridge reconstruction, a fish and mussel salvage will be necessary.

There is potential for Eastern Ribbonsnake habitat to occur within the study area as the river features dense riparian areas. No individuals were observed during the site visit. To prevent any potential impact to habitat, any required vegetation removal should be scheduled in the fall when snakes will be in hibernacula. Areas where vegetation has been removed should be reseeded/planted immediately with native seeds and/or plants.

3.3.4 Species at Risk Habitat

A thorough review of background documents was conducted to compile a master list of all Species at Risk, and species with conservation designations that may occur in the study area. Species listed as rare or special concern are discussed in detail in section 3.3.3. Based on the background review and site assessment, candidate habitat for six

SAR listed as threatened or endangered has the potential to occur within the study area. Each species and their potential to occur are discussed below.

Overhanging vegetation, riffles, and pools are present in this portion of the Saugeen River, which are key features for feeding habitat for Redside Dace. This species prefers gravel substrate for spawning, however, and the substrate near the bridge was largely cobbles with some boulders. No individuals were identified during site visits.

As a federally and provincially Endangered species, Redside Dace habitat is protected, and individuals who complete activities such as bridge reconstructions or rehabilitations must meet certain criteria to proceed with their activity without an ESA permit.

Per section 23.4(2) of the ESA:

1. Any modification or replacement of a structure that would increase the portion of the existing footprint of the structure that is within the bankfull width of the watercourse by more than 25 per cent.

And/or,

2. Any activity that would damage,
i. more than a total of 300 square metres of land situated either within the watercourse or outside of the watercourse but within 30 metres of the bankfull width of the watercourse, subject to subparagraph ii, or
ii. more than 100 square metres of land situated within the watercourse below the bankfull width.

would result in the need for an ESA permit and compensation. If these criteria are not met, a permit is not required, and the project can proceed under a registration process.

Given that Redside Dace have the potential to be present, a request for review will also need to be submitted to DFO.

Ontario Regulation 242/08 s. 29.1 describes Redside Dace habitat, and the OMNRF Guidance for Development Activities in Redside Dace Protected Habitat (OMNRF, 2016) describes how effects to Redside Dace habitat can be minimised during construction of stream crossings via the use of best management practises.

Stream crossing effects mitigation:

- *The proposed road networks for new crossings should be designed to minimize the number of stream crossings (e.g., stream crossings should generally be limited to one per kilometre of stream).*
- *In-water works must adhere to Redside Dace timing windows.*
- *The location of new stream crossings should be chosen to:*

- *Avoid reaches known to be occupied by Redside Dace;*
- *Minimize the width of the crossings;*
- *Cross over straight sections of the stream where there is less likelihood for bank erosion; and*
- *Cross at areas that have already been disturbed and avoid initiating disturbances in new areas of the stream.*
- *Construction methods used should attempt to minimize the amount of activity in protected habitat (i.e., including the stream meander belt and riparian habitat) and incorporate the following to maintain the natural flow and functions of streams:*
 - *For new/replacement crossings in confined valleys (i.e., defined valleys), stream crossings should be bridges that span the valley with any piers required placed outside of the meander belt of the stream, where opportunities exist. Bridges should be high enough to maintain light penetration to the stream.*
 - *For new/replacement crossings in unconfined valleys (i.e., undefined valleys), stream crossings should be open bottom culverts designed to span the meander belt of the stream. The length of the culvert should be minimized by using retaining walls versus wider embankments, where opportunities exist, to minimize disruption to riparian habitat and channel bed.*
 - *For extension of existing structures, the footprint of the structure should be minimized by using retaining walls where technically feasible to minimize disruption to riparian habitat. Replacement of the existing structure should be considered as an alternative through the planning process.*
 - *Where appropriate, subsurface investigations should be undertaken to confirm the need and extent of dewatering to construct footings, to ensure groundwater resources are not impacted.*
 - *Developing a plan for managing the stormwater runoff from road crossings and where possible preventing it from entering the stream. For example, by retaining rural road cross-sections adjacent to the crossings, which do not have curbs or drains, stormwater will not be discharged directly into the stream.*
 - *In addition to the BMPs listed above, any construction activity that must occur in the stream should also incorporate the BMPs outlined for indirect habitats (i.e., upstream areas) below. This includes restoring any temporary disturbances within the riparian habitat (i.e., 30 m on each side of the meander belt) by planting native, non-invasive species.*

- *For proposed road crossings in all indirect Redside Dace habitat (i.e., upstream of occupied reaches), there is more flexibility in the location and design of the crossings, as the impact on the habitat is lessened. If the form and/or function of these supporting features are maintained, a permit may be avoided. This can be achieved through the following:*
 - *In-water work should only be conducted during the recommended construction timing window of July 1 to Sept 15. This will ensure that Redside Dace and their habitats downstream are protected during the sensitive spawning period, as well as ensuring that the stream has stabilized and the riparian habitat is established before the winter months. Once construction is completed, the riparian habitat must be restored using native materials.*
 - *Construction should be undertaken during periods when the channel is dry or with minimal flow. Although flows may be absent, contingency plans should be established to address potential flows resulting from unanticipated storm events.*
 - *The length of time required for in-water work should be kept to a minimum.*
 - *Watercourses should not be blocked or flows impeded sufficiently to limit fish movement (i.e., pumping or diversion of flows around the work site can be used to avoid blocking flow during construction).*
 - *Appropriate sediment controls should be in place and measures taken to prevent sediment from exceeding 25 mg/L above background level during construction*
 - *Exposed soil should be graded to a stable angle and revegetated in a manner that prevents erosion.*
 - *Closed-bottom culverts should be installed so that the invert is embedded a minimum of 20 percent (of the culvert diameter) below the stream bed. This will facilitate fish passage by ensuring that the culvert is not perched during periods of low flow and help prevent flows from undercutting the culvert.*
 - *Slopes of culverts should mimic the natural stream bed.*
 - *Materials moved during construction activities should not be stockpiled where they can adversely affect drainage patterns and be a minimum of 30 m from the watercourse.*

Erosion Control Plans:

- *Erosion should be prevented by limiting the size of disturbed areas through such measures as:*
 - *Phasing grading and infrastructure installation;*

- *Minimizing nonessential clearing and grading; and*
- *Retaining existing vegetation.*
- *Erosion should be minimized through measures including:*
 - *Minimizing the time that any area is exposed to erosion;*
 - *Focusing construction during a time of year when flows are minimal (e.g., summer) will help mitigate against potential erosion;*
 - *Any surface left exposed should have the soil stabilized (e.g., erosion control blankets, lockdown netting, seeding, spraying, utilization of methods to roughen the surface);*
 - *Minimize the slope length and gradient of disturbed areas; and*
 - *Store/stockpile soil outside of direct Redside Dace habitat and at least 30 m away from indirect Redside Dace habitat.*
- *Sediment from the construction site should be captured through measures including:*
 - *A multi-barrier approach to prevent sediment entering the stream;*
 - *Effective sediment and erosion ponds (i.e., appropriate structure, size and type required for site);*
 - *Methods to trap sediment (i.e., filter berms, sediment traps, vegetation, etc.); and*
 - *Monitor and maintain sediment and erosion controls at all times to ensure they are effective as well as monitor the receiving stream to ensure erosion and sediment controls are working effectively. Regular site meetings between the site inspector and contractors will ensure sediment and erosion controls are being emphasized and minor changes to improve effectiveness are being completed, as needed.*

All four SAR bats in Ontario have the potential to occur within the study area due to the presence of suitable habitat such as large diameter canopy trees, forested habitat close to a watercourse, and the bridge. No individuals or hibernacula were observed during site visits. The proposed work is unlikely to have an impact on this SAR, assuming no tree removal is required during the structure replacement. If tree removals are unavoidable, any proposed removals should occur outside the bat maternity window (April 1-September 30), and an assessment of the individual trees for SAR bat habitat should also take place.

Blanding's Turtle nesting habitat and overland travel has the potential to occur within the study area; however, no individuals or nesting sites were observed during site visits and no critical habitat has been identified per communication with agencies and background review. The use of appropriate ESC fencing, installed prior to the turtle nesting season

(mid-May), to delineate the work area will eliminate any risks of Blanding's Turtle wandering inside the work area during seasonal overland movement. Due to their extensive movement through the ecosystem, Blanding's Turtles can be found anywhere in the wetland and woodland habitats.

See *Appendix 8* for a detailed assessment of Species at Risk Habitat.

3.4 Aquatic Habitat Assessment

Two sites along the reach of the Saugeen River within the study area were characterized on July 27, 2023, one upstream of the bridge and one downstream. Photographs of the sites are provided in *Appendix 11*.

3.4.1 Site 1

Site 1 is located immediately downstream of Structure 44. The site was a total of 15 m in length, starting at the bridge. Further investigations were not possible, as the river at this point was past the safe wadeable depth of 1 m, and the adjacent lands were private property with no access. The active channel measured 19.97 m wide, with a maximum channel depth of >1 m. The channel is not entrenched on either side, while the entrenchment ratio is over 6 as the stream has access to greater than 40m of floodplain at two times bankfull height. The banks are well vegetated. Small fish were present in this reach.

Channel structure during the survey was comprised of a large pool below the bridge. Past the end of the site it was apparent that the water became much shallower and flowed over a series of riffles. Channel morphology in this site was relatively straight. Stream substrates 90% cobble and 10% boulder. In-stream cover was 5% rocks. No barriers to fish passage were present. Water temperature was measured at 24°C, while air temperature was 29°C. No precipitation occurred during the site visit, and none had occurred in the previous 24 hours.

The reach of the watercourse within Site 1 is of moderate habitat quality for fish. The water is deep near the bridge, but becomes shallower further downstream, with the flow regime changing from a pool to a riffle at that point. Roughly 10% of the sampling reach was shaded by overhanging vegetation.

3.4.2 Site 2

Site 2 is located immediately upstream of Structure 44. The site was a total of 70 m in length, from the bridge to a slight meander in the river, with the active channel being an average of 18.65 m wide, with a maximum channel depth of 0.71 m in the pool by the

bridge, and 0.21 m in the riffles. The channel in this reach is largely straight. The channel is not entrenched on either side, with the entrenchment ratio over 6 as the stream has access to greater than 40 m of floodplain at two times bankfull height. The banks are well-vegetated and stable.

Channel structure during the survey was comprised of riffles and glides, with a pool directly at the bridge. Stream substrates near the bridge were 60% silt and 40% boulder. Further upstream the substrates changed to 60% cobble, 10% boulder, and 30% gravel, before becoming 80% cobble and 20% boulder moving upstream into the riffles and glides. In-stream cover consisted of 10% rock. Reed Canary Grass was present in some of the shallower riffles. Small fish were present in this reach. No barriers to fish passage were present.

The reach of the creek included in Site 2 is of moderate habitat quality for fish. The water is somewhat shallow, with only minor variations in flow. The watercourse was partially shaded (~30%) by the riparian vegetation on both banks, providing protection from thermal impacts.

3.5 Geology and Soils

The study area contains Bottomland and Pike Lake Soils (Gillespie and Richards, 1954). The Pike Lake soils are loams which are part of the Grey Brown Podzolic Great Group, are medium-textured, moderately to very steeply sloping, and very stony (Gillespie and Richards, 1954). They have good drainage, and are derived from dolomitic limestone till, and while most of the original vegetation has been cleared from this soil, the original vegetation was most likely the maple, beech association (Gillespie and Richards, 1954). The materials are very coarse which, combined with the lack of organic matter and fine materials, induces rapid percolation and limits storage capacity for water (Gillespie and Richards, 1954). The Bottomland soils are variable in texture, soil materials, topography, and stoniness, have poor drainage, and are part of the Alluvial Great Group (Gillespie and Richards, 1954). They have a dark coloured surface and gley subsoil, and vegetation generally consists of willow, elm, and cedars (Gillespie and Richards, 1954).

4.0 Impact Analysis

The proposed development will result in impacts to the existing natural features. The structure is proposed to be repaired or replaced in the same location as the existing structure. Subject to future detailed design, through the implementation of proposed mitigation the impact will be minor to none.

4.1 Potential Impacts and Mitigation Recommendations

A detailed assessment of the impacts (potential and actual) and mitigation measures are provided in *Appendix 12*. The expected impacts include loss of vegetation and wildlife habitat, disturbance of wildlife species and impacts to nesting birds, disturbance of riparian vegetation that will result in a loss of shade and increased temperature to the river, increased erosion, sedimentation, and turbidity, loss of fish spawning habitat, changes to drainage and surface runoff, increased soil compaction, and linkage interruption along the watercourse. Mitigation methods include the development and implementation of an Erosion and Sediment Control (ESC) plan, including ESC fencing to isolate the site and prevent the entrance of wildlife, netting off of the bridge before April 1, removal of vegetation outside of sensitive timing windows, nest searches before vegetation removal in the breeding bird nesting window, performing the work outside of the restricted in-water timing windows, maintaining site vegetation or restoring with native species as soon as possible, including the use of compensation planting, controlling access and movement of equipment and people, scheduling grading to avoid high run-off events, and minimizing changes to land contours and natural drainage.

4.2 Hydrological Function of the Wetland

A detailed hydrological study and analysis of the functions and anticipated changes to the watercourse has not been completed. However, it is expected that the rehabilitation of Structure 44 would have little to no impact on the hydrology of the watercourse, wetland, or flood risk, provided the structure footprint is maintained, and remains in the same location.

5.0 Legislation and Policy Compliance

5.1 Provincial Policy Statement

Structure 44 is considered transportation infrastructure and is therefore exempt from the constraints applied to development. The natural resources adjacent to the existing structure must still be given consideration, and impacts must be minimized where possible.

To fulfill the requirement under the PPS, natural features were inventoried and assessed for potential and actual impacts based on the proposed replacement of the structure. Confirmed and candidate SWH and candidate habitat for SAR can be found in the Saugeen River and the White Cedar Mineral Coniferous Swamp and Dry-Fresh Sugar Maple Deciduous Forest communities, which will be disturbed by the bridge rehabilitation. Revegetation of the site following construction with native plants and compensation plantings will help to mitigate these effects.

5.2 Endangered Species Act

The Endangered Species Act (2007) provides protection to species designated as Threatened or Endangered on the Species at Risk in Ontario list (2021). The habitat of some Species at Risk is also protected under the ESA. Protected habitat is habitat identified as essential for life processes including breeding, rearing, feeding, hibernation, and migration.

No SAR were identified during site investigations. Trees that may provide maternity habitat for SAR bats have been identified in the study area and are within the area of potential tree removal for bridge rehabilitation. Any impacts to the habitat of SAR bats may require an authorization under the ESA, in consultation with the MECP. Habitat for Redside Dace has been identified in the study area. Depending on the extent of the work to occur at Structure 44 (as described in section 3.3.4), registration under the ESA or an Overall Benefit Permit will be required. A mitigation or overall benefit plan will need to be formulated, likely including the development of a planting plan for the Saugeen River for a 120 m distance up and downstream of Structure 44 (where access is permitted or acquired) that increases cover, reduces erosion and siltation concerns for the creek, and provides an overall increase in suitable habitat to Redside Dace. Through the proposed mitigation and registration of the project, the proposed work complies with the ESA.

5.3 Fisheries Act, 1985

To ensure compliance with the *Fisheries Act (1985)*, a DFO Self-Assessment should be completed at detailed to design to determine if the works can be completed under the appropriate codes of practice, based on this review a DFO Request for Review of the detailed design may be required where works can not comply, or fall outside of the purview of the codes of practice, and should be completed by a qualified biologist/ecologist. If it is determined that proposed actions may cause serious harm to fish that cannot be mitigated for, then a Fisheries Act Authorization would be required.

5.4 Species at Risk Act

No Federal lands are present in the study area, but aquatic SAR are potentially present in the study area. As such a SARA permit may be required to perform the work, as per consultation with DFO. Once the need for a permit has been ascertained and the permit obtained, the proposed works will comply with the SARA.

5.3 Saugeen Valley Conservation Authority

The study area is entirely within the SVCA regulated area and contains unevaluated wetlands and a watercourse crossing.

The replacement of Structure 44 is considered to be public infrastructure which is permitted within the area of interference of a wetland (30 m), interfering with a watercourse via a watercourse crossing, and within the regulated area subject to the activity being approved through a satisfactory EA process and/or if it has been demonstrated to the satisfaction of SVCA that the development is acceptable on the natural features and hydrologic and ecological functions of the area.

This area is already impacted by the existing structure, and it is expected that any new impacts to the natural heritage features will be minor to none. Hydrological impacts to the watercourse and changes to flood capacity should be minimized through detailed design. Any encroachment into the adjacent wetland should be avoided and the designated location for the storage of equipment and materials should be as far from the wetland as possible. Appropriate mitigation measures should be applied through design and construction planning and disturbed areas restored or enhanced where appropriate. See Section 7.0 for recommendations.

5.4 Grey County Official Plan (2023)

The Grey County Official Plan (2023 consolidation) indicates the presence Core Areas, Hazard Lands, Wetlands, Significant Woodlands, Significant Valleylands, the Saugeen River, fish habitat, confirmed and candidate SWH, and candidate SAR habitat in the Study Area. As per Section 7.11, this EIS report has been submitted in accordance with Section 7.11.1 to determine the potential impact the proposed works may have on the adjacent features and provide mitigation measures to reduce and avoid negative impacts.

Based on the findings of the EIS and the recommended mitigation outlined in *Appendix 12* and section 7, prior, during and post-construction, ensures that the replacement of Structure 44 will not impact the ecological functions or environmental features and will not contravene the Grey County Official Plan.

5.5 Municipality of West Grey Zoning By-Law 37-2006 (2017)

The study area is zoned Natural Environment under the by-law. Under section 31 of the by-law, existing uses are permitted within the Natural Environment zone, but no alteration or disturbance to watercourses will be permitted without the prior written approval of the Conservation Authority having jurisdiction in the area. Completing the EIS to the satisfaction of the SVCA will result in this project conforming to the by-law.

6.0 Summary and Conclusions

It is the opinion of AA that by implementing the mitigation measures identified in *Section 4*, that the replacement of Structure 400172 will result in no significant long-term negative impacts to natural heritage features identified in the study area. The natural features within the study area will be protected and enhanced through mitigation and restoration recommendations. This will result in long-term positive effects on the natural heritage features within the study area. Below is a summary of the affected natural heritage features, constraints, and impacts. Recommendations for associated mitigation and/or protection measures are identified in *Section 4*.

6.1 Biological Constraints

1. Surveys were conducted for Ecological Land Classification and Vegetation Communities (ELC and Vascular Plant List), Significant Wildlife Habitat, Species at Risk Habitat and Aquatic Habitat.
2. No SAR were detected within the study area.
3. Confirmed SWH is present in the form of Deer Winter Congregation Areas. Candidate SWH is present in the form of Bat Maternity Colony and Special Concern and Rare Wildlife Species, as habitat for Barn Swallow, Rainbow Mussel, Eastern Ribbonsnake, and West Virginia White is present in the study area.
4. The study area includes a reach of the Saugeen River, which is classified as a cold-water watercourse.
5. Candidate SAR habitat is present in the study area for six species listed as Threatened or Endangered, and afforded Habitat Protection.

6.2 Impact Assessment

1. Generalized impacts due to the rehabilitation of the bridge were assessed to determine their extent and mitigation guidelines have been provided.
2. Potential impacts primarily involve the removal of herbaceous vegetation communities, removal of trees, site grading, impact to aquatic habitat, wildlife disturbance, and sediment run-off.

3. There are opportunities in the study area for edge enhancement, restoration, invasive species management, and compensation planting to mitigate and offset potential impacts.

6.3 Legislation and Policy Compliance

1. Candidate and confirmed SWH and candidate SAR habitat near the bridge will be disturbed during construction. However, there will be no negative impacts to these natural features or their ecological functions through implementation of mitigation such as revegetation of the disturbed areas with native plants and compensation planting.
2. The proposed replacement of Structure 44 can occur in accordance with the SVCA's policies, the Grey County OP, and the West Grey Zoning By-law because it has been demonstrated that any impact to the hydrologic or ecological functions will be minimized through the recommended mitigation measures. The implementation of appropriate mitigation measures and restoration of disturbed areas will be considered through design and construction planning.

7.0 Recommendations

The following recommendations are provided to ensure protection of natural heritage features and function within and adjacent the severed parcel from the proposed development.

1. Implement Erosion and Sediment Control Plan (ESC) following guidelines provided in the “Greater Golden Horseshoe Area Conservation Authorities’ Erosion and Sediment Control Guideline for Urban Construction”.
2. Install and monitor a silt and sediment control barrier:
 1. Silt fence to be inspected weekly during construction and following a storm event of 25mm of rainfall within 24 hours.
3. ESC measures to be kept in place until construction is completed and disturbed soils have been vegetated.
4. ESC measures should be implemented such that they isolate the work area, to reduce the potential for wandering wildlife inside the work area.
5. The area of construction disturbance shall be kept to a minimum.
6. Control access and movement of equipment and people.
7. Minimize the use of heavy equipment in sensitive areas. Equipment is to be limited to the construction allowance area and is not to encroach within the adjacent natural communities.
8. Works are to be located as far away from the wetland feature boundary as possible.
9. Accumulated sediment and debris to be removed before silt fence is removed.
10. All disturbed areas will be re-vegetated or restored with site appropriate indigenous plants wherever opportunities exist.
11. Time activities to avoid wildlife disturbance during critical life stages:
 - a) No in-water works are permitted from July 16 to September 15, as per MNMNR timing windows for the protection of fish and fish habitat.

- b) Avoid removal of trees and vegetation during the generalized breeding bird nesting period from April 1 to August 31 and tree removal during the bat maternity window of April 1 to September 30. If removal of vegetation is to occur during the general nesting period, a nest search is to be completed by a skilled and experienced biologist/ecologist.
 - c) Net off the bridge by April 1 to prevent any bird nesting.
12. If trees are to be removed, a bat habitat assessment should be undertaken to assess the trees slated for removal for suitable habitat.
 13. Where in water works cannot be conducted per the applicable codes of practice, submit a DFO Request for Review to identify any potential risks to fish and fish habitat.
 14. If dewatering within the study area is deemed necessary, ensure a fish rescue is completed by a qualified biologist/ecologist prior to dewatering being completed.
 15. Choose designs and materials that will minimize impacts.
 16. Limit any cleaning solutions or paint used on the bridge and take appropriate precautions to avoid products entering the watercourse.

Prepared By:

ABOUD & ASSOCIATES INC.

DRAFT

Heather Dixon, PhD.
Aquatic Ecologist

Reviewed By:

DRAFT

Cheryl-Anne Ross, B. Sc.,
Ecology Lead & Wildlife Ecologist
OMNR Certified Ecological Land Classification
OMNR Certified Wetland Evaluation

7.0 References

- Cadman, M.D., D.A. Sutherland, G.G. Beck, D. Lepage, and A.R. Couturier. 2007. *The Atlas of the Breeding Birds Ontario 2001-2005*. Bird Studies Canada, Environment Canada, Ontario Field Ornithologists, Ontario Ministry of Natural Resources, and Ontario Nature, Toronto, xxii + 706pp.
- COSEWIC. 2010. COSEWIC assessment and status report on the Bobolink *Dolichonyx oryzivorus* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vi + 42 pp. (www.sararegistry.gc.ca/status/status_e.cfm).
- COSEWIC. 2012. COSEWIC assessment and status report on the Eastern Wood-pewee *Contopus virens* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. x + 39 pp. (www.registrelep-sararegistry.gc.ca/default_e.cfm).
- DFO. 1985. Department of Fisheries and Oceans. Fisheries Act
- Dobbyn, John. 1994. *Atlas of the Mammals of Ontario*. Federation of Ontario Naturalists, viii + 120pp.
- Government of Canada. 2019. *Species at Risk Public Registry – Schedule 1*.
- Government of Ontario. 2019. A Place to Grow Growth Plan for the Greater Golden Horseshoe. May 2019.
- Gillespie, J. E. and Richards, N. R. 1954. Soil Survey of Grey County. Report No. 17 of the Ontario Soil Survey. Experimental Farms Service, Canada Department of Agriculture and the Ontario Agricultural College
- Jones, C., Layberry, R. and Macnaughton, A.. Ontario Butterfly Atlas Online. (April 30, 2015). Toronto Entomologists' Association: http://www.ontarioinsects.org/atlas_online.htm
- Lee, H.T., W.D. Bakowsky, J.L. Riley, J. Bowles, M. Puddister, P. Uhlig and S. McMurry. 1998. *Ecological Land Classification for Southern Ontario: First Approximation and its Application*. Ontario Ministry of Natural Resources, Southcentral Science Section. Science Development and Transfer Branch. SCSS Field Guide FG-02
- McCormick Rankin Corporation. 2004. Highway 7 Planning Study EA Amendment, Chapter 3, 73 pp.
- MNRF. 2000. Ontario Ministry of Natural Resources. *Significant Wildlife Habitat Technical Guide*. October 2000.
- MNRF. 2002. Ontario Ministry of Natural Resources. *Ontario Wetland Evaluation System: Southern Manual*. 3rd Edition.

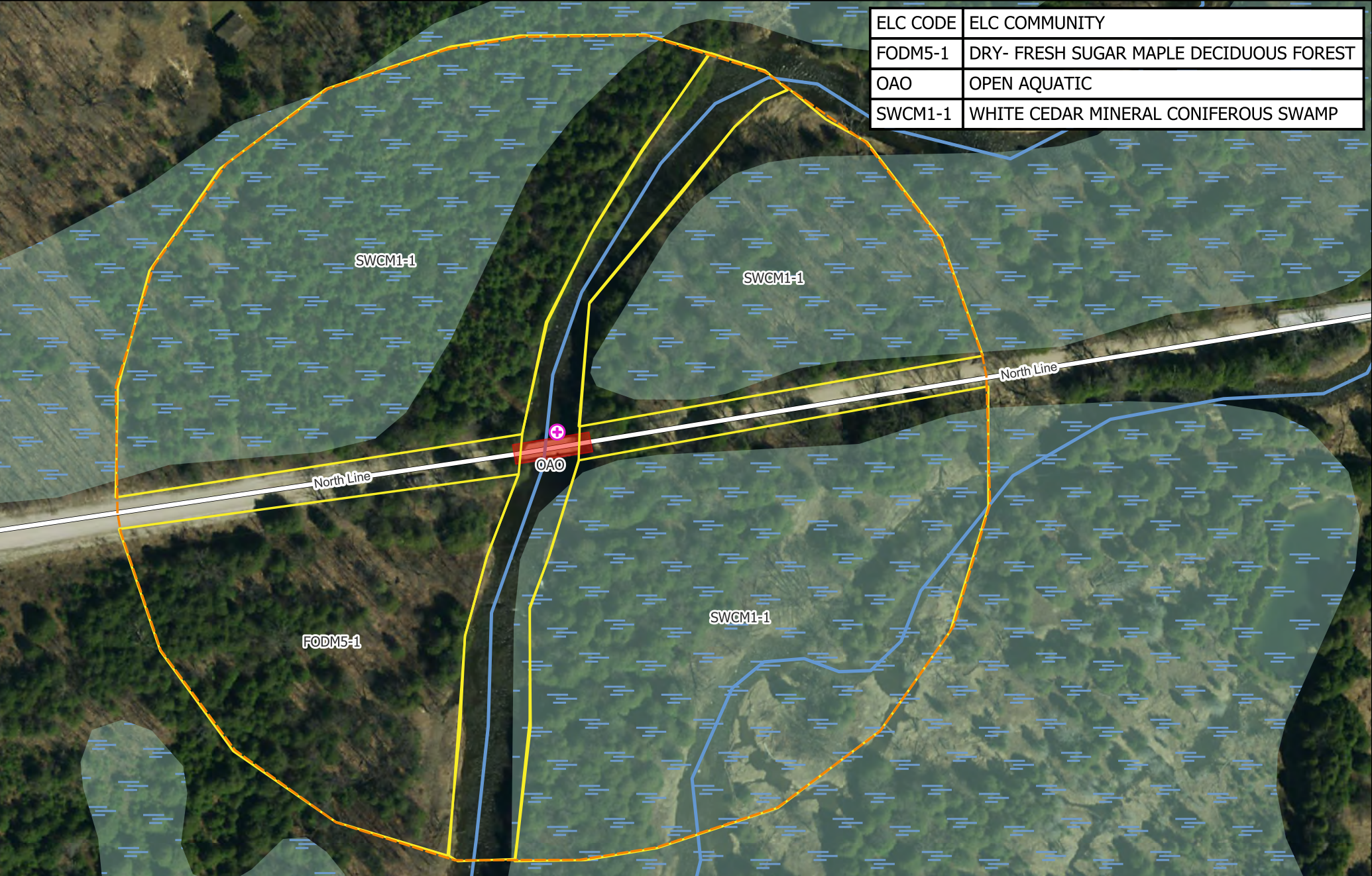
- MNRF. 2010. Ontario Ministry of Natural Resources. *Natural Heritage Reference Manual for Natural Heritage Policies of the Provincial Policy Statement, 2005*. Second Edition. Toronto: Queen's Printer for Ontario.
- MNRF. 2016. OMNRF Guidance for Development Activities in Redside Dace Protected Habitat. Version 1.2 Ontario Ministry of Natural Resources and Forestry, Peterborough, Ontario. iv+32 pp.
- MNRF. 2018. Ontario Ministry of Natural Resources and Forestry. *Ontario Stream Assessment Protocol*.
- MNRF. 2019. Ontario Ministry of Natural Resources. Ontario Species at Risk website. Available at: <http://www.mnr.gov.on.ca/en/Business/Species/index.html>
- NHIC. 2019. Natural Heritage Information Centre. *NHIC online database and mapping*. Ontario Ministry of Natural Resources. Available at: <https://www.ontario.ca/environment-and-energy/natural-heritage-information-centre>
- OMMHA. 2020. Ontario Ministry of Municipal Affairs and Housing. *Ontario Provincial Policy Statement*. May 1, 2020.
- Ontario Nature. 2019a. Ontario *Reptile and Amphibian Atlas*. Available at: http://www.ontarionature.org/protect/species/herpetofaunal_atlas.php
- Ontario Nature. 2019b. Ontario Reptile and Amphibian Atlas: a citizen science project to map the distribution of Ontario's reptiles and amphibians. Ontario Nature, Ontario. Available: <http://www.ontarionature.org/atlas>; Accessed 2016].
- Ontario Partners in Flight. 2008. *Ontario Landbird Conservation Plan: Lower Great Lakes/St. Lawrence Plain, North American Bird Conservation Region 13*. Ontario Ministry of Natural Resources, Bird Studies Canada, Environment Canada. Draft Version 2.0

Authorities Consulted







- Papuga, Victoria. Management Biologist. MECP. Email Correspondence.
- Varga, Steve. Management Biologist. MNDMNR. Email Correspondence.

FIGURES

ELC CODE	ELC COMMUNITY
FODM5-1	DRY- FRESH SUGAR MAPLE DECIDUOUS FOREST
OAO	OPEN AQUATIC
SWCM1-1	WHITE CEDAR MINERAL CONIFEROUS SWAMP




LEGEND

 STUDY AREA	 WETLANDS
 STRUCTURE 44	 ECOLOGICAL LAND CLASSIFICATION
 SAUGEEN RIVER	 BREEDING BIRD POINT COUNT LOCATION

Information Sources:
 1. Orthophotography provided by First Base Solutions. Accessed September 2023.
 2. Wetlands, roads, and watercourse provided by LIO Open Data. Accessed April 2023.

Title:
EXISTING CONDITIONS & SURVEY LOCATIONS

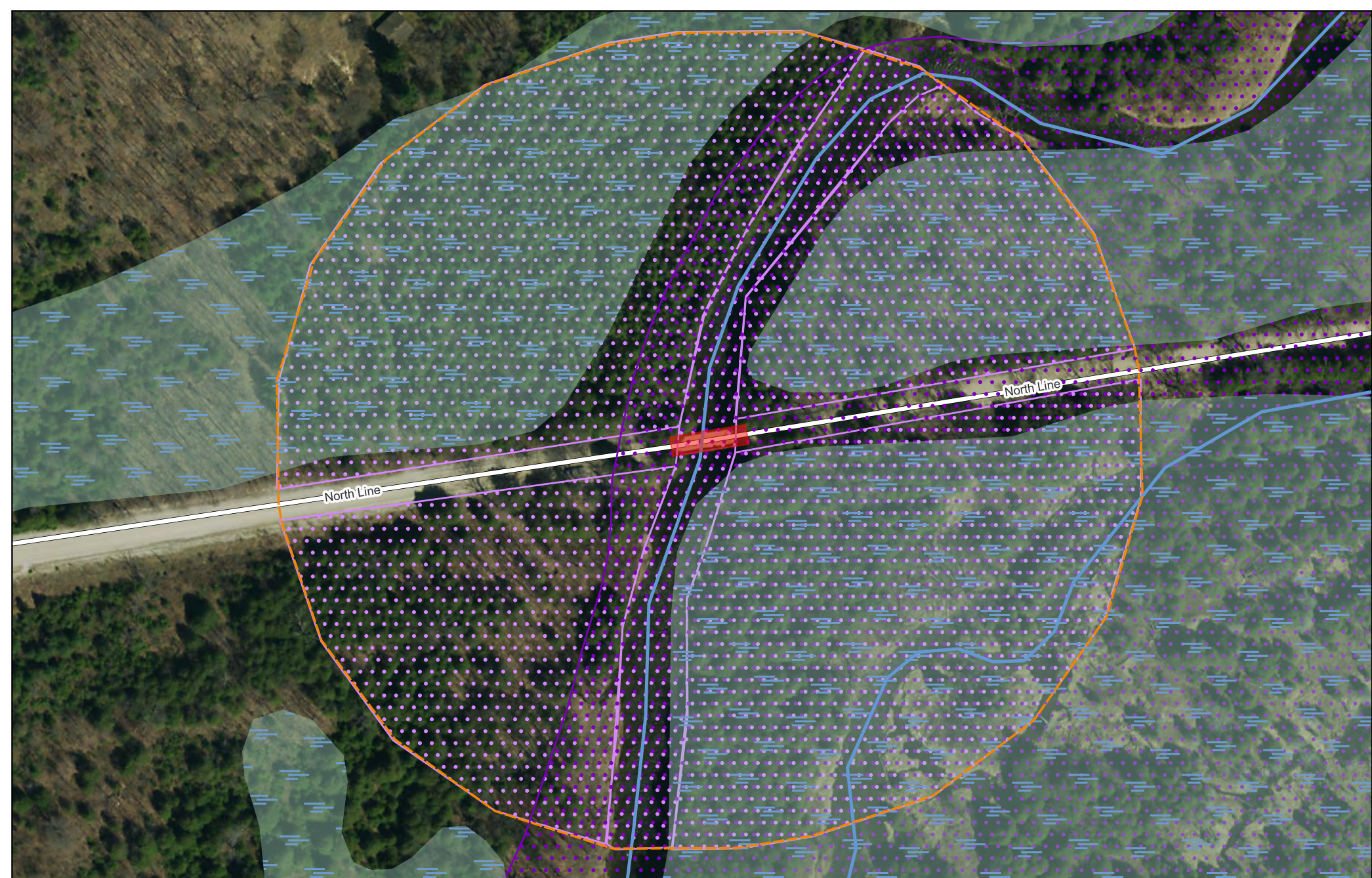
Project:
**NORTHLINE ROAD BRIDGE
 WEST GREY, ON**









Date: SEPTEMBER 2023
 Project: AA23-099A
 Scale: 1 : 1500


ABOUD & ASSOCIATES INC.
 Consulting Arborists • Ecologists • Landscape Architects
 5-8 Edinburgh Road South • Guelph, Ontario • N1H 9M8 • 519.822.4839 • www.aboudatg.com

Figure No: **1**



LEGEND

-  STUDY AREA
-  WETLANDS
-  STRUCTURE 44
-  CONFIRMED SWH
-  SAUGEEN RIVER
-  CANDIDATE SWH

Information Sources:
 1. Orthophotography provided by First Base Solutions. Accessed September 2023.
 2. Deer yarding area, roads, and watercourse provided by LIO Open Data. Accessed April 2023.

Title:
**NORTHLINE ROAD BRIDGE
 FEATURES & CONSTRAINTS**

Project:
**NORTHLINE ROAD BRIDGE
 WEST GREY, ON**



Date: SEPTEMBER 2023
 Project: AA23-099A
 Scale: 1 : 1500

ABOUT & ASSOCIATES INC.
 Consulting Arborists • Ecologists • Landscape Architects
 5-8 Edinburgh Road South • Guelph, Ontario, N1H 9M6 • 519.822.8839 • www.aboutandinc.com

Figure No:
2

APPENDIX 1
Applicable Policies and Conformity

Policy	Relevant Sections of the Policy	Policy Constraints Within the Study Area	Project Policy Conformity	Proposed Mitigation
Provincial Policy Statement (2020)	Section 1.6 Infrastructure and Public Service Facilities including sections 1.6.8. Section 2.0 Wise Use and Management of Resources, section 2.1 Natural Heritage including section 2.1.5 and 2.1.7	Candidate and confirmed Significant Wildlife Habitat (SWH) and habitat of endangered species present in Study Area.	Confirmed and candidate SWH will be disturbed near the bridge, with the removal of vegetation.	Vegetation to be replanted with native species.
Endangered Species Act (2007)	Subsection 9(1) Clause 10(1)(a) Clause 16(5) Clause 17(1) Section 23.9 (1)	Species at Risk and their habitat are potentially present in the Study Area.	Candidate SAR habitat be disturbed during the bridge rehabilitation, with the removal of vegetation and the disturbance of Redside Dace habitat.	Vegetation to be replanted with native species to provide overhanging vegetation to the Saugeen River and reduce erosion as part of mitigation or overall benefit plan.
Fisheries Act	Section 34.4 (1) Section 35 (1)	Fish and fish bearing waters are present in the Study Area.	Habitat for Redside Dace is present within the study area.	The project will need to be assessed for compliance with the Fisheries Act. If it is determined that proposed actions will cause the harmful alteration, disruption or destruction of fish habitat that cannot be mitigated, then a Fisheries Act Authorization will be required.
Species at Risk Act	Subsection 32 (1) and (2) Subsection 33 Subsection 34(1) Subsection 58 (1)	Aquatic Species at Risk and their habitat are potentially present in the Study Area.	Habitat for Redside Dace is present within the study area.	Mitigation such as revegetation and habitat improvement will minimize the effects of the work on Redside Dace. SARA

Policy	Relevant Sections of the Policy	Policy Constraints Within the Study Area	Project Policy Conformity	Proposed Mitigation
				permit may be necessary.
Saugeen Valley Conservation Authority	Policy 4.5.2.2 Policy 4.13-1 Policy 4.15.1-1	Alteration within a regulated area and watercourse crossings. Unevaluated wetland is present in the study area.	Development within a regulated area and interference with a watercourse or wetland is allowed providing mitigation methods are followed, and technical studies must have been completed to the satisfaction of the SVCA or through a satisfactory EA process.	Mitigation as described in <i>Appendix 12</i> will be utilized to prevent negative effects to the study area from the rehabilitation. Infrastructure is being maintained under an environmental assessment process.
Grey County Official Plan (2023 consolidation)	Section 7.1 (3) Section 7.2 (2) Section 7.3 Section 7.3.2 (1) Section 7.4 (1) Section 7.7 (1) Section 7.9 (1) Section 7.9 (2) Section 7.10 (1) Section 7.10 (2)	Development within or adjacent to Core Areas, Hazard Lands, Wetlands, Significant Woodlands, Significant Valleylands, a river, fish habitat, confirmed and candidate SWH, and candidate SAR habitat.	Transportation infrastructure development permitted within these areas if it has been demonstrated that there will be no negative impacts on the natural features or on their ecological functions.	This EIS has demonstrated that there will be no negative impacts on the natural features and areas or their ecological functions, provided mitigation described in <i>Appendix 12</i> are utilized.
Municipality of West Grey Zoning By-Law 37-2006 (2017)	Section 31.2	Study area is zoned Natural Environment.	Completing the EIS to the satisfaction of the SVCA will result in this project conforming to the by-law.	No specific mitigation needed.

APPENDIX 2
Terms of Reference and Approval



3-5 Edinburgh Road South
Guelph . Ontario
N1H 5N8

T: 519.822.6839
info@aboutdng.com
www.aboutdng.com

URBAN FORESTRY
ARBORIST REPORTS
MANAGEMENT PLANS
TREE PRESERVATION PLANS
TREE RISK ASSESSMENT
GIS TREE INVENTORIES
TREE APPRAISALS
MONITORING

ECOLOGICAL RESTORATION
NATURAL SYSTEMS DESIGN
HABITAT RESTORATION
EDGE MANAGEMENT PLANS
RAVINE STEWARDSHIP PLANS
NATURALIZATION PLANS
INTERPRETIVE DESIGN
MONITORING
CONTRACT ADMINISTRATION

ENVIRONMENTAL STUDIES
SUBWATERSHED STUDIES
ENVIRONMENTAL IMPACT
STATEMENTS
ECOLOGICAL LAND CLASSIFICATION
WETLAND EVALUATION
VEGETATION ASSESSMENT
BOTANICAL INVENTORIES
WILDLIFE SURVEYS
MONITORING

LANDSCAPE ARCHITECTURE
MASTER PLANNING
RESIDENTIAL COMMUNITIES
COMMERCIAL/INDUSTRIAL
HEALTHCARE AND EDUCATION
STREETSCAPES
PARKS AND OPEN SPACES
TRAIL SYSTEMS
GREEN ROOFS
CONTRACT ADMINISTRATION

EXPERT OPINION
OMB TESTIMONY
LEGAL PROCEEDINGS
PEER REVIEW
RESEARCH
EDUCATION

June 14, 2023

Our Project No.: AA23-099A
Sent by email: t.francis@svca.on.ca
becky.hillyer@grey.ca

Trent Francis
Regulations Officer
Saugeen Valley Conservation Authority
1078 Bruce Road 1, Box 150
Formosa, ON N0G 1W0

&

Becky Hillyer
Intermediate Planner
Grey County
595 9th Ave East
Owen Sound, ON N4K 3E3

**Re: Northline Road Bridge, Municipality of West Grey
Terms of Reference – Natural Environment Assessment Report**

Dear Mr. Francis & Ms. Hillyer:

This document outlines the Terms of Reference (ToR) of the Natural Environment Assessment Report for the proposed rehabilitation of Northline Road Bridge (structure 44) within the Municipality of West Grey. Please review the terms and circulate to relevant staff for discussion and approval.

BACKGROUND

The Municipality of West Grey is proposing the rehabilitation of Structure 44 on Northline Road. The structure is located approximately 500 m east of County Road 23. As a result, they require a Schedule B Municipal Class EA. As part of the Municipal Class EA, the Municipality requires the completion of a Natural Environment Assessment Report (NEA) to characterize the natural environment and propose reasonable measures to mitigate any potential impacts that may arise through the EA process and determine any mitigation requirements based on the outcome of the EA.

The Bridge is within the Saugeen Valley Conservation Authority regulation limit, including the Saugeen River. Per Ontario Regulation 172/06, a permit from the SVCA is required prior to any development or site alteration. The Grey County Official Plan Schedule A identifies Hazard Lands within the study area. West- Grey Zoning includes Natural Environment (NE) lands.

Unevaluated wetlands are present in the study area per MNDMNRF mapping.

In preparing the Terms of Reference, the following sources were reviewed for background information:

- Aerial photography of the subject site,
- Grey County Official Plan (2019) and Schedules,
- “Green in Grey”. Grey County, 2017,
- Municipality of West Grey Zoning By-law 37-2006 (2017 Consolidation),
- Grey County mapping (Grey County Maps, accessed April 25, 2023)
- SVCA mapping (accessed April 25, 2023) of approximate regulated and approximate screening areas,
- Natural Heritage Information Center, Make-a-map, accessed April 25, 2023.
- Ontario Nature. Ontario Reptile and Amphibian Atlas: a citizen science project to map the distribution of Ontario’s reptiles and amphibians. 2019
- Ontario Breeding Bird Atlas. Bird Studies Canada, 2007.
- Atlas of the Mammals of Ontario. Dobbyn, 1994.
- iNaturalist. Accessed May 29, 2023
- eBird. Cornell Lab of Ornithology. Accessed May 29, 2023.
- Ontario Butterfly Atlas. Toronto Entomologists’ Association. Accessed April 25, 2023.
- Aquatic Species at Risk Map. Department of Fisheries and Oceans. Accessed April 25, 2023.
- Aquatic Resource Area Survey Points and Line Segments, Land Information Ontario, accessed May 29, 2023

STUDY AREA

The study area is the subject structure and up to 120m beyond the structure, where access is permitted (*Figure 1*).

As needed, the lands adjacent to the structure may require further access to assist with understanding the characteristics and functions of natural heritage features. Where access is restricted, information will be acquired through existing background information and what can be observed from the edge of the accessible lands.

Lands outside of the field study area, or where access is not provided, will be reviewed from existing background information (e.g., Grey County Official Plan).

PLANNING CONTEXT

Grey County Official Plan (2019 Revision)

The Grey County Official Plan Schedule A Map 3 indicates that the study area is within a Rural Area and contains lands designated as Hazard Lands, Schedule C indicates that the study area contains a Core Area of Natural Heritage Systems, and Appendix B Map 3 indicates that the study area contains Significant Valleylands. Furthermore, “Green in Grey” (Grey County, 2017), indicates that the study area contains Significant Woodland, Wooded Area, and either Deer Yard or Deer Wintering Area.

Section 7.1 (3) states that:

“Development proposed within Core Areas, their 120 metre adjacent lands, or Linkages will be required to undertake an environmental impact study (EIS), unless otherwise exempted by 7.11.3 of this Plan. This EIS will assess the natural features, their adjacent lands and their connections to other natural features”*

Section 7.2 (2) states that:

“Permitted uses in the Hazard Lands land use type are forestry and uses connected with the conservation of water, soil, wildlife and other natural resources. Other uses also permitted are agriculture, passive public parks, public utilities and resource based recreational uses. The aforementioned uses will only be permitted where site conditions are suitable and where the relevant hazard impacts have been reviewed.”

Section 7.3 states that:

“The County generally encourages development be setback from Wetlands by at least 30 metres. In some cases this 30 metres distance can be reduced based on site-specific circumstances, or through the completion of an EIS.”

Section 7.3.2. (1) states that:

“No development or site alterations are permitted within Other Wetlands or their adjacent lands, shown on Appendix B, or as identified by conservation authorities, unless it has been demonstrated that there will be no negative impacts on the natural features or on their ecological functions.”

Section 7.4 (1) states that:

“No development or site alteration may occur within Significant Woodlands or their adjacent lands unless it has been demonstrated through an environmental impact study, as per Section 7.11 of this Plan, that there will be no negative impacts on the natural features or their ecological functions.”

Section 7.7 (1) states that:

“No development or site alteration may occur within Significant Valleylands or their adjacent lands unless it has been demonstrated through an environmental impact study that there will be no negative impacts on the natural features or their ecological functions.”

Section 7.9 (2) states that:

“No development will be permitted within 30 metres of the banks of a stream, river, or lake unless an environmental impact study prepared in accordance with Section 7.11 of this Plan concludes setbacks may be reduced and/or where it has been determined by the appropriate conservation authority these setbacks may be reduced. Landowners are encouraged to forest areas within 30 metres of any stream to maintain and improve fish habitat, ecological function of the stream, and to increase natural connections.”

Saugeen Valley Conservation Authority

A portion of the subject property is mapped as being approximate screening area by the SVCA. Policy 4.5.2.2 of the Environmental Planning and Regulations Policy SVCA Environmental Planning and Regulations Policies Manual states:

“Development, interference or alteration within a Regulated Area will be permitted only where it can be demonstrated to the Authority’s satisfaction that:

- *Susceptibility to natural hazards is not increased or new hazards created;*
- *There are no adverse hydraulic or fluvial impacts on rivers, creeks, streams, or watercourses;*
- *Grading (e.g. placing and removing fill) is minimized and maintains stage-storage discharge relationships and floodplain flow regimes for a range of rainfall events, including regulatory storm;*
- *There are no negative or adverse hydrologic impacts on wetlands;*
- *Pollutions, sedimentation and erosion during construction and post construction is minimized using best management practices including site, landscape, infrastructure and/or facility design (whichever is applicable based on the scale and scope of the project), construction controls, and appropriate remedial measures;*
- *Intrusions on hydrologic functions are avoided, and no adverse impacts to hydrologic functions will occur;*

- *Groundwater discharge areas which support hydrologic functions on-site and adjacent to the site are avoided;*
- *Groundwater recharge areas which support significant natural features or hydrologic or ecological functions on-site and adjacent to the site will be maintained or enhanced;*
- *Access for emergency works and maintenance of flood or erosion control work is available;*
- *Works are constructed, repaired and/or maintained according to accepted engineering principles and approved engineering standards or to the satisfactions or the SVCA, whichever is applicable based on the scale and scope of the project; and*
- *The control of flooding, erosion, pollution or the conservation of land is not adversely affected during and post development, interference or alteration.”*

Municipality of West Grey Zoning By-law 37-2006 (2017 Consolidation)

The Municipal Zoning designations for Municipality of West Grey are available through the Grey County online mapping. The study area is zoned as Natural Environment (NE). Section 31.1 states that existing uses, buildings, and structures are permitted uses within the NE zone.

Section 31.2 states:

“Within any NE Zone, no land shall be used and no new building or new structure shall be constructed, altered or used except in accordance with the following regulations:

- a) No alteration or disturbance to watercourses or to municipal drains associated with open watercourses will be permitted without the prior written approval of the Conservation Authority having jurisdiction in the area.*
- b) Maintenance of existing driveways within the natural environment shall be permitted. New driveways and improvements will require prior written approval from the Conservation Authority having jurisdiction in the area.*
- c) Any cutting or destruction of trees shall be subject to the requirements of the County of Grey Tree Cutting By-law.*
- d) Buildings accessory to a Conservation, Passive Recreation or Park use shall meet front, rear and side yard requirements of the Agricultural Zone.*
- e) Related Natural Environment Setbacks are contained within the applicable regulations of Section 6- General Provisions of this By-law.*
- f) Interpretation of the limits of the NE zone boundaries shall be governed by Section 2.6 of this By-law.”*

BACKGROUND REVIEW

Additional background natural heritage information related to the subject lands and adjacent lands identified the following information:

1. Review of the Ontario Breeding Bird Atlas identified 104 species that are known to occur or have historically occurred in the 10 km x 10 km square that contains the study area (17NJ29). This list includes seven species listed under the ESA and SARA: Bank Swallow (*Riparia riparia*), Barn Swallow (*Hirundo rustica*), Bobolink (*Dolichonyx oryzivorus*), Canada Warbler (*Wilsonia canadensis*), Eastern Meadowlark (*Sturnella magna*), Eastern Wood-Pewee (*Contopus virens*), and Wood Thrush (*Hylocichla mustelina*).

2. Review of the Ontario Reptile and Amphibian Atlas identified 16 species that are known to occur or have historically occurred in the 10 km x 10 km square that contains the study area (17NJ29). This list includes four species which are considered SAR: Snapping Turtle (*Chelydra serpentina*), Midland Painted Turtle (*Chrysemys picta marginata*), Eastern Ribbonsnake (*Thamnophis sauritus*), Milksnake (*Lampropeltis triangulum*), and Western Chorus Frog (Great Lakes / St. Lawrence - Canadian Shield Population; *Pseudacris triseriata* pop. 2).

3. Review of the Atlas of the Mammals of Ontario (1994) identified eight species that are known to occur or have historically occurred in the 10 km x 10 km square that contains the study area (17NJ29). No SAR were identified. It should be noted that SAR bats may be present anywhere in the province.

4. eBird is an online reporting system for birdwatchers managed by the Cornell Lab of Ornithology. The database was reviewed to determine what bird species have been reported in the vicinity of the property. The closest reporting location is Durham CA, Grey County, Ontario, CA, located 9.5 km southwest of the bridge. Sixty-four species were observed, including two species of conservation concern: Barn Swallow and Chimney Swift (*Chaetura pelagica*).

5. iNaturalist, a self-reporting system that is not limited by taxa, was also consulted in the background review. The search was limited to approximately 1 km surrounding the study area and only research grade reports, which are confirmed independently, were used to compile the list. Three fish species, one amphibian, two fungi, one reptile species, and seven vascular plant species were identified, including one SAR: Midland Painted Turtle.

6. Preliminary investigation through the Natural Heritage Information Centre (NHIC) indicated the presence of SAR within the 1 km x 1 km square containing the study area (17NJ2495). These include two SAR: Bobolink and Eastern Meadowlark. Unevaluated wetlands were also identified as present in this square.

7. Review of the Atlas of the Butterflies of Ontario identified 22 species that are known to occur or have historically occurred in the 10 km x 10 km square that contain the study area (17NJ29). This list includes one SAR: Monarch (*Danaus plexippus*).

8. The online Fisheries and Oceans Canada (DFO) mapping system was consulted in the background review. A review for SAR Critical Habitat and species presence was completed in a 1 km radius around the subject structure. Redside Dace (*Clinostomus elongatus*) were identified as present or potentially present in this search radius.

9. The Aquatic Resources Area (ARA) Survey Point and Line Segment mapping identified eleven fish species present within 1 km of the subject structure, none of which are SAR.

This information indicates that there is a potential presence of additional natural heritage features and constraints that may require investigation and/or comment.

PROPOSED TERMS OF REFERENCE

A. Background Review

1. Review background information, (e.g., proposed development, relevant sections of natural heritage system components of the County, Municipality, investigation of Wildlife Atlases and NHIC).
2. Complete an MECP Request for Information and determine if any additional Species at Risk have been identified in the study area.
3. Complete an MNDMNRF Request for Information to acquire fish timing windows and wetland information.
4. Conduct a screening of all background information and the site to determine the potential for the presence of Species at Risk (SAR).

B. Field Assessment

1. Identify the limits of the designated natural heritage features (wetlands) within the Study area. Plan of Survey limits to be picked up by a qualified surveyor retained by the client.

2. Conduct one site visit to characterize vegetation communities using the ELC system (MNR) and complete a two-season (spring and summer) botanical inventory of the Study Area during the growing season.
3. Conduct a breeding bird survey of the study area, following the protocol of the Ontario Breeding Bird Atlas (Bird Studies Canada, 2004), and including both point counts and area searches. The breeding bird survey requires two, focused, early morning site visits during the period between late May and early July.
4. Complete a Bat Habitat Assessment, review trees meeting the MNDMNR criteria (>10cm DBH) within the proposed development and immediately adjacent area (5 m) and identify trees that meet the criteria for bat maternity habitat and require consideration under the ESA (to be completed in the event that tree removals are required).
5. Complete a characterization of the study area for any additional significant natural heritage features, per the PPS by applying provincial protocols and criteria to site features.
6. Conduct an aquatic assessment and aquatic habitat investigation to characterize the present watercourse and identify any fisheries constraints including a review of substrates and suitability for species at risk.
7. Investigate the study area for the presence of significant wildlife habitat during all surveys.
8. Investigate the study area for presence of species at risk and species at risk habitat during all surveys.
9. Record observations of incidental wildlife during all site visits.

C. Natural Environment Assessment (NEA)

10. Analyze findings and prepare a map that shows: Identified natural heritage features, and functions and landscape level features (e.g., linkages, forest interior habitat), the proposed area of work, ELC vegetation communities and, other noteworthy features as needed.
11. Locations of other natural heritage features from background literature searches (e.g., mammal atlas, herpetofauna atlas, County's OP).
12. Prepare a report of the NEA that includes background information, methods, existing conditions, proposed development, recommended buffers, and appendices of field studies (e.g., ELC, aquatic assessment).

13. Submit draft NEA to client for review followed by distribution to County, municipality and SVCA.

D. Impact Assessment

1. At approximately 50% design, summarize the development proposal and provide associated metrics, including visual representations of the structure's footprint and proposed setbacks from confirmed limits of natural features.
2. Conduct an impact assessment by reviewing the proposed development's direct, indirect, and induced (i.e., residual, ongoing) impacts on the natural features. Provide an opinion about the location of the components of the general concept plan to reduce/avoid impacts to natural heritage features. Show the limits of expected impact and assess for minimizing impacts to ecological features and functions. This will involve discussions with the proponent and AA.
3. Provide policy rationale for expected impacts to natural heritage features.
4. Identify options for mitigation or rehabilitation of the site, during and post construction.
5. Review the DFO requirements for projects near water and standard to determine if a request for review is required.
6. Update the NEA report to include the completed impact assessment of the detailed design of the project including mitigation measures, and identifies additional requirements, such as permits or registration under the ESA or DFO.
7. Submit finalized NEA including impact assessment to client for review followed by distribution to County, municipality and NVCA.

Kind Regards,

ABOUD & ASSOCIATES INC.



Heather Dixon, PhD
Aquatic Ecologist

Cc: Chris Clark, Triton Engineering Services Ltd.

Lindsay Scott, Triton Engineering Services Ltd.
Todd Donkersgoed, Triton Engineering Services Ltd.
Geoff Aitkin, Municipality of West Grey
Cheryl-Anne Ross, Aboud & Associates Inc.




LEGEND

-  STUDY AREA
-  BRIDGE LOCATION
-  WETLANDS
-  WOODLANDS

Information Sources:
 1. Orthophotography provided by SWOOP
 Accessed April 2023.
 2. Woodlands & wetlands provided by LIO Open Data
 Accessed April 2023.

Title:
STUDY AREA

Project:
**NORTHLINE ROAD BRIDGE
 WEST GREY, ON**



Date: APRIL 2023

Project: AA23-099A

Scale: 1 : 1500


ABOUT & ASSOCIATES INC.
 Consulting Arborists • Ecologists • Landscape Architects
 3-5 Edinburgh Road South • Guelph, Ontario • N1H 2N6 • 519.822.8539 • www.aboutmg.com

Figure No: **1**

#	Significant wildlife habitat (SWH)	Candidate SWH type	Candidate SWH criteria	Criteria for SWH confirmation	Candidate SWH present (Field survey type required)
1	Waterfowl stopover and Staging Areas (terrestrial)	Seasonal Concentration Areas	- Fields with Sheet water in spring (incl. agricultural)	- Mixed species aggregations of 100 or more individuals confirms SWH	No-none required.
2	Waterfowl Stopover and Staging (Aquatic)	Seasonal Concentration Areas	- Ponds, marshes, lakes, bays, coastal inlets and watercourses and reservoirs - SWTP & SWMP are not SWH	- Aggregations of 100 or more listed species for 7 days (i.e. >700 waterfowl use days) confirms SWH	No-none required.
3	Shorebird Migratory stopover	Seasonal Concentration Areas	- Shorelines of Lakes, rivers, wetlands, beaches, bars; seasonally flooded, muddy, and un-vegetated shoreline habitat	- 3 or more listed species and >1000 shorebird use days, or >100 whimbrel, confirms SWH	No-none required.
4	Raptor Wintering Area	Seasonal Concentration Areas	- Combination of upland field and woodland habitat >20ha total (includes >15ha upland field) - least disturbed sites, idle, fallow or lightly grazed field/meadow best	- 1 or more Short-eared Owl, or at least 10 individuals and 2 listed species for a minimum of 20 days, and 3 of 5 years, confirms SWH	No-none required.
5	Bat Hibernacula	Seasonal Concentration Areas	- Caves, mine shafts, underground foundations, karsts. - buildings are not SWH	- All sites with confirmed hibernating bats, confirms SWH	No-none required.
6	Bat Maternity Colony	Seasonal Concentration Areas	- All forested ecosites, FOD, FOC, FOM, SWD, SWM, SWC with >10/ha trees (>25cm DBH) in early stages of decay (class 1-3) - buildings are not SWH	- >10 Big Brown Bats, >20 Little Brown Myotis, >5 adult female Silver-haired Bats confirms SWH	Yes-ELC and botanical surveys, SWH, and SAR assessments required. Bat Maternity Habitat Assessment required if trees are being removed.
7	Turtle Wintering Area	Seasonal Concentration Areas	- Areas with permanent water deep enough not to freeze, with mud/soft substrates	- 5 over-wintering Midland Painted Turtles, 1 or more Northern Map Turtle or Snapping Turtle confirms SWH	Yes-aquatic habitat assessments, ELC and botanical surveys, SWH, and SAR assessments required.

#	Significant wildlife habitat (SWH)	Candidate SWH type	Candidate SWH criteria	Criteria for SWH confirmation	Candidate SWH present (Field survey type required)
8	Reptile Hibernaculum	Seasonal Concentration Areas	- Sites below the frost line; rock barren, crevice and cave, talus, alvar, rock piles, slopes, stone fences, and crumbling foundations	- Presence of hibernacula with minimum 5 individuals of 1 snake species/ individuals of 2 or more species confirms SWH. - Congregations of a minimum of 5 snakes of 1 species/ individuals of 2 or more snake species, near potential hibernacula on sunny warm days in spring and fall confirms SWH	Yes-ELC and botanical surveys, SWH, and SAR assessments required.
9	Colonially-nesting Bird Habitat (cliff/bank)	Seasonal Concentration Areas	- Eroding banks, sandy hills, borrow pits, steep slopes, sand piles, cliff faces, bridge abutments, silos, barns	- 1 or more nest sites with 8 or more Cliff Swallow or, 50 Bank Swallow and Rough-winged Swallow pairs during the breeding season.	No-none required
10	Colonially-nesting Bird Habitat (Tree/shrub)	Seasonal Concentration Areas	- Live or dead standing trees in wetlands, lakes, islands and peninsulas, occasionally shrubby and emergent vegetation	- 5 or more active Great-blue Heron or other listed species nests	Yes-breeding bird surveys, ELC and botanical surveys, SWH, and SAR assessments required.
11	Colonially-nesting Bird Habitat (Ground)	Seasonal Concentration Areas	- Rocky islands or peninsulas within a lake or large river (natural or artificial)	- >25 active nests of Herring Gull, Ring-billed Gull, >5 active nests of Common Tern, or >2 active nests of Caspian Tern. 5 or more pairs of Brewer's Blackbird. Any active nesting colony of Little Gull, Great Black-backed Gull.	No-none required
12	Migratory Butterfly Stopover Area	Seasonal Concentration Areas	- At least 10ha, with undisturbed field/meadow and forest or woodland edge habitat present, within 5km of Lake Ontario.	- Presence of Monarch use days >5000 or >3000 where there is a mix of Monarch with Painted Ladies or White Admirals	No-none required
13	Land bird Migratory Stopover Area	Seasonal Concentration Areas	- Woodlots >5ha in size - within 5km of Lake Ontario	- Use by >200 birds/day, with >35species, with at least 10sp recorded on 5 different survey dates.	No-none required
14	Deer Yarding Areas	Seasonal Concentration Areas	- ELC communities providing Thermal cover (FOM, FOC, SWM, SWC, CUP2, CUP3, FOD3, CUT)	- Deer yards are managed by MNRF, available through district offices and LIO.	No-none required
15	Deer Winter Congregation Areas	Seasonal Concentration Areas	- All forested ecosites >100ha - Conifer Plantations <50ha may be used	- Deer management is the responsibility of the MNRF. - Contact MNRF or LIO for known deer winter areas.	Yes-confirmed White-tailed Deer Wintering Area (Stratum 2) present, as identified by MNDMNRF.

#	Significant wildlife habitat (SWH)	Candidate SWH type	Candidate SWH criteria	Criteria for SWH confirmation	Candidate SWH present (Field survey type required)
16	Cliffs & Talus Slopes	Rare Vegetation Communities	<ul style="list-style-type: none"> - Cliff: vertical to near vertical bedrock >3m in height - Talus slope: rock rubble at the base of a cliff made up of coarse rocky debris 	<ul style="list-style-type: none"> - Confirm any ELC Vegetation Type for Cliffs or Talus Slopes 	No-none required
17	Sand Barren	Rare Vegetation Communities	<ul style="list-style-type: none"> - Exposed, sparsely vegetated & caused by lack of moisture, fires, and erosion. 	<ul style="list-style-type: none"> - area >0.5ha in size - Confirm any ELC vegetation Type for Sand Barren - Not dominated by exotic or introduced species 	No-none required
18	Alvar	Rare Vegetation Communities	<ul style="list-style-type: none"> - Level, mostly un-fractured calcareous bedrock feature, overlain by a thin veneer or soil 	<ul style="list-style-type: none"> - area >0.5ha in size - Field Studies that identify four of the five Alvar Indicator Species - Not dominated by exotic or introduced species 	No-none required
19	Old Growth Forest	Rare Vegetation Communities	<ul style="list-style-type: none"> - >30ha forests with at least 10ha interior habitat and multi-layered canopy 	<ul style="list-style-type: none"> - Dominant Tree Species >140 years old - No recognizable signs forestry practices (old stumps) 	No-none required
20	Savannah	Rare Vegetation Communities	<ul style="list-style-type: none"> - Tall Grass Prairie Habitat with 25%-60% Tree cover - Remnant sites such as Railway Right of ways are not SWH 	<ul style="list-style-type: none"> - No minimum size and must be restored to a natural state. - Confirm one or more savannah indicator species. - Not dominated by exotic or introduced species 	No-none required
21	Tallgrass Prairie	Rare Vegetation Communities	<ul style="list-style-type: none"> - Ground cover dominated by prairie grasses with <25% tree cover. - Remnant sites such as Railway Right of ways are not SWH 	<ul style="list-style-type: none"> - No minimum size and must be restored to a natural state. - Confirm one or more prairie indicator species. - Not dominated by exotic or introduced species 	No-none required
22	Other Rare Vegetation Communities	Rare Vegetation Communities	<ul style="list-style-type: none"> - All Provincially Rare S1, S2, S3 Vegetation Communities (Appendix M of SWHTG) 	<ul style="list-style-type: none"> - Field Studies Confirming ELC vegetation type is a rare vegetation community 	Yes-ELC and botanical surveys, SWH, and SAR assessments required.
23	Waterfowl Nesting Areas	Specialized Habitats for Wildlife	<ul style="list-style-type: none"> - Upland Habitat, adjacent to Wetland ELC ecosites (except SWC, SWM) - Extends 120m from a wetland (>0.5ha) and any small wetlands (<0.5ha) within a cluster of at least 3. - Upland area at least 120m wide 	<ul style="list-style-type: none"> - Presence of 3 or more nesting pairs of listed species excluding Mallards - Presence of 10 or more nesting pairs including mallards - Any active Black Duck nesting site 	No-none required

#	Significant wildlife habitat (SWH)	Candidate SWH type	Candidate SWH criteria	Criteria for SWH confirmation	Candidate SWH present (Field survey type required)
24	Bald Eagle or Osprey Nesting, Foraging and Perching Habitat	Specialized Habitats for Wildlife	<ul style="list-style-type: none"> - Forest communities, adjacent to riparian areas - Osprey nests usually at top of tree - Bald Eagle nest usually in super canopy tree in a notch within canopy 	<ul style="list-style-type: none"> - Studies confirm one or more active Bald Eagle or Osprey nest. - Alternate nests included in SWH. - Nests must be used annually, if found inactive, must be known inactive at least 3 years, or suspected unused for 5 years if unknown 	Yes-breeding bird surveys, ELC and botanical surveys, SWH, and SAR assessments required.
25	Woodland Raptor Nesting Habitat	Specialized Habitats for Wildlife	<ul style="list-style-type: none"> - Forested communities, forested swamp communities and cultural Plantations - Natural Forested/conifer plantations >30ha with >10ha interior habitat (200m buffer) 	<ul style="list-style-type: none"> - One or more active nest of listed species 	Yes-breeding bird surveys, ELC and botanical surveys, SWH, and SAR assessments required.
26	Turtle Nesting Areas	Specialized Habitats for Wildlife	<ul style="list-style-type: none"> - Exposed Mineral soil (sand or gravel) adjacent (<100m) or within shallow marsh, shallow submerged, shallow floating, bog or fen communities. - Located in open sunny areas, away from roads and less prone to predation - Municipal and provincial road shoulders are not SWH. 	<ul style="list-style-type: none"> - Confirm 5 or more nesting Midland Painted Turtles, 1 or more nesting Northern Map Turtle or Snapping Turtle 	No-none required.
27	Seeps and Springs	Specialized Habitats for Wildlife	<ul style="list-style-type: none"> - Areas where ground water comes to the surface. - Any forested area within the headwaters of a stream or river system 	<ul style="list-style-type: none"> - Confirm site with 2 or more seeps/springs. 	Yes-ELC and botanical surveys, aquatic habitat assessment, SWH, and SAR assessments required.
28	Amphibian Breeding Habitat (woodland)	Specialized Habitats for Wildlife	<ul style="list-style-type: none"> - Breeding pools within woodlands - Wetland, pond, or pool >500m² within or adjacent (<120m) to a woodland. - Woodlands with permanent ponds, or those with water until mid-July more likely to be used. 	<ul style="list-style-type: none"> - Confirm Breeding population of 1 or more listed newt/salamander species, 2 or more of the listed frog species with at least 20 individuals (adults or egg masses), 2 or more of the listed frog species with call code levels of 3. - Wetland adjacent to woodlands includes travel corridor connecting features as SWH. 	Yes-ELC and botanical surveys, SWH, and SAR assessments required.

#	Significant wildlife habitat (SWH)	Candidate SWH type	Candidate SWH criteria	Criteria for SWH confirmation	Candidate SWH present (Field survey type required)
29	Amphibian Breeding Habitat (Wetland)	Specialized Habitats for Wildlife	<ul style="list-style-type: none"> - Swamp, marsh, fen, bog, open aquatic, and shallow aquatic ELC communities. - Typically isolated from woodlands (>120m) but includes larger wetlands with primarily aquatic species (bull frogs) that are adjacent to woodlands. - Wetlands >500m² - Presence of shrubs & logs - Bullfrogs require permanent water bodies and abundant emergent vegetation. 	<ul style="list-style-type: none"> - Confirm Breeding populations of 1 or more listed newt/salamander species, or 2 or more listed frog/toad species with at least 20 individuals (adults or egg masses), or 2 or more listed frog/toad species with a call code level of 3 - Or any wetland with confirmed breeding Bullfrog. 	No-none required.
30	Area-sensitive Breeding Bird Habitat	Specialized Habitats for Wildlife	<ul style="list-style-type: none"> - Habitats where interior breeding birds are breeding. - Large mature (>60 years) forest stands or woodlots >30ha. - Forest and swamp ELC communities - Interior habitat at least 200m from edge 	<ul style="list-style-type: none"> - Presence of nesting or breeding pairs of 3 or more of the listed species - Any site with Cerulean Warbler or Canada Warbler is SWH 	Yes-breeding bird surveys, ELC and botanical surveys, aquatic habitat assessment, SWH, and SAR assessments required.
31	Marsh Bird Breeding Habitat	Habitats of Species of Conservation Concern	<ul style="list-style-type: none"> - Some meadow marsh, shallows submerged, shallow floating, mixed shallow floating, fen, and bog communities (see SWH Ecoregion guide for specifics) - Nesting occurs in wetlands; all wetland habitat is considered with presence of shallow water with emergent aquatic vegetation - Green heron at edge of water sheltered by shrubs and trees. 	<ul style="list-style-type: none"> - 5 or more nesting pairs of Sedge Wren or Marsh Wren, 1 pair of Sandhill Crane, or breeding by any combination of 5 or more of the listed species - Any Wetland with 1 or more breeding pair Black Tern, Trumpeter Swan, Green Heron or Yellow Rail 	Yes-breeding bird surveys, ELC and botanical surveys, aquatic habitat assessment, SWH, and SAR assessments required.
32	Open Country Bird Breeding Habitat	Habitats of Species of Conservation Concern	<ul style="list-style-type: none"> - Grassland area >30ha (natural & cultural fields and meadows) - Grasslands not class 1 or 2 agriculture (no row crops or intensive hay or livestock pasturing) - Mature hayfields or pasture at least 5 years old 	<ul style="list-style-type: none"> - Nesting or breeding of 2 or more of the listed species. - Field with 1 or more Short-eared Owls 	No-none required.

#	Significant wildlife habitat (SWH)	Candidate SWH type	Candidate SWH criteria	Criteria for SWH confirmation	Candidate SWH present (Field survey type required)
33	Shrub/Early Successional Bird Breeding Habitat	Habitats of Species of Conservation Concern	<ul style="list-style-type: none"> - Cultural thickets, savannah, and woodland habitat - Large field area succeeding to shrub and thicket habitat >10ha in size - Patches of shrub ecosite may be complexed into larger old field ecosites for some species 	<ul style="list-style-type: none"> - Confirm nesting or breeding of 1 of the listed indicator species and at least 2 of the common species - Habitat with Golden-winged Warbler is SWH 	Yes-breeding bird surveys, ELC and botanical surveys, aquatic habitat assessment, SWH, and SAR assessments required.
34	Terrestrial Crayfish	Habitats of Species of Conservation Concern	<ul style="list-style-type: none"> - Meadow marsh, shallow marsh, swamp thicket, deciduous swamp, and mixed swamp communities - Cultural meadow with inclusions of meadow marsh may be used - Wet edges of marshes and wet meadows should be surveyed for crayfish 	<ul style="list-style-type: none"> - Presence of 1 or more individuals of listed species or their chimneys in suitable habitat 	Yes-ELC and botanical surveys, SWH, and SAR assessments required.
35	Special Concern & Rare Wildlife Species	Habitats of Species of Conservation Concern	<ul style="list-style-type: none"> - All Special concern and Provincially Rare plant and animal species - Where an element occurrence is identified within a 1 or 10km grid for a species listed, linking candidate habitat on the site must be completed to ELC ecosites 	<ul style="list-style-type: none"> - Assessment/inventory of site for identified special concern or rare species completed during time of year when species is present or easily identifiable. - Habitat must be easily mapped and cover an important life stage component (specific nesting habitat, foraging) 	Yes-breeding bird surveys, ELC and botanical surveys, aquatic habitat assessment, SWH, and SAR assessments required.
36	Amphibian Movement Corridor	Wildlife Movement Corridors	<ul style="list-style-type: none"> - Corridors may occur in all ecosites associated with water. - Presence of significant amphibian breeding indicates the requirement for identifying corridors. - Movement corridors between breeding habitat and summer habitat 	<ul style="list-style-type: none"> - Corridors typically include areas with native vegetation, with several layers of vegetation, unbroken by roads, waterways or waterbodies are most significant - At least 15 of vegetation on both sides of the waterway or up to 200m wide of woodland habitat with gaps of <20m - Shorter corridors are more significant than longer, but amphibians must be able to get to and from their summer breeding habitat 	Yes-ELC and botanical surveys, aquatic habitat assessment, SWH, and SAR assessments required.

#	Significant wildlife habitat (SWH)	Candidate SWH type	Candidate SWH criteria	Criteria for SWH confirmation	Candidate SWH present (Field survey type required)
37	Deer Movement Corridor	Wildlife Movement Corridors	<ul style="list-style-type: none"> - May occur in all forested ecosites. - Determined when deer wintering habitat is confirmed as SWH 	<ul style="list-style-type: none"> - Corridors at least 200m wide with gaps <20m leading to wintering habitat. - Unbroken by roads and residential areas - Shorter corridors are more significant 	Yes-confirmed White-Tailed Deer Wintering Habitat (Stratum 2) present. ELC and botanical surveys, aquatic habitat assessment, SWH, and SAR assessments required.

Common name	Scientific name	Group	SARO	Cosewic	S-rank	Background sources	Habitat requirements	Candidate habitat in study area	Field studies recommended
Western Chorus Frog – Great Lakes / St. Lawrence - Canadian Shield Population	<i>Pseudacris triseriata pop. 2</i>	Amphibians	NAR	THR	S4	MNDMNRFSpecies Mapping, ORAA	Generally found in lowland communities, such as swamps, inhabiting lowland shrubs and grasses in the community, near breeding habitat. Breeding occurs in lowland, ephemeral ponds, devoid of predatory fish species (COSEWIC 2008a).	No	None required.
Monarch	<i>Danaus plexippus</i>	Butterflies, bees, damselflies, dragonflies & insects	SC	SC	S2N, S4B	MNDMNRFSpecies Mapping, OBA	Requires milkweed for larval feeding, other wildflower species are also important for adult feeding when milkweed is not in flower: often found in abandoned farmland, along roadsides, and other open spaces (COSEWIC 2010b).	Yes	ELC and botanical surveys, SWH, and SAR assessments.
West Virginia White	<i>Pieris virginensis</i>	Butterflies, bees, damselflies, dragonflies & insects	SC	NAR	S3	MNDMNRFSpecies Mapping	Found in rich deciduous and mixed forests and swamps with a poorly vegetated shrub layer. The larvae feed only on the leaves of a few host plants, including the Two-leaved Toothwort (<i>Cardamine diphylla</i>) and cut-leaved toothwort (Burke 2013).	Yes	ELC and botanical surveys, SWH, and SAR assessments.
Yellow-banded Bumble Bee	<i>Bombus terricola</i>	Butterflies, bees, damselflies, dragonflies & insects	SC	SC	S3S5	MNDMNRFSpecies Mapping	Occur in a diverse range of habitat, including mixed woodlands, farmlands, urban areas, montane meadows, prairie grasslands and boreal habitats. Queens overwinter underground and in decomposing organic material such as rotting lots (COSEWIC 2015).	No	None required.
Bank Swallow	<i>Riparia riparia</i>	Birds	THR	THR	S4B	MNDMNRFSpecies Mapping, OBBA	Breeds in a variety of natural and artificial bank type habitat, such as bluffs, stream and river banks, sand and gravel pits, piles of sand, topsoil and other material. Nests are typically in vertical or near-vertical surfaces (COSEWIC 2013b).	No	None required.
Barn Swallow	<i>Hirundo rustica</i>	Birds	SC	THR	S5B	MNDMNRFSpecies Mapping, OBBA, eBird	Occurs in farmland, along lake/river shorelines, in wooded clearings and in urban populated areas. Nesting may occur inside or outside buildings; under bridges and in road culverts (COSEWIC 2011a).	Yes	Breeding bird surveys, ELC and botanical surveys, SWH, and SAR assessments.
Bobolink	<i>Dolichonyx oryzivorus</i>	Birds	THR	THR	S4B	MNDMNRFSpecies Mapping, OBBA, NHIC	Nest in grassland habitats, including hayfields and meadows with a mixture of grasses and broad-leaved forbs with a high litter cover. Area Sensitive, with increased density in grasslands greater than 10ha (Renfrew et. al. 2015).	No	None required.
Canada Warbler	<i>Wilsonia canadensis</i>	Birds	SC	THR	S4B	MNDMNRFSpecies Mapping, OBBA	Prefers wet coniferous, deciduous and mixed forest types, with a dense shrub layer (COSEWIC 2008b).	Yes	Breeding bird surveys, ELC and botanical surveys, SWH, and SAR assessments.
Chimney Swift	<i>Chaetura pelagica</i>	Birds	THR	THR	S4B, S4N	MNDMNRFSpecies Mapping, eBird	Typically nests in traditional chimneys of older buildings, which also provide roosting sites for many individuals during spring and fall migration (MNR 2013).	No	None required.
Common Nighthawk	<i>Chordeiles minor</i>	Birds	SC	THR	S4B	MNDMNRFSpecies Mapping	Breeds in open habitat, on the ground, in areas with no vegetation, including sand dunes, burned areas, open forests, railways, and gravel rooftops. Eggs are laid directly on the ground (COSEWIC 2007b).	No	None required.
Eastern Meadowlark	<i>Sturnella magna</i>	Birds	THR	THR	S4B	MNDMNRFSpecies Mapping, OBBA, NHIC	Nest in grassland habitats, including hayfields, pasture, savannahs, and other open areas. Preferential habitat includes areas with good grass and thatch (litter) cover (Jaster et. al. 2012).	No	None required.

Common name	Scientific name	Group	SARO	Cosewic	S-rank	Background sources	Habitat requirements	Candidate habitat in study area	Field studies recommended
Eastern Wood-Pewee	<i>Contopus virens</i>	Birds	SC	SC	S4B	MNDMNRFSpecies Mapping, OBBA	Associated with mid-age mixed and deciduous forest stands, often dominated by Maple (<i>Acer</i>), Elm (<i>Ulmus</i>) or Oak (<i>Quercus</i>), and include areas with clear-cuts, openings or forest edges. Also prefers forest stands with little to no understory vegetation (COSEWIC 2012a).	Yes	Breeding bird surveys, ELC and botanical surveys, SWH, and SAR assessments.
Evening Grosbeak	<i>Coccothraustes vespertinus</i>	Birds	SC	SC	S4B	MNDMNRFSpecies Mapping	Breeding habitat includes open, mature mixed wood forests, where fir species and/or White Spruce are dominant, and Spruce Budworm is abundant (COSEWIC 2016).	Yes	Breeding bird surveys, ELC and botanical surveys, SWH, and SAR assessments.
Grasshopper Sparrow	<i>Ammodramus savannarum</i>	Birds	SC	SC	S4B	MNDMNRFSpecies Mapping	Prefers moderately open grasslands and prairies with patchy bare ground; avoids grasslands with extensive shrub cover (Vickery 1996).	No	None required.
Henslow's Sparrow	<i>Ammodramus henslowii</i>	Birds	END	END	SHB	MNDMNRFSpecies Mapping	Breeds in grassland habitat and is area sensitive. Grasslands with tall, dense cover a thick thatch layer, and are greater than 30ha, but preferentially larger than 100ha are preferred (COSEWIC 2011b).	No	None required.
Least Bittern	<i>Ixobrychus exilis</i>	Birds	THR	THR	S4B	MNDMNRFSpecies Mapping	Breeds in large marshes (>5ha) with emergent vegetation, typically cattails, with at least 50% open water, and relatively stable water levels (COSEWIC 2009b).	No	None required.
Loggerhead Shrike	<i>Lanius ludovicianus</i>	Birds	END	END	S2B	MNDMNRFSpecies Mapping	Nests in open, low, grassy habitat with scattered shrubs. Presence of thorny shrubs, such as hawthorn, or barbed wire fencing required for impaling prey. Only two recent areas of breeding in the province (Carden Plain and Napanee Plain) (Environment Canada 2015).	No	None required.
Louisiana Waterthrush	<i>Seiurus motacilla</i>	Birds	SC	THR	S3B	MNDMNRFSpecies Mapping	Nests along headwater streams and associated wetlands which occur within large tracts of mature forest especially mixed wood forests with a component of hemlock. Nests are in stream bank niches, under mossy logs, and within the roots of fallen trees (COSEWIC 2006b).	Yes	Breeding bird surveys, ELC and botanical surveys, SWH, and SAR assessments.
Olive-sided Flycatcher	<i>Contopus cooperi</i>	Birds	SC	THR	S4B	MNDMNRFSpecies Mapping	Associated with natural forest openings (usually conifer or mixed), and edges of forests adjacent wetlands or watercourses, will also use open and semi-open forests and clear-cuts. Presence of tall snags and residual live trees required for nesting and foraging (COSEWIC 2007c).	Yes	Breeding bird surveys, ELC and botanical surveys, SWH, and SAR assessments.
Peregrine Falcon	<i>Falco peregrinus</i>	Birds	SC	SC	S3B	MNDMNRFSpecies Mapping	Nests on cliff-ledges (50-200m preferred) near foraging areas. Also nests on anthropomorphic structures, such as tall building ledges, bridges, quarries, mines and cuts for road beds (COSEWIC, 2007a).	No	None required.
Red-headed Woodpecker	<i>Melanerpes erythrocephalus</i>	Birds	END	THR	S4B	MNDMNRFSpecies Mapping	Found in a variety of open areas, with a high density of dead or dying trees, particularly forests dominated by oak or beech (COSEWIC 2007d).	Yes	Breeding bird surveys, ELC and botanical surveys, SWH, and SAR assessments.
Wood Thrush	<i>Hylocichla mustelina</i>	Birds	SC	THR	S4B	MNDMNRFSpecies Mapping, OBBA	Prefers second growth moist deciduous forests, with tall trees, and a dense understory of low saplings and an open forest floor with decaying leaf litter. Often nests in saplings, shrubs or occasionally dead stumps (COSEWIC 2012b).	Yes	Breeding bird surveys, ELC and botanical surveys, SWH, and SAR assessments.
Northern Sunfish (Great Lakes-Upper St. Lawrence Population)	<i>Lepomis peltastes</i>	Fish	SC	SC	S3	MNDMNRFSpecies Mapping	Prefers shallow, vegetated areas of warm lakes, ponds, and slowly flowing watercourses. Usually occurs in clear waters and is considered intolerant of siltation. Substrate usually consists of sand and gravel, as in the Thames River (COSEWIC 2016).	Yes	Aquatic habitat assessments, SWH, and SAR assessments.
Redside Dace	<i>Clinostomus elongatus</i>	Fish	END	END	S1	MNDMNRFSpecies Mapping, DFO	Associated with small, clear, head water streams and creeks with abundant overhanging vegetation and both pool and riffle habitat, often with gravel substrates and cool water temperature regimes (COSEWIC, 2007e).	Yes	Aquatic habitat assessments, SWH, and SAR assessments.

Common name	Scientific name	Group	SARO	Cosewic	S-rank	Background sources	Habitat requirements	Candidate habitat in study area	Field studies recommended
Upper Great Lakes Kiyi	<i>Coregonus kiyi kiyi</i>	Fish	SC	SC	S3	MNDMNRF Species Mapping	Prefers the deepest parts of lakes in which it is found. Rarely collected in waters less than 108m deep and has been reported at depths ranging from 35-200m (COSEWIC 2005).	No.	None required.
Rainbow	<i>Villosa iris</i>	Molluscs	SC	SC	S2S3	MNDMNRF Species Mapping	Most abundant in small to medium-sized rivers but can also be found in inland lakes. Usually found in or near riffles and along the edges of emergent vegetation in moderate to strong current. Occupies substrate mixtures of cobble, gravel, sandy and occasionally mud or boulder (COSEWIC 2015).	Yes	Aquatic habitat assessments, SWH, and SAR assessments.
American Badger	<i>Taxidea taxus</i>	Mammals	END	END	S1	MNDMNRF Species Mapping	Associated with open habitat, including agricultural hedgerows, grasslands, fallow habitat and open linear corridors in forests. Soil composition must be coherent to maintain structure for digging and tunneling, usually coarse silts to fine sands, in Ontario usually found in areas of sandy and loam soils. Prey availability is also important for site suitability (COSEWIC, 2012c).	No	None required.
Eastern Small-footed Myotis	<i>Myotis leibii</i>	Mammals	END	NA	S2S3	MNDMNRF Species Mapping	Associated with hilly or mountainous terrain, in or near coniferous or deciduous forest habitat. Maternity roosts located in cracks and crevices of talus slopes and rocky outcrops, or, occasionally in bridges, old buildings, hollow trees (or loose bark) and caves and mines during the maternity season. Hibernate singly or in small clusters in mines and caves (NatureServe, 2015).	Yes	ELC and botanical surveys, SWH, and SAR assessments. Bat maternity habitat assessment if any trees are to be removed.
Little Brown Myotis	<i>Myotis lucifugus</i>	Mammals	END	END	S3	MNDMNRF Species Mapping	Hibernate in Caves; maternity colonies located in warm sites, often associated with human habitation; including attics, old buildings, under bridges, rock crevices and cavities in canopy trees in wooded areas (COSEWIC, 2013c).	Yes	ELC and botanical surveys, SWH, and SAR assessments. Bat maternity habitat assessment if any trees are to be removed.
Northern Myotis	<i>Myotis septentrionalis</i>	Mammals	END	END	S3	MNDMNRF Species Mapping	Hibernate in Caves; maternity colonies usually located in trees, and are closely associated with specific tree characteristics and density of suitable trees. Characterized by tall, large diameter trees in early stages of decay, located in openings in mature forest canopies (COSEWIC, 2013c).	Yes	ELC and botanical surveys, SWH, and SAR assessments. Bat maternity habitat assessment if any trees are to be removed.
Tri-colored Bat	<i>Perimyotis subflavus</i>	Mammals	END	END	S3?	MNDMNRF Species Mapping	Hibernate in caves, abandoned mines, wells, and tunnels. Summer roosts include clumps of dead foliage and lichens, typically found in forested habitat close to water sources. May also use anthropogenic structures such as barns for maternity roosts. Foraging habitat includes forested riparian areas over water in relatively open areas (Environment Canada.2015).	Yes	ELC and botanical surveys, SWH, and SAR assessments. Bat maternity habitat assessment if any trees are to be removed.
Blanding's Turtle	<i>Emydoidea blandingii</i>	Reptiles	THR	THR	S3	MNDMNRF Species Mapping	Use a variety of eutrophic wetland habitat types, including lakes, ponds, watercourses, marshes, man-made channels, farm fields, coastal areas and bays. Seasonal overland terrestrial movements up to 2.5 km occur to reach nesting and overwintering areas, generally through wooded coniferous or mixed forest habitat. Nests are usually laid in loose sand or organic soil (COSEWIC 2005b).	Yes	ELC and botanical surveys, SWH, and SAR assessments.
Midland Painted Turtle	<i>Chrysemys picta marginata</i>	Reptiles	NL	SC	S4	MNDMNRF Species Mapping, ORAA, iNat	Occupy slow moving, relatively shallow and well-vegetated wetlands and water bodies with abundant basking sites and organic substrate. Found in association with submergent aquatic plants, which are used for cover and feeding. Semi -tolerant of human-altered landscapes, occasionally found occupying urban ponds and lands subject to anthropogenic disturbance. Suitable nesting habitat includes open, often south-facing, and sloped areas with sandy-loamy and/or gravel substrate usually within 1200 m of aquatic active season habitats. Overwinter in shallow water with deep sediment (COSEWIC 2018).	Yes	ELC and botanical surveys, SWH, and SAR assessments.

Common name	Scientific name	Group	SARO	Cosewic	S-rank	Background sources	Habitat requirements	Candidate habitat in study area	Field studies recommended
Snapping Turtle	<i>Chelydra serpentina</i>	Reptiles	SC	SC	S4	MNDMNRFSpecies Mapping, ORAA	Inhabit slow-moving waters with soft, muck bottom and dense aquatic vegetation. Ponds, sloughs and shallow bays are all often used as summering and overwintering habitat (COSEWIC 2008d).	Yes	ELC and botanical surveys, SWH, and SAR assessments.
Spotted Turtle	<i>Clemmys guttata</i>	Reptiles	END	END	S2	MNDMNRFSpecies Mapping	Found in wetlands with high organic content, including bogs, fens, marshes, woodland streams, sedge meadows, and shallow bays. Only one population is known from Wellington County, in Luther Marsh. Preferential to unpolluted shallow water with aquatic vegetation and soft substrates. Presence of Sphagnum moss, sedge tussocks, cattails and water lilies, may be important to Canadian populations (COSEWIC, 2002b).	No	None required.
Wood Turtle	<i>Glyptemys insculpta</i>	Reptiles	END	THR	S2	MNDMNRFSpecies Mapping	Generally found in forested landscapes, associated with clear freshwater streams and associated floodplains. Preferential to streams with year-round current, with sandy or gravelly-sandy bottoms. Streams used are typically meandering with frequent oxbows. Overwintering associated with stable, high concentration dissolved oxygen in pools, under mud or under overhanging banks. Nesting occurs in open areas with high sun exposure, typically within 10 to 50m of aquatic habitat. Home ranges are typically linear, following streams (Environment Canada, 2016).	Yes	ELC and botanical surveys, SWH, and SAR assessments.
Eastern Ribbonsnake	<i>Thamnophis sauritus</i>	Reptiles	SC	SC	S4	MNDMNRFSpecies Mapping, ORAA	A semi-aquatic species that inhabits dense, low- vegetation, edges of ponds, streams, marshes, fens and bogs, with open sunlit areas for basking (COSEWIC 2002c).	Yes	ELC and botanical surveys, SWH, and SAR assessments.
Milksnake	<i>Lampropeltis triangulum</i>	Reptiles	SC	SC	S4	MNDMNRFSpecies Mapping, ORAA	Habitat generalists often associated with edge habitat, meadows, prairies, pastures, rocky outcrops and human disturbances such as hydro corridors and railway embankments. Habitat is usually close to a water source. Hibernation occurs in a variety of natural and man-made features, including rotting logs, old foundations, basements and burrows (COSEWIC 2014).	Yes	ELC and botanical surveys, SWH, and SAR assessments.
Massasauga Rattlesnake	<i>Sistrurus catenatus</i>	Reptiles	SC	THR	S3	MNDMNRFSpecies Mapping	Only historic observations of Masassauga in the north western portion of Wellington County. Found in wet prairies, old fields, peatlands, rock barrens and coniferous forests, with open-areas, and areas of dense shrub cover. Hibernate in damp areas below the frost line (COSEWIC, 2012b).	No	None required.
American Ginseng	<i>Panax quinquefolius</i>	Vascular plants	END	END	S2	MNDMNRFSpecies Mapping	Occur in moist, rich, undisturbed, mature Sugar Maple dominated deciduous woodlands. Often, colonies are located at the bottom of south facing slopes (COSEWIC, 2000).	No	None required.
American Hart's Tongue Fern	<i>Asplenium scolopendrium</i>	Vascular plants	SC	SC	S3	MNDMNRFSpecies Mapping	Grows on rocks or rocky substrates and requires calcareous soils, preferential to sites with dolomitic limestone, in Ontario found in upper talus and mid-slopes of the Niagara Escarpment (Environment Canada 2013).	No	None required.
Broad Beech Fern	<i>Phegopteris hexagonoptera</i>	Vascular plants	SC	SC	S3	MNDMNRFSpecies Mapping	Prefers rich, undisturbed deciduous forest, particularly mature Beech-maple forests. Typically occurs in moister areas such as lower valley slopes, bottomlands and even swamps. Primarily a shade-tolerant species and is unlikely to withstand major opening of the forest canopy (van Overbeeke et. al., 2013).	No	None required.
Butternut	<i>Juglans cinerea</i>	Vascular plants	END	END	S2?	MNDMNRFSpecies Mapping	Occur in rich moist sites, that are well-drained, often found along stream banks or gravelly sites. Butternut is shade intolerant (COSEWIC, 2003b).	Yes	ELC and botanical surveys, SWH, and SAR assessments.
Eastern Prairie-fringed Orchid	<i>Platanthera leucophaea</i>	Vascular plants	END	END	S2	MNDMNRFSpecies Mapping	Habitat includes fens, wet tallgrass prairie and moist old fields with open growing conditions. Species does not flower annually (Environment Canada 2012).	No	None required.
Gattinger's Agalinis	<i>Agalinis gattingeri</i>	Vascular plants	END	END	S2S3	MNDMNRFSpecies Mapping	Native to both alvar and tallgrass prairie habitat and requires open unshaded conditions for growth (Environment and Climate Change Canada 2019).	No	None required.
Hill's Pondweed	<i>Potamogeton hillii</i>	Vascular plants	SC	SC	S2S3	MNDMNRFSpecies Mapping	Occur in cold clear calcareous streams, ponds, and ditches, which are alkaline in nature (COSEWIC 2005c).	Yes	ELC and botanical surveys, SWH, and SAR assessments.

Common name	Scientific name	Group	SARO	Cosewic	S-rank	Background sources	Habitat requirements	Candidate habitat in study area	Field studies recommended
Tuberous Indian Plantain	<i>Arnoglossum plantagineum</i>	Vascular plants	SC	SC	S2	MNDMNRF Species Mapping	Habitat includes open, sunny areas in wet calcareous soils, including wet meadows and shoreline fens (COSEWIC 2002).	No	None required.

References:

Cadman, M.D.,D.A. Sutherland, G.G. Beck, D. Lepage, and A.R. Couturier. 2007. The Atlas of the Breeding Birds Ontario 2001-2005. Bird Studies Canada, Environment Canada, Ontario Field Ornithologists, Ontario Ministry of Natural Resources, and Ontario Nature, Toronto,xxii + 706pp. (Available online here: <http://www.birdsontario.org/atlas/datasummaries.jsp>)

Colin Jones, Ross Layberry, and Alan Macnaughton. Ontario Butterfly Atlas Online. (Available online here: Toronto Entomologists' Association: http://www.ontarioinsects.org/atlas_online.htm)

Dobbyn, J. 1994. Atlas of the Mammals of Ontario. Federation of Ontario Naturalists, Altona Manitoba, Canada. (Available online here: <http://www.ontarionature.org/discover/resources/publications.php>)

MNRF, 2015. Wellington County Upper Tier Species at Risk. Ministry of Natural Resources and Forestry. Provided February 10, 2015.

NatureServe. 2015. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.1. NatureServe, Arlington, Virginia. Available <http://explorer.natureserve.org>.

NHIC, 2015. MNRF Make a map: Natural Heritage Areas. (Available online: <http://www.ontario.ca/environment-and-energy/make-natural-heritage-area-map>)

Ontario Nature. 2015. Ontario Reptile and Amphibian Atlas: a citizen science project to map the distribution of Ontario's reptiles and amphibians. Ontario Nature, Ontario. (Available online here: <http://www.ontarionature.org/atlas>)

Heather Dixon

From: Becky Hillyer <Becky.Hillyer@grey.ca>
Sent: Wednesday, July 5, 2023 9:00 AM
To: Heather Dixon
Cc: publicworks@westgrey.com; Lorelie Spencer; t.francis@svca.on.ca
Subject: FW: Draft Terms of Reference for a Natural Environment Assessment Report for the proposed rehabilitation of Northline Bridge Road (Structure 44), Municipality of West Grey, ON (AA23-099A)
Attachments: AA23-099A Northline Bridge NEA Report Terms of Reference.pdf; EIS+Technical+Guide (12).pdf

Caution. Outside Sender

Hi Heather,

Thanks for your email and apologies for the delay responding to the attached ToR.

In addition to the natural heritage policies that you've noted from the County's Official Plan, I would recommend also responding to the following, which may be of relevance to this development:

7.9(1): Development and site alteration are not permitted in Fish Habitat except in accordance with relevant provincial and federal requirements.

7.10(1): 1) Development and site alteration is not permitted within, Significant Wildlife Habitat (including Deer Wintering Yards), and their adjacent lands, unless it has been demonstrated through an acceptable environmental impact study, completed in accordance with Section 7.11 of this Plan, that there will be no negative impacts on the natural features or their ecological functions.

7.10(2): 2) No development or site alteration will be permitted within the Habitat of Threatened / Endangered Species adjacent lands except in accordance with provincial and federal requirements. No development or site alteration will be permitted within the adjacent lands to these areas unless it has been demonstrated through an environmental impact study that there will be no negative impacts on the natural features or their ecological functions. The adjacent lands are defined in Section 9.18 of this Plan and through provincial and federal requirements.

Grey County also has a technical guide available online, as a general Terms of Reference for any EIS (or in this case, NETR) that is undertaken. I've attached this guide for your review.

Provided the above policies are addressed in the NETR, in addition to the requirements within the attached Technical Guide, the County generally has no concerns with the proposal you have outlined.

That said, given recent changes to the review function of Conservation Authorities, these comments are provided with the caveat that I am not an Ecologist by training, and the County currently does not have trained staff with the background to provide substantive comments on site-specific Terms of Reference for any proposed EIS.

Thank you,

Becky Hillyer

Intermediate Planner

Phone: +1 519-372-0219 ext. 1233



From: Heather Dixon <Heather@aboutdng.com>

Sent: June 14, 2023 11:38 AM

To: t.francis@svca.on.ca; Becky Hillyer <becky.hillyer@grey.ca>

Cc: Cheryl-Anne Ross <Cheryl@aboutdng.com>; Chris Clark <cclark@tritoneng.on.ca>; Lindsay Scott <lscott@tritoneng.on.ca>; Todd Donkersgoed <tdonkersgoed@tritoneng.on.ca>; publicworks@westgrey.com

Subject: Draft Terms of Reference for a Natural Environment Assessment Report for the proposed rehabilitation of Northline Bridge Road (Structure 44), Municipality of West Grey, ON (AA23-099A)

[EXTERNAL EMAIL]

Hello Trent and Becky,

Please see the attached draft Terms of Reference for a Natural Environment Assessment Report for the proposed rehabilitation of Northline Bridge Road (Structure 44), Municipality of West Grey, ON. The draft Terms of Reference have been developed based on information received from the proponent, and a review of the applicable municipal, provincial, and federal guidelines that apply to this project. Also included are candidate Significant Wildlife Habitat and Species at Risk Habitat assessments which have been used to inform the Terms of Reference. We would appreciate your review and comments on the Terms of Reference in order to finalize the proposed scope of work required for the Scoped EIS.

Many thanks,

Heather Dixon, PhD (she/her) . Aquatic Ecologist
ABOUD & ASSOCIATES INC. 3-5 Edinburgh Road South . Guelph . Ontario . N1H 5N8
519.781.1581 www.aboutdng.com . heather@aboutdng.com

Aboud & Associates Inc. is located within the Between the Lakes Purchase (Treaty 3); the treaty lands and territory of the Mississaugas of the Credit.

Heather Dixon

From: Matt Armstrong <m.armstrong@svca.on.ca>
Sent: Friday, July 14, 2023 2:29 PM
To: Heather Dixon
Cc: Cheryl-Anne Ross
Subject: RE: Draft Terms of Reference - Northline Bridge Road (Structure 44)

Caution. Outside Sender

Hi Heather,
Apologies for the lack of response. I reviewed the ToR and only have one comment:

In addition to SVCA's General policy quoted in the ToR (4.5.2-2), SVCA Policy 4.15.1-1 specifically addresses the conditions under which an SVCA permit can be granted for watercourse crossings:

If it has been demonstrated to the satisfaction of the SVCA that the interference is acceptable on the natural features and hydrologic and ecological functions of the watercourse. At a minimum, plans should demonstrate the following based on the morphological characteristics of the watercourse:

- a) culverts have an open bottom where feasible and where it is not feasible, culverts are appropriately embedded into the watercourse;
- b) crossing location, width and alignment should be compatible with stream morphology which typically requires location of the crossing on a straight and shallow/riffle reach of the watercourse with the crossing situated at right angles to the watercourse;
- c) the crossing is sized and located such that there is no increase in upstream or downstream erosion or flooding;
- d) the design should consider fish and wildlife passage; and
- e) have regard for upstream and downstream effects when installing/replacing a culvert.

Not sure how pressing that this be included in the Planning Context section of the ToR, so I will leave that call with you. The Municipality of West Grey and engineers contacted us about the proposed works in 2021, and we've requested a hydraulic analysis to address some of the items listed above.

Regards,
Matt Armstrong, Regulations Coordinator
Saugeen Valley Conservation Authority
Cell: 519-373-4367 / Office: 519-364-1255 ext. 242

From: Heather Dixon <Heather@aboutdng.com>
Sent: Friday, July 14, 2023 12:04 PM
To: Matt Armstrong <m.armstrong@svca.on.ca>
Cc: Cheryl-Anne Ross <Cheryl@aboutdng.com>
Subject: RE: Draft Terms of Reference - Northline Bridge Road (Structure 44)

****[CAUTION]: This email originated from outside of the organization. Do not click on links or open attachments unless you recognize the sender and know the content is safe.**

Hi Matt,

I have not received any comments from SVCA as of yet for this project. I have received comments from Grey County, which I have attached for your information.

Many thanks,

Heather Dixon, PhD (she/her) . Aquatic Ecologist
ABOUD & ASSOCIATES INC. . 3-5 Edinburgh Road South . Guelph . Ontario . N1H 5N8
519.781.1581 www.aboudtng.com . heather@aboudtng.com

Aboud & Associates Inc. is located within the Between the Lakes Purchase (Treaty 3); the treaty lands and territory of the Mississaugas of the Credit.

From: Matt Armstrong <m.armstrong@svca.on.ca>
Sent: Friday, July 14, 2023 12:01 PM
To: Heather Dixon <Heather@aboudtng.com>
Subject: RE: Draft Terms of Reference - Northline Bridge Road (Structure 44)

Caution. Outside Sender

Hi Heather,

I am reviewing this file as Trent has moved on from the Conservation Authority, but I am not seeing any comments from Trent in the file history, despite his email below. Have you received any comments from SVCA?

Regards,

Matt Armstrong, Regulations Coordinator
Saugeen Valley Conservation Authority
Cell: 519-373-4367 / Office: 519-364-1255 ext. 242

From: Trent Francis
Sent: Wednesday, June 14, 2023 2:28 PM
To: Heather Dixon <Heather@aboudtng.com>
Subject: RE: Draft Terms of Reference for a Natural Environment Assessment Report for the proposed rehabilitation of Northline Bridge Road (Structure 44), Municipality of West Grey, ON (AA23-099A)

Hi Heather,

Thank you very much, I will review and make comments.

Regards,

Trent Francis, Regulations Officer
Saugeen Valley Conservation Authority
Phone: 519-377-2074

From: Heather Dixon <Heather@aboudtng.com>
Sent: Wednesday, June 14, 2023 11:38 AM
To: Trent Francis <t.francis@svca.on.ca>; becky.hillyer@grey.ca
Cc: Cheryl-Anne Ross <Cheryl@aboudtng.com>; Chris Clark <cclark@tritoneng.on.ca>; Lindsay Scott <lscott@tritoneng.on.ca>; Todd Donkersgoed <tdonkersgoed@tritoneng.on.ca>; publicworks@westgrey.com
Subject: Draft Terms of Reference for a Natural Environment Assessment Report for the proposed rehabilitation of Northline Bridge Road (Structure 44), Municipality of West Grey, ON (AA23-099A)

****[CAUTION]: This email originated from outside of the organization. Do not click on links or open attachments unless you recognize the sender and know the content is safe.**

Hello Trent and Becky,

Please see the attached draft Terms of Reference for a Natural Environment Assessment Report for the proposed rehabilitation of Northline Bridge Road (Structure 44), Municipality of West Grey, ON. The draft Terms of Reference have been developed based on information received from the proponent, and a review of the applicable municipal, provincial, and federal guidelines that apply to this project. Also included are candidate Significant Wildlife Habitat and Species at Risk Habitat assessments which have been used to inform the Terms of Reference. We would appreciate your review and comments on the Terms of Reference in order to finalize the proposed scope of work required for the Scoped EIS.

Many thanks,

Heather Dixon, PhD (she/her) . Aquatic Ecologist
ABOUD & ASSOCIATES INC. . 3-5 Edinburgh Road South . Guelph . Ontario . N1H 5N8
519.781.1581 www.aboudtng.com . heather@aboudtng.com

Aboud & Associates Inc. is located within the Between the Lakes Purchase (Treaty 3); the treaty lands and territory of the Mississaugas of the Credit.

APPENDIX 3
Site Investigation Details

SURVEY	TIME	DATE	STAFF	TEMP.	WIND (beaufort)	CLOUD COVER (%)	PRECIP.	PAST PRECIP.
Ecological Land Classification, Spring Botanical, Species at Risk Assessment, and Significant Wildlife Habitat Assessment.	08:25-09:54	08-Jun-23	S. Davison	15	1	20	None	None
Breeding Bird Point Count 1	08:27-08:37	08-Jun-23	B. Varcoe	15	1	20	None	None
Breeding Bird Point Count 2	09:35-09:45	28-Jun-23	B. Varcoe	16	2	0, but smokey from wildfires	None	Yes
Aquatic Habitat Assessment	14:35-15:35	26-Jul-23	H. Dixon	29	1	60	None	None
Summer Botanical	14:35-15:35	26-Jul-23	S. Davison	29	1	60	None	None

APPENDIX 4
Ecological Land Classification Forms

Representative Photographs of Vegetation Community:



Representative Photographs of Vegetation Community:



Representative Photographs of Vegetation Community:



APPENDIX 5
Vascular Plant List

Season	Plant Type ¹	Scientific Name	Common Name	CC ²	CW ³	SARO ⁴ Status	SARA ⁵ Status	Global Rank ⁶	Prov. Rank ⁷
Spring & Summer	TR	<i>Acer saccharum</i>	Sugar Maple	4	3			G5	S5
Spring & Summer	FO	<i>Anemonastrum canadense</i>	Canada Anemone	3	-3			G5	S5
Summer	FO	<i>Aralia nudicaulis</i>	Wild Sarsaparilla	4	3			G5	S5
Spring & Summer	TR	<i>Betula alleghaniensis</i>	Yellow Birch	6	0			G5	S5
Spring	GR	<i>Bromus inermis</i>	Awnless Brome	*	5			G5	SNA
Summer	FO	<i>Centaurea jacea</i>	Brown Knapweed	*	5			GNR	SNA
Summer	FO	<i>Cichorium intybus</i>	Chicory	*	5			GNR	SNA
Summer	FO	<i>Clinopodium vulgare</i>	Field Basil	4	5			G5	S5
Spring & Summer	SH	<i>Cornus alternifolia</i>	Alternate-leaved Dogwood	6	3			G5	S5
Spring & Summer	GR	<i>Dactylis glomerata</i>	Orchard Grass	*	3			GNR	SNA
Summer	FO	<i>Daucus carota</i>	Wild Carrot	*	5			GNR	SNA
Summer	VI	<i>Echinocystis lobata</i>	Wild Mock-cucumber	3	-3			G5	S5
Spring	GR	<i>Elymus repens</i>	Creeping Wildrye	*	3			GNR	SNA
Spring & Summer	FE	<i>Equisetum arvense</i>	Field Horsetail	0	0			G5	S5
Spring	FO	<i>Erythronium americanum</i>	Yellow Trout-lily	5	5			G5	S5
Summer	FO	<i>Eutrochium maculatum var. maculatum</i>	Spotted Joe Pye Weed	3	-5			G5T5	S5
Spring & Summer	TR	<i>Fraxinus americana</i>	White Ash	4	3			G5	S4
Summer	FO	<i>Geranium robertianum</i>	Herb-Robert	2	3			G5	S5
Summer	FO	<i>Impatiens capensis</i>	Spotted Jewelweed	4	-3			G5	S5
Summer	TR	<i>Juglans nigra</i>	Black Walnut	5	3			G5	S4?
Summer	FO	<i>Leucanthemum vulgare</i>	Oxeye Daisy		5			GNR	SNA
Summer	SH	<i>Lonicera tatarica</i>	Tartarian Honeysuckle	*	3			GNR	SNA
Summer	FO	<i>Lotus corniculatus</i>	Garden Bird's-foot Trefoil	*	3			GNR	SNA
Spring & Summer	FE	<i>Matteuccia struthiopteris</i>	Ostrich Fern	5	0			G5T5	S5
Summer	FE	<i>Onoclea sensibilis</i>	Sensitive Fern	4	-3			G5	S5
Summer	TR	<i>Ostrya virginiana</i>	Eastern Hop-hornbeam	4	3			G5	S5
Summer	SH	<i>Physocarpus opulifolius var. opulifolius</i>	Eastern Ninebark					G5	S5
Summer	TR	<i>Pinus strobus</i>	Eastern White Pine	4	3			G5	S5
Summer	FO	<i>Potentilla norvegica</i>	Norwegian Cinquefoil	0	0			G5	S5
Spring & Summer	FO	<i>Ranunculus acris</i>	Tall Buttercup	*	0			G5	SNA
Spring	SH	<i>Ribes cynosbati</i>	Prickly Gooseberry	4	3			G5	S5
Spring & Summer	TR	<i>Salix sp.</i>	Willow species						
Spring & Summer	FO	<i>Securigera varia</i>	Common Crown-vetch		5			GNR	SNA
Spring & Summer	FO	<i>Solidago flexicaulis</i>	Zigzag Goldenrod	6	3			G5	S5
Spring & Summer	FO	<i>Taraxacum officinale</i>	Common Dandelion	*	3			G5	SNA

Season	Plant Type ¹	Scientific Name	Common Name	CC ²	CW ³	SARO Status ⁴	SARA Status ⁵	Global Rank ⁶	Prov. Rank ⁷
Spring	FO	<i>Thalictrum dioicum</i>	Early Meadow-rue	6	3			G5	S5
Spring & Summer	FO	<i>Thalictrum pubescens</i>	Tall Meadow-rue	5	-3			G5	S5
Spring & Summer	TR	<i>Thuja occidentalis</i>	Eastern White Cedar	4	-3			G5	S5
Spring & Summer	TR	<i>Tilia americana</i>	American Basswood	4	3			G5	S5
Spring & Summer	FO	<i>Tussilago farfara</i>	Colt's-foot	*	3			GNR	SNA
Spring & Summer	TR	<i>Ulmus americana</i>	American Elm	3	-3			G5	S5
Summer	VW	<i>Vitis riparia</i>	Riverbank Grape	0	0			G5	S5
Spring	FO	<i>Zizia aurea</i>	Golden Alexanders	7	0			G5	S5

1. Plant Types: AL = Algae; FE = Fern; FO = Forb; GR = Grass; LC = Lichen; LV = Liverwort; MO = Moss; RU = Rush; SE = Sedge; SH = Shrub; TR = Tree; VI = Herbaceous vine; VW = Woody Vine
2. CC: Coefficient of Conservatism reflects a species' fidelity to a specific habitat. Range from 0 to 10; 10 = very conservative, not likely in disturbed habitats, 1 = least conservative, likely found in a broad range of habitat. * = value not assigned because they are non-native
3. CW: Coefficient of Wetness reflects a species' affinity for wet soil conditions. Range from -5 to 5; -5 = obligate wetland species, 5 = obligate upland species.
4. SARO: Status under the Provincial Endangered Species Act, listed on the Species at Risk in Ontario (SARO) list. In order of severity, statuses include: EXP = Extirpated; END = Endangered, THR = Threatened, SC = Special Concern
5. SARA: Status under the National Species at Risk Act (SARA), assessed by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC). In order of severity, statuses include: EXP = Extirpated; END = Endangered, THR = Threatened, SC = Special Concern
6. Global rarity rank. Range from G1 to G5; G1 = Extremely rare, G5 = Very Common. NR = Unranked; U = Unrankable.
7. Provincial rarity rank. Range from S1 to S5; S1 = Extremely rare, S5 = Very Common. NR = Unranked; U = Unrankable.

APPENDIX 6
Breeding Bird Survey

COMMON NAME	SCIENTIFIC NAME	COSSARO	SARO	COSEWIC	SARA	SCHEDULE	S-RANK	G-RANK	AREA SENSITIVE	AREA REQUIRED	PIF SPECIES	PC 1 Habitat: Bridge/river, conifer forest																	
												round1 date: June 8, 2023					round2 date: June 28, 2023					SITE SUMMARY							
												>50	50-100	>100	FO	total	HBE	>50	50-100	>100	FO	total	HBE	TOTAL	HBE				
Red-bellied Woodpecker	<i>Melanerpes carolinus</i>						S5	G5							0	NA	1	0	0	0	1	S	1	T					
Red-eyed Vireo	<i>Vireo olivaceus</i>						S5B	G5							1	0	0	0	0	1	S	2	T						
Blue Jay	<i>Cyanocitta cristata</i>						S5	G5							0	1	1	0	1	S	0	1	0	1	2	S	3	T	
American Crow	<i>Corvus brachyrhynchos</i>						S5	G5							0	1	0	0	1	S				0	NA	1	S		
Black-capped Chickadee	<i>Poecile atricapillus</i>						S5	G5							0	2	0	0	2	S	9	0	0	0	9	M	11	T	
Gray Catbird	<i>Dumetella carolinensis</i>						S5B,S3N	G5												0	NA	1	0	0	0	1	S	1	S
American Robin	<i>Turdus migratorius</i>						S5	G5							1	3	0	0	4	S				0	NA	4	S		
Song Sparrow	<i>Melospiza melodia</i>						S5	G5							0	1	2	0	1	S				0	NA	1	S		
Brown-headed Cowbird	<i>Molothrus ater</i>						S5	G5											0	NA	0	1	0	0	1	S	1	S	
Common Grackle	<i>Quiscalus quiscula</i>						S5	G5							1	0	0	0	1	S	1	1	0	0	2	S	3	T	
Northern Waterthrush	<i>Seiurus noveboracensis</i>						S5B	G5							1	0	0	0	1	S				0	NA	1	S		
American Redstart	<i>Setophaga ruticilla</i>						S5B	G5	✓	>100ha					2	0	0	0	2	S				0	NA	2	S		
Black-throated Green Warbler	<i>Dendroica virens</i>						S5B	G5	✓	>30ha					0	2	0	0	2	S				0	NA	2	S		

Breeding Evidence:

Observed

- FO-flyover
- X- species observed in breeding season

Possible

- H-suitable habitat
- S-singing male

Probable

- M-multiple singing individuals
- P-pair observed in suitable habitat
- T-presumed territory based on presence of singing bird at least one week apart
- D-courtship or display
- V-visiting probable nest site
- A-agitated behaviour
- B-brood patch or cloacal protuberance
- N-nest building by wrens or woodpeckers

Confirmed

- NB-nest building
- AE-adult entering, occupying or leaving nest site
- NU-empty nest used in the same season
- FY-recently fledged young
- DD-distraction display
- FS-adult carrying fecal sac
- CF-adult carrying food
- NE-nest with eggs
- NY-nest with young

APPENDIX 7
Significant Wildlife Habitat Assessment

#	Significant wildlife habitat (SWH)	Candidate SWH type	Candidate SWH criteria	Criteria for SWH confirmation	SWH protected area	Site assessment details	Candidate SWH	Field studies required/ completed	Confirmed SWH
1	Waterfowl Stopover and Staging Areas (Terrestrial)	Seasonal concentration areas of animals	- Fields with Sheet water in spring (incl. agricultural)	- Mixed species aggregations of 100 or more individuals confirms SWH	Flooded field ecosite and 100-300m radius is the SWH	No habitat matching criteria identified in study area.	No	None required	No
2	Waterfowl Stopover and Staging (Aquatic)	Seasonal concentration areas of animals	- Ponds, marshes, lakes, bays, coastal inlets and watercourses and reservoirs - SWTP & SWMP are not SWH	- Aggregations of 100 or more listed species for 7 days (i.e., >700 waterfowl use days) confirms SWH	Aquatic ecosite and 100m radius is the SWH	No habitat matching criteria identified in study area.	No	None required	No
3	Shorebird Migratory Stopover	Seasonal concentration areas of animals	- Shorelines of Lakes, rivers, wetlands, beaches, bars; seasonally flooded, muddy, and un-vegetated shoreline habitat	- 3 or more listed species and >1000 shorebird use days, or >100 whimbrel, confirms SWH	Shoreline ecosite and 100m radius is the SWH	No habitat matching criteria identified in study area.	No	None required	No
4	Raptor Wintering Area	Seasonal concentration areas of animals	- Combination of upland field and woodland habitat >20ha total (includes, >15ha upland field) - Least disturbed sites, idle, fallow or lightly grazed field/meadow best	- 1 or more Short-eared Owl, or at least 10 individuals and 2 listed species for a minimum of 20 days, and 3 of 5 years, confirms SWH	Ecosite communities (field and woodland) is the SWH	No habitat matching criteria identified in study area.	No	None required	No
5	Bat Hibernacula	Seasonal concentration areas of animals	- Caves, mine shafts, underground foundations, karsts. - Buildings are not SWH	- All sites with confirmed hibernating bats, confirms SWH	Ecosite and 200m radius is the SWH	No habitat matching criteria identified in study area.	No	None required	No

#	Significant wildlife habitat (SWH)	Candidate SWH type	Candidate SWH criteria	Criteria for SWH confirmation	SWH protected area	Site assessment details	Candidate SWH	Field studies required/ completed	Confirmed SWH
6	Bat Maternity Colony	Seasonal concentration areas of animals	<ul style="list-style-type: none"> - All forested ecosites, FOD, FOC, FOM, SWD, SWM, SWC with >10/ha trees (>25cm DBH) in early stages of decay (class 1-3) - Buildings are not SWH 	<ul style="list-style-type: none"> - >10 Big Brown Bats, >20 Little Brown Myotis, >5 adult female Silver-haired Bats confirms SWH 	Entire woodland or forest stand ELC ecosite containing colony is the SWH	Forested ecosites present in study area with trees >25cm DBH.	Yes	Studies recommended pre-construction in areas where tree removal/damage to occur in candidate habitat.	Unknown
7	Turtle Wintering Area	Seasonal concentration areas of animals	<ul style="list-style-type: none"> - Areas with permanent water deep enough not to freeze, with mud/soft substrates 	<ul style="list-style-type: none"> - 5 over-wintering Midland Painted Turtles, 1 or more Northern Map Turtle or Snapping Turtle confirms SWH 	Mapped ELC ecosite, or deep pool element where turtles overwinter is the SWH	Open water marsh community (SAF_1-3), east of study area may provide turtle overwintering habitat	Yes	No turtles identified incidentally or observed in community during spring and summer surveys. No anticipated affects-outside study area.	No
8	Reptile Hibernaculum	Seasonal concentration areas of animals	<ul style="list-style-type: none"> - Sites below the frost line; rock barren, crevice and cave, talus, alvar, rock piles, slopes, stone fences, and crumbling foundations 	<ul style="list-style-type: none"> - Presence of hibernacula with minimum 5 individuals of 1 snake species/ individuals of 2 or more species confirms SWH. - Congregations of a minimum of 5 snakes of 1 species/ individuals of 2 or more snake species, near potential hibernacula on sunny warm days in spring and fall confirms SWH 	Feature hibernacula is in, and 30m radius is the SWH	No habitat matching criteria identified in study area.	No	None required	No
9	Colonially-nesting Bird Habitat (Cliff/bank)	Seasonal concentration areas of animals	<ul style="list-style-type: none"> - Eroding banks, sandy hills, borrow pits, steep slopes, sand piles, cliff faces, bridge abutments, silos, barns 	<ul style="list-style-type: none"> - 1 or more nest sites with 8 or more Cliff Swallow or, 50 Bank Swallow and Rough-winged Swallow pairs during the breeding season. 	Colony and 50m radius around peripheral nest are the SWH	No habitat matching criteria identified in study area.	No	None required	No

#	Significant wildlife habitat (SWH)	Candidate SWH type	Candidate SWH criteria	Criteria for SWH confirmation	SWH protected area	Site assessment details	Candidate SWH	Field studies required/ completed	Confirmed SWH
10	Colonially-nesting Bird Habitat (Tree/shrub)	Seasonal concentration areas of animals	- Live or dead standing trees in wetlands, lakes, islands and peninsulas, occasionally shrubby and emergent vegetation	- 5 or more active Great-blue Heron or other listed species nests	Edge of the colony plus minimum 300m radius, or extent of the forest ecosite, or entire island <15ha is the SWH	No habitat matching criteria identified in study area.	No	None required	No
11	Colonially-nesting Bird Habitat (Ground)	Seasonal concentration areas of animals	- Rocky islands or peninsulas within a lake or large river (natural or artificial)	- >25 active nests of Herring Gull, Ring-billed Gull, >5 active nests of Common Tern, or >2 active nests of Caspian Tern. 5 or more pairs of Brewer's Blackbird . Any active nesting colony of Little Gull, Great Black-backed Gull.	Edge of colony plus min 150m radius or extent of ELC ecosite, or island <3ha is the SWH	No habitat matching criteria identified in study area.	No	None required	No
12	Migratory Butterfly Stopover Area	Seasonal concentration areas of animals	- At least 10ha, with undisturbed field/meadow and forest or woodland edge habitat present, within 5km of Lake Ontario.	- Presence of Monarch use days >5000 or >3000 where there is a mix of Monarch with Painted Ladies or White Admirals	Field/meadow and forest/woodland is the SWH	No habitat matching criteria identified in study area.	No	None required	No
13	Land bird Migratory Stopover Area	Seasonal concentration areas of animals	- Woodlots >5ha in size - Within 5km of Lake Ontario	- Use by >200 birds/day, with >35species, with at least 10sp recorded on 5 different survey dates.	Woodlot is the SWH	No habitat matching criteria identified in study area.	No	None required	No
14	Deer Yarding Areas	Seasonal concentration areas of animals	- ELC communities providing Thermal cover (FOM, FOC, SWM, SWC, CUP2, CUP3, FOD3, CUT)	- Deer yards are managed by MNR, available through district offices and LIO.	LIO mapping	No habitat matching criteria identified in study area.	No	None required	No
15	Deer Winter Congregation Areas	Seasonal concentration areas of animals	- All forested ecosites >100ha - Conifer Plantations <50ha may be used	- Deer management is the responsibility of the MNR. - Contact MNR or LIO for known deer winter areas.	LIO mapping	Deer Wintering Areas (stratum 2) areas identified on LIO Mapping	Yes	None required.	Yes

#	Significant wildlife habitat (SWH)	Candidate SWH type	Candidate SWH criteria	Criteria for SWH confirmation	SWH protected area	Site assessment details	Candidate SWH	Field studies required/ completed	Confirmed SWH
16	Cliffs & Talus Slopes	Rare vegetation communities	<ul style="list-style-type: none"> - Cliff: vertical to near vertical bedrock >3m in height - Talus slope: rock rubble at the base of a cliff made up of coarse rocky debris 	<ul style="list-style-type: none"> - Confirm any ELC Vegetation Type for Cliffs or Talus Slopes 	Area of ELC sites: TAO, TAS, TAT, CLO, CLS, CLT	No habitat matching criteria identified in study area.	No	None required	No
17	Sand Barren	Rare vegetation communities	<ul style="list-style-type: none"> - Exposed, sparsely vegetated & caused by lack of moisture, fires, and erosion. 	<ul style="list-style-type: none"> - Area >0.5ha in size - Confirm any ELC vegetation Type for Sand Barren - Not dominated by exotic or introduced species 	Area of ELC ecosite is the SWH	No habitat matching criteria identified in study area.	No	None required	No
18	Alvar	Rare vegetation communities	<ul style="list-style-type: none"> - Level, mostly un-fractured calcareous bedrock feature, overlain by a thin veneer or soil 	<ul style="list-style-type: none"> - Area >0.5ha in size - Field Studies that identify four of the five Alvar Indicator Species - Not dominated by exotic or introduced species 	Area of ELC ecosite is the SWH	No habitat matching criteria identified in study area.	No	None required	No
19	Old Growth Forest	Rare vegetation communities	<ul style="list-style-type: none"> - >30ha forests with at least 10ha interior habitat and multi-layered canopy 	<ul style="list-style-type: none"> - Dominant Tree Species >140 years old - No recognizable signs forestry practices (old stumps) 	Area of ELC ecosite is the SWH	No habitat matching criteria identified in study area.	No	None required	No
20	Savannah	Rare vegetation communities	<ul style="list-style-type: none"> - Tall Grass Prairie Habitat with 25%-60% Tree cover - Remnant sites such as Railway Right of ways are not SWH 	<ul style="list-style-type: none"> - No minimum size and must be restored to a natural state. - Confirm one or more savannah indicator species. - Not dominated by exotic or introduced species 	Area of ELC ecosite is the SWH	No habitat matching criteria identified in study area.	No	None required	No

#	Significant wildlife habitat (SWH)	Candidate SWH type	Candidate SWH criteria	Criteria for SWH confirmation	SWH protected area	Site assessment details	Candidate SWH	Field studies required/ completed	Confirmed SWH
21	Tallgrass Prairie	Rare vegetation communities	<ul style="list-style-type: none"> - Ground cover dominated by prairie grasses with <25% tree cover. - Remnant sites such as Railway Right of ways are not SWH 	<ul style="list-style-type: none"> - No minimum size and must be restored to a natural state. - Confirm one or more prairie indicator species. - Not dominated by exotic or introduced species 	Area of ELC ecosite is the SWH	No habitat matching criteria identified in study area.	No	None required	No
22	Other Rare Vegetation Communities	Rare vegetation communities	<ul style="list-style-type: none"> - All Provincially Rare S1, S2, S3 Vegetation Communities (Appendix M of SWHTG) 	<ul style="list-style-type: none"> - Field Studies Confirming ELC vegetation type is a rare vegetation community 	Area of ELC ecosite is the SWH	No communities identified on site are S1-S3 communities	No	None required	No
23	Waterfowl Nesting Areas	Specialized habitat for wildlife	<ul style="list-style-type: none"> - Upland Habitat, adjacent to Wetland ELC ecosites (except SWC, SWM) - Extends 120m from a wetland (>0.5ha) and any small wetlands (<0.5ha) within a cluster of at least 3. - Upland area at least 120m wide 	<ul style="list-style-type: none"> - Presence of 3 or more nesting pairs of listed species excluding Mallards - Presence of 10 or more nesting pairs including mallards - Any active Black Duck nesting site 	SWH may be greater than or less than 120m from the wetland edge and must provide enough habitat for waterfowl to successfully nest	No habitat matching criteria identified in study area.	No	None required	No
24	Bald Eagle or Osprey Nesting, Foraging and Perching Habitat	Specialized habitat for wildlife	<ul style="list-style-type: none"> - Forest communities, adjacent to riparian areas - Osprey nests usually at top of tree - Bald Eagle nest usually in super canopy tree in a notch within canopy 	<ul style="list-style-type: none"> - Studies confirm one or more active Bald Eagle or Osprey nest. - Alternate nests included in SWH. - Nests must be used annually, if found inactive, must be known inactive at least 3 years, or suspected unused for 5 years if unknown 	<ul style="list-style-type: none"> - Active nest plus 300m for OSPR - Active nest plus 400-800m for BAEA 	No habitat matching criteria identified in study area.	No	None required	No

#	Significant wildlife habitat (SWH)	Candidate SWH type	Candidate SWH criteria	Criteria for SWH confirmation	SWH protected area	Site assessment details	Candidate SWH	Field studies required/ completed	Confirmed SWH
25	Woodland Raptor Nesting Habitat	Specialized habitat for wildlife	<ul style="list-style-type: none"> - Forested communities, forested swamp communities and cultural Plantations - Natural Forested/conifer plantations >30ha with >10ha interior habitat (200m buffer) 	<ul style="list-style-type: none"> - One or more active nest of listed species 	Nest protection radius: <ul style="list-style-type: none"> - RSHA, NOGA 400m - BAOW 200m. - Broad-winged Hawk, COHA 100m - SSHA 50 	No habitat matching criteria identified in study area.	No	None required	No
26	Turtle Nesting Areas	Specialized habitat for wildlife	<ul style="list-style-type: none"> - Exposed Mineral soil (sand or gravel) adjacent (<100m) or within shallow marsh, shallow submerged, shallow floating, bog or fen communities. - Located in open sunny areas, away from roads and less prone to predation. - Municipal and provincial road shoulders are not SWH. 	<ul style="list-style-type: none"> - Confirm 5 or more nesting Midland Painted Turtles, 1 or more nesting Northern Map Turtle or Snapping Turtle 	Area or sites with exposed mineral soils, plus a radius of 30-100m around the nesting area is the SWH.	No habitat matching criteria identified in study area.	No	None required	No
27	Seeps and Springs	Specialized habitat for wildlife	<ul style="list-style-type: none"> - Areas where ground water comes to the surface. - Any forested area within the headwaters of a stream or river system 	<ul style="list-style-type: none"> - Confirm site with 2 or more seeps/springs. 	Area of ELC forest ecosite containing seep/spring is the SWH	Seeps and springs possible within forested and wetland communities	Yes	ELC complete	No seeps or springs identified

#	Significant wildlife habitat (SWH)	Candidate SWH type	Candidate SWH criteria	Criteria for SWH confirmation	SWH protected area	Site assessment details	Candidate SWH	Field studies required/ completed	Confirmed SWH
28	Amphibian Breeding Habitat (Woodland)	Specialized habitat for wildlife	<ul style="list-style-type: none"> - Breeding pools within woodlands - Wetland, pond, or pool >500m² within or adjacent (<120m) to a woodland. - Woodlands with permanent ponds, or those with water until mid-July more likely to be used. 	<ul style="list-style-type: none"> - Confirm Breeding population of 1 or more listed newt/salamander species, 2 or more of the listed frog species with at least 20 individuals (adults or egg masses), 2 or more of the listed frog species with call code levels of 3. - Wetland adjacent to woodlands includes travel corridor connecting features as SWH. 	Wetland area, plus 230m radius of woodland is the SWH.	Candidate habitat throughout study area, woodland pools, marshes	Yes	ELC, spring and summer botanical, and aquatic habitat assessment completed.	Unknown
29	Amphibian Breeding Habitat (Wetland)	Specialized habitat for wildlife	<ul style="list-style-type: none"> - Swamp, marsh, fen, bog, open aquatic, and shallow aquatic ELC communities. - Typically isolated from woodlands (>120m) but includes larger wetlands with primarily aquatic species (bull frogs) that are adjacent to woodlands. - Wetlands >500m² - Presence of shrubs & logs - Bullfrogs require permanent water bodies and abundant emergent vegetation. 	<ul style="list-style-type: none"> - Confirm Breeding populations of 1 or more listed newt/salamander species, or 2 or more listed frog/toad species with at least 20 individuals (adults or egg masses), or 2 or more listed frog/toad species with a call code level of 3 - Or any wetland with confirmed breeding Bullfrog. 	<ul style="list-style-type: none"> - ELC ecosite and shoreline is the SWH. - Movement corridors (SWH) must be considered if this habitat is significant 	No habitat matching criteria identified in study area.	No	None required	No

#	Significant wildlife habitat (SWH)	Candidate SWH type	Candidate SWH criteria	Criteria for SWH confirmation	SWH protected area	Site assessment details	Candidate SWH	Field studies required/ completed	Confirmed SWH
30	Area-sensitive Breeding Bird Habitat	Specialized habitat for wildlife	<ul style="list-style-type: none"> - Habitats where interior breeding birds are breeding. - Large mature (>60 years) forest stands or woodlots >30ha. - Forest and swamp ELC communities - Interior habitat at least 200m from edge 	<ul style="list-style-type: none"> - Presence of nesting or breeding pairs of 3 or more of the listed species - Any site with Cerulean Warbler or Canada Warbler is SWH 	ELC ecosite is the SWH	No habitat matching criteria identified in study area.	No	None required	No
31	Marsh Bird Breeding Habitat	Habitats of species of conservation concern considered SWH	<ul style="list-style-type: none"> - Some meadow marsh, shallows submerged, shallow floating, mixed shallow floating, fen, and bog communities (see SWH Ecoregion guide for specifics) - Nesting occurs in wetlands, all wetland habitat is considered with presence of shallow water with emergent aquatic vegetation - Green heron at edge of water sheltered by shrubs and trees. 	<ul style="list-style-type: none"> - 5 or more nesting pairs of Sedge Wren or Marsh Wren, 1 pair of Sandhill Crane, or breeding by any combination of 5 or more of the listed species - Any Wetland with 1 or more breeding pair Black Tern, Trumpeter Swan, Green Heron or Yellow Rail 	ELC ecosite is the SWH	No habitat matching criteria identified in study area.	No	None required	No

#	Significant wildlife habitat (SWH)	Candidate SWH type	Candidate SWH criteria	Criteria for SWH confirmation	SWH protected area	Site assessment details	Candidate SWH	Field studies required/ completed	Confirmed SWH
32	Open Country Bird Breeding Habitat	Habitats of species of conservation concern considered SWH	<ul style="list-style-type: none"> - Grassland area >30ha (natural & cultural fields and meadows) - Grasslands not class 1 or 2 agriculture (no row crops or intensive hay or livestock pasturing) - Mature hayfields or pasture at least 5 years old 	<ul style="list-style-type: none"> - Nesting or breeding of 2 or more of the listed species - Field with 1 or more Short-eared Owls 	Contiguous ELC ecosite is the SWH	No habitat matching criteria identified in study area.	No	None required	No
33	Shrub/Early Successional Bird Breeding Habitat	Habitats of species of conservation concern considered SWH	<ul style="list-style-type: none"> - Cultural thickets, savannah, and woodland habitat - Large field area succeeding to shrub and thicket habitat >10ha in size - Patches of shrub ecosite may be complexed into larger old field ecosites for some species 	<ul style="list-style-type: none"> - Confirm nesting or breeding of 1 of the listed indicator species and at least 2 of the common species - Habitat with Yellow-breasted Chat or Golden-winged Warbler is SWH 	SWH is contiguous ELC ecosite field/thicket area	No habitat matching criteria identified in study area.	No	None required	No
34	Terrestrial Crayfish	Habitats of species of conservation concern considered SWH	<ul style="list-style-type: none"> - Meadow marsh, shallow marsh, swamp thicket, deciduous swamp, and mixed swamp communities - Cultural meadow with inclusions of meadow marsh may be used - Wet edges of marshes and wet meadows should be surveyed for crayfish 	<ul style="list-style-type: none"> - Presence of 1 or more individuals of listed species or their chimneys in suitable habitat 	Area of ELC ecosite or Eco element area of meadow marsh or swamp within the larger ecosite area is the SWH	No habitat matching criteria identified in study area.	No	None required	No

#	Significant wildlife habitat (SWH)	Candidate SWH type	Candidate SWH criteria	Criteria for SWH confirmation	SWH protected area	Site assessment details	Candidate SWH	Field studies required/ completed	Confirmed SWH
35	Special Concern & Rare Wildlife Species	Habitats of species of conservation concern considered SWH	<ul style="list-style-type: none"> - All Special Concern and Provincially Rare plant and animal species - Where an element occurrence is identified within a 1 or 10km grid for a species listed, linking candidate habitat on the site must be completed to ELC ecosites 	<ul style="list-style-type: none"> - Assessment/inventory of site for identified special concern or rare species completed during time of year when species is present or easily identifiable - Habitat must be easily mapped and cover an important life stage component (specific nesting habitat, foraging) 	SWH is the finest ELC scale that protects the form and function of the habitat	<p>No element occurrences for Special Concern or rare wildlife species identified within 1km of the study area. Background Atlas review identified nine Special Concern species within 10km of the Study Area</p> <ul style="list-style-type: none"> - Eastern Ribbonsnake (ORAA) - Milksnake (ORAA) - Snapping Turtle (ORAA) - Midland Painted Turtle (ORAA, iNat) - Eastern Wood-pewee (OBBA) - Wood Thrush (OBBA) - Canada Warbler (OBBA) - Barn Swallow (OBBA, eBird) - Monarch (OBA) 	Yes-Woodlands on site and within 120m may provide habitat for Eastern-Wood-pewee, Wood Thrush and Canada Warbler. Shallow aquatic habitat on site, and within 120m may provide habitat for Common Snapping Turtle and Midland Painted Turtle. Areas along watercourses may provide habitat for Eastern Ribbonsnake and Milksnake.	Two season Botanical Survey, Breeding Bird Survey, incidental wildlife, aquatic habitat assessment.	No, candidate habitat is still present for Rainbow Mussel, Eastern Ribbonsnake, and West Virginia White as detailed studies were not completed for these species.

#	Significant wildlife habitat (SWH)	Candidate SWH type	Candidate SWH criteria	Criteria for SWH confirmation	SWH protected area	Site assessment details	Candidate SWH	Field studies required/ completed	Confirmed SWH
36	Amphibian Movement Corridor	Animal movement corridors	<ul style="list-style-type: none"> - Corridors may occur in all ecosites associated with water. - Presence of significant amphibian breeding indicates the requirement for identifying corridors - Movement corridors between breeding habitat and summer habitat 	<ul style="list-style-type: none"> - Corridors typically include areas with native vegetation, with several layers of vegetation, unbroken by roads, waterways or waterbodies are most significant - At least 15 of vegetation on both sides of the waterway or up to 200m wide of woodland habitat with gaps of <20m - Shorter corridors are more significant than longer, but amphibians must be able to get to and from their summer breeding habitat 	Corridor is the SWH	No habitat matching criteria identified in study area.	No	None required	No
37	Deer Movement Corridor	Animal movement corridors	<ul style="list-style-type: none"> - May occur in all forested ecosites. - Determined when deer wintering habitat is confirmed as SWH 	<ul style="list-style-type: none"> - Corridors at least 200m wide with gaps <20m leading to wintering habitat - Unbroken by roads and residential areas - Shorter corridors are more significant 	Corridor is the SWH	No habitat matching criteria identified in study area.	No	None required	No

APPENDIX 8
Species at Risk Habitat Assessment

Common name	Scientific name	Group	SAR O	Cosewic	S-rank	Background sources	Habitat requirements	Suitable habitat in study area	Field studies completed/ required	Observed by AA	Reference
Western Chorus Frog – Great Lakes / St. Lawrence - Canadian Shield Population	<i>Pseudacris triseriata pop. 2</i>	Amphibians	NAR	THR	S4	MNDMNRF Species Distribution Mapping, ORAA (2013)	Generally found in lowland communities, such as swamps, inhabiting lowland shrubs and grasses in the community, near breeding habitat. Breeding occurs in lowland, ephemeral ponds, devoid of predatory fish species (COSEWIC 2008a).	No habitat matching criteria identified in study area.	SAR, SWH, spring botanical, summer botanical, breeding bird surveys, and aquatic habitat assessment completed.	None observed.	COSEWIC. 2008. COSEWIC assessment and update status report on the Western Chorus Frog (<i>Pseudacris triseriata</i>) Carolinian population and Great Lakes/St. Lawrence – Canadian Shield population in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vii + 47 pp.
Monarch	<i>Danaus plexippus</i>	Butterflies, bees, damselflies, dragonflies & insects	SC	SC	S2N, S4B	MNDMNRF Species Distribution Mapping, OBA (2022)	Requires milkweed for larval feeding, other wildflower species are also important for adult feeding when milkweed is not in flower; often found in abandoned farmland, along roadsides, and other open spaces (COSEWIC 2010b)	No habitat matching criteria identified in study area.	SAR, SWH, spring botanical, summer botanical, breeding bird surveys, and aquatic habitat assessment completed.	None observed.	COSEWIC. 2010. COSEWIC assessment and status report on the Monarch (<i>Danaus plexippus</i>) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vii + 43 pp.
West Virginia White	<i>Pieris virginensis</i>	Butterflies, bees, damselflies, dragonflies & insects	SC	NAR	S3	MNDMNRF Species Distribution Mapping	Found in rich deciduous and mixed forests and swamps with a poorly vegetated shrub layer. The larvae feed only on the leaves of a few host plants, including the Two-leaved Toothwort (<i>Cardamine diphylla</i>) and cut-leaved toothwort (Burke 2013).	Deciduous forest and swamps present in study area.	SAR, SWH, spring botanical, summer botanical, breeding bird surveys, and aquatic habitat assessment completed.	None observed.	Peter S. Burke. 2013. Management Plan for the West Virginia White (<i>Pieris virginensis</i>) in Ontario. Ontario Management Plan Series. Prepared for the Ontario Ministry of Natural Resources, Peterborough, Ontario. v + 44 pp.
Yellow-banded Bumble Bee	<i>Bombus terricola</i>	Butterflies, bees, damselflies, dragonflies & insects	SC	SC	S3S5	MNDMNRF Species Distribution Mapping	Occur in a diverse range of habitat, including mixed woodlands, farmlands, urban areas, montane meadows, prairie grasslands and boreal habitats. Queens overwinter underground and in decomposing organic material such as rotting lots (COSEWIC 2015)	No habitat matching criteria identified in study area.	SAR, SWH, spring botanical, summer botanical, breeding bird surveys, and aquatic habitat assessment completed.	None observed.	COSEWIC. 2015. COSEWIC assessment and status report on the Yellow-banded Bumble Bee (<i>Bombus terricola</i>) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. ix + 60 pp. *rank considered out of date
Bank Swallow	<i>Riparia riparia</i>	Birds	THR	THR	S4B	MNDMNRF Species Distribution Mapping, OBBA	Breeds in a variety of natural and artificial bank type habitat, such as bluffs, stream and river banks, sand and gravel pits, piles of sand, topsoil and other material. Nests are typically in vertical or near-vertical surfaces (COSEWIC 2013b).	No habitat matching criteria identified in study area.	SAR, SWH, spring botanical, summer botanical, breeding bird surveys, and aquatic habitat assessment completed.	None observed.	COSEWIC. 2013. COSEWIC assessment and status report on the Bank Swallow (<i>Riparia riparia</i>) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. ix + 48 pp.
Barn Swallow	<i>Hirundo rustica</i>	Birds	SC	THR	S5B	MNDMNRF Species Distribution Mapping, OBBA, eBird (2021)	Occurs in farmland, along lake/river shorelines, in wooded clearings and in urban populated areas. Nesting may occur inside or outside buildings; under bridges and in road culverts (COSEWIC 2011a).	Yes, bridge present in study area.	SAR, SWH, spring botanical, summer botanical, breeding bird surveys, and aquatic habitat assessment completed.	None observed.	COSEWIC. 2011. COSEWIC assessment and status report on the Barn Swallow (<i>Hirundo rustica</i>) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. ix + 37 pp.
Bobolink	<i>Dolichonyx oryzivorus</i>	Birds	THR	THR	S4B	MNDMNRF Species Distribution Mapping, OBBA, NHIC	Nest in grassland habitats, including hayfields and meadows with a mixture of grasses and broad-leaved forbs with a high litter cover. Area Sensitive, with increased density in grasslands greater than 10ha (Renfrew et. al. 2015)	No habitat matching criteria identified in study area.	SAR, SWH, spring botanical, summer botanical, breeding bird surveys, and aquatic habitat assessment completed.	None observed.	Renfrew, R., A.M. Strong, N.G. Perlut, S.G. Martin and T.A. Gavin. 2015. Bobolink (<i>Dolichonyx oryzivorus</i>), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Birds of North America Online: http://bna.birds.cornell.edu/bna/species/176

Common name	Scientific name	Group	SAR O	Cosewic	S-rank	Background sources	Habitat requirements	Suitable habitat in study area	Field studies completed/ required	Observed by AA	Reference
Canada Warbler	<i>Wilsonia canadensis</i>	Birds	SC	THR	S4B	MNDMNRF Species Distribution Mapping, OBBA	Prefers wet coniferous, deciduous and mixed forest types, with a dense shrub layer (COSEWIC 2008b).	Yes, coniferous forest present in study area.	SAR, SWH, spring botanical, summer botanical, breeding bird surveys, and aquatic habitat assessment completed.	None observed.	COSEWIC. 2008. COSEWIC assessment and status report on the Canada Warbler (<i>Wilsonia Canadensis</i>) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vi + 35 pp. (www.sararegistry.gc.ca/status/status_e.cfm).
Chimney Swift	<i>Chaetura pelagica</i>	Birds	THR	THR	S4B, S4N	eBird (2021)	Typically nests in traditional chimneys of older buildings, which also provide roosting sites for many individuals during spring and fall migration (MNR 2013).	No habitat matching criteria identified in study area.	SAR, SWH, spring botanical, summer botanical, breeding bird surveys, and aquatic habitat assessment completed.	None observed.	MNR, 2013. General Habitat Description for the Chimney Swift (<i>Chaetura pelagica</i>). Ontario Ministry of Natural Resources and Forestry. July 2, 2013.
Common Nighthawk	<i>Chordeiles minor</i>	Birds	SC	THR	S4B	MNDMNRF Species Distribution Mapping	Breeds in open habitat, on the ground, in areas with no vegetation, including sand dunes, burned areas, open forests, railways, and gravel rooftops. Eggs are laid directly on the ground (COSEWIC 2007b).	No habitat matching criteria identified in study area.	SAR, SWH, spring botanical, summer botanical, breeding bird surveys, and aquatic habitat assessment completed.	None observed.	COSEWIC 2007. COSEWIC assessment and status report on the Common Nighthawk (<i>Chordeiles minor</i>) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vi + 25 pp.
Eastern Meadowlark	<i>Sturnella magna</i>	Birds	THR	THR	S4B	MNDMNRF Species Distribution Mapping, OBBA, NHIC	Nest in grassland habitats, including hayfields, pasture, savannahs, and other open areas. Preferential habitat includes areas with good grass and thatch (litter) cover (Jaster et. al. 2012).	No habitat matching criteria identified in study area.	SAR, SWH, spring botanical, summer botanical, breeding bird surveys, and aquatic habitat assessment completed.	None observed.	Jaster, Levi A., William E. Jensen and Wesley E. Lanyon. (2012). Eastern Meadowlark (<i>Sturnella magna</i>), The Birds of North America (P. G. Rodewald, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America: https://birdsna.org/Species-Account/bna/species/easmea
Eastern Wood-Pewee	<i>Contopus virens</i>	Birds	SC	SC	S4B	MNDMNRF Species Distribution Mapping, OBBA	Associated with mid-age mixed and deciduous forest stands, often dominated by Maple (Acer), Elm (Ulmus) or Oak (Quercus), and include areas with clear-cuts, openings or forest edges. Also prefers forest stands with little to no understory vegetation (COSEWIC 2012a).	Yes, deciduous forest present in study area.	SAR, SWH, spring botanical, summer botanical, breeding bird surveys, and aquatic habitat assessment completed.	None observed.	COSEWIC. 2012. COSEWIC assessment and status report on the Eastern Wood-Pewee (<i>Contopus virens</i>) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. x + 39 pp.
Evening Grosbeak	<i>Coccothraustes vespertinus</i>	Birds	SC	SC	S4B	MNDMNRF Species Distribution Mapping	Breeding habitat includes open, mature mixed wood forests, where fir species and/or White Spruce are dominant, and Spruce Budworm is abundant (COSEWIC 2016)	No habitat matching criteria identified in study area.	SAR, SWH, spring botanical, summer botanical, breeding bird surveys, and aquatic habitat assessment completed.	None observed.	COSEWIC. 2016. COSEWIC assessment and status report on the Evening Grosbeak (<i>Coccothraustes vespertinus</i>) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xi + 64 pp.
Grasshopper Sparrow	<i>Ammodramus savannarum</i>	Birds	SC	SC	S4B	MNDMNRF Species Distribution Mapping	Prefers moderately open grasslands and prairies with patchy bare ground; avoids grasslands with extensive shrub cover (Vickery 1996).	No habitat matching criteria identified in study area.	SAR, SWH, spring botanical, summer botanical, breeding bird surveys, and aquatic habitat assessment completed.	None observed.	Vickery, Peter D. 1996. Grasshopper Sparrow (<i>Ammodramus savannarum</i>), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online: http://bna.birds.cornell.edu/bna/species/239

Common name	Scientific name	Group	SAR O	Cosewic	S-rank	Background sources	Habitat requirements	Suitable habitat in study area	Field studies completed/ required	Observed by AA	Reference
Henslow's Sparrow	<i>Ammodramus henslowii</i>	Birds	END	END	SHB	MNDMNRF Species Distribution Mapping	Breeds in grassland habitat and is area sensitive. Grasslands with tall, dense cover a thick thatch layer, and are greater than 30ha, but preferentially larger than 100ha are preferred (COSEWIC 2011b).	No habitat matching criteria identified in study area.	SAR, SWH, spring botanical, summer botanical, breeding bird surveys, and aquatic habitat assessment completed.	None observed.	COSEWIC. 2011. COSEWIC assessment and status report on the Henslow's Sparrow (<i>Ammodramus henslowii</i>) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. x + 37 pp.
Least Bittern	<i>Ixobrychus exilis</i>	Birds	THR	THR	S4B	MNDMNRF Species Distribution Mapping	Breeds in large marshes (>5ha) with emergent vegetation, typically cattails, with at least 50% open water, and relatively stable water levels (COSEWIC 2009b).	No habitat matching criteria identified in study area.	SAR, SWH, spring botanical, summer botanical, breeding bird surveys, and aquatic habitat assessment completed.	None observed.	COSEWIC. 2009. COSEWIC assessment and update status report on the Least Bittern (<i>Ixobrychus exilis</i>) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vi + 36 pp.
Loggerhead Shrike	<i>Lanius ludovicianus</i>	Birds	END	END	S2B	MNDMNRF Species Distribution Mapping	Nests in open, low, grassy habitat with scattered shrubs. Presence of thorny shrubs, such as hawthorn, or barbwire fencing required for impaling prey. Only two recent areas of breeding in the province (Carden Plain and Napanee Plain) (Environment Canada 2015).	No habitat matching criteria identified in study area.	SAR, SWH, spring botanical, summer botanical, breeding bird surveys, and aquatic habitat assessment completed.	None observed.	Environment Canada. 2015. Recovery Strategy for the Loggerhead Shrike, <i>migrans</i> subspecies (<i>Lanius ludovicianus migrans</i>), in Canada. Species at Risk Act Recovery Strategy Series. Environment Canada, Ottawa. vii + 35 pp.
Louisiana Waterthrush	<i>Seiurus motacilla</i>	Birds	SC	THR	S3B	MNDMNRF Species Distribution Mapping	Nests along headwater streams and associated wetlands which occur within large tracts of mature forest especially mixed wood forests with a component of hemlock. Nests are in stream bank niches, under mossy logs, and within the roots of fallen trees (COSEWIC 2006b)	No habitat matching criteria identified in study area.	SAR, SWH, spring botanical, summer botanical, breeding bird surveys, and aquatic habitat assessment completed.	None observed.	COSEWIC 2006. COSEWIC assessment and update status report on the Louisiana Waterthrush (<i>Seiurus motacilla</i>) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vi + 26 pp.
Olive-sided Flycatcher	<i>Contopus cooperi</i>	Birds	SC	THR	S4B	MNDMNRF Species Distribution Mapping	Associated with natural forest openings (usually conifer or mixed), and edges of forests adjacent wetlands or watercourses, will also use open and semi-open forests and clear-cuts. Presence of tall snags and residual live trees required for nesting and foraging (COSEWIC 2007c).	No habitat matching criteria identified in study area.	SAR, SWH, spring botanical, summer botanical, breeding bird surveys, and aquatic habitat assessment completed.	None observed.	COSEWIC. 2007. COSEWIC assessment and status report on the Olive-sided Flycatcher (<i>Contopus cooperi</i>) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vii + 25 pp.
Peregrine Falcon	<i>Falco peregrinus</i>	Birds	SC	SC	S3B	MNDMNRF Species Distribution Mapping	Nests on cliff-ledges (50-200m preferred) near foraging areas. Also nests on anthropomorphic structures, such as tall building ledges, bridges, quarries, mines and cuts for road beds (COSEWIC, 2007a).	No habitat matching criteria identified in study area.	SAR, SWH, spring botanical, summer botanical, breeding bird surveys, and aquatic habitat assessment completed.	None observed.	COSEWIC 2007. COSEWIC assessment and update status report on the Peregrine Falcon (<i>Falco peregrinus</i>) (<i>pealei</i> subspecies - <i>Falco peregrinus</i> and <i>pealei anatum/tundrius</i> - <i>Falco peregrinus anatum/tundrius</i>) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vii + 45 pp.
Red-headed Woodpecker	<i>Melanerpes erythrocephalus</i>	Birds	END	THR	S4B	MNDMNRF Species Distribution Mapping	Found in a variety of open areas, with a high density of dead or dying trees, particularly forests dominated by oak or beech (COSEWIC 2007d).	No habitat matching criteria identified in study area.	SAR, SWH, spring botanical, summer botanical, breeding bird surveys, and aquatic habitat assessment completed.	None observed.	COSEWIC 2007. COSEWIC assessment and update status report on the Red-headed Woodpecker (<i>Melanerpes erythrocephalus</i>) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vi + 27 pp.

Common name	Scientific name	Group	SAR O	Cosewic	S-rank	Background sources	Habitat requirements	Suitable habitat in study area	Field studies completed/ required	Observed by AA	Reference
Wood Thrush	<i>Hylocichla mustelina</i>	Birds	SC	THR	S4B	MNDMNRF Species Distribution Mapping, OBBA	Prefers second growth moist deciduous forests, with tall trees, and a dense understory of low saplings and an open forest floor with decaying leaf litter. Often nests in saplings, shrubs or occasionally dead stumps (COSEWIC 2012b).	Yes, mixed forest present in study area.	SAR, SWH, spring botanical, summer botanical, breeding bird surveys, and aquatic habitat assessment completed.	None observed.	COSEWIC. 2012. COSEWIC assessment and status report on the Wood Thrush (<i>Hylocichla mustelina</i>) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. ix + 46 pp.
Northern Sunfish (Great Lakes- Upper St. Lawrence Population)	<i>Lepomis peltastes</i>	Fish	SC	SC	S3	MNDMNRF Species Distribution Mapping	Prefers shallow, vegetated areas of warm lakes, ponds, and slowly flowing watercourses. Usually occurs in clear waters and is considered intolerant of siltation. Substrate usually consists of sand and gravel, as in the Thames River (COSEWIC 2016)	No habitat matching criteria identified in study area.	SAR, SWH, spring botanical, summer botanical, breeding bird surveys, and aquatic habitat assessment completed.	None observed.	COSEWIC. 2016. COSEWIC assessment and status report on the Northern Sunfish (<i>Lepomis peltastes</i>) Saskatchewan- Nelson River populations and the Great Lakes- Upper St. Lawrence populations, in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xv + 51 pp.
Redside Dace	<i>Clinostomus elongatus</i>	Fish	END	END	S1	MNDMNRF Species Distribution Mapping, DFO	Associated with small, clear, head water streams and creeks with abundant overhanging vegetation and both pool and riffle habitat, often with gravel substrates and cool water temperature regimes (COSEWIC, 2007e).	Pool and riffle habitat with overhanging vegetation present.	SAR, SWH, spring botanical, summer botanical, breeding bird surveys, and aquatic habitat assessment completed.	None observed.	COSEWIC 2007. COSEWIC assessment and update status report on the Redside Dace (<i>Clinostomus elongatus</i>) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. Vii + 59pp.
Upper Great Lakes Kiyi	<i>Coregonus kiyi kiyi</i>	Fish	SC	SC	S3	MNDMNRF Species Distribution Mapping	Prefers the deepest parts of lakes in which it is found. Rarely collected in waters less than 108m deep and has been reported at depths ranging from 35-200m (COSEWIC 2005).	No habitat matching criteria identified in study area.	SAR, SWH, spring botanical, summer botanical, breeding bird surveys, and aquatic habitat assessment completed.	None observed.	COSEWIC. 2005. COSEWIC assessment and update status report on the Lake Ontario kiyi (<i>Coregonus kiyi orientalis</i>) and Upper Great Lakes kiyi (<i>Coregonus kiyi kiyi</i>) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vi + 17 pp.
Rainbow	<i>Villosa iris</i>	Molluscs	SC	SC	S2S3	MNDMNRF Species Distribution Mapping	Most abundant in small to medium-sized rivers but can also be found in inland lakes. Usually found in or near riffles and along the edges of emergent vegetation in moderate to strong current. Occupies substrate mixtures of cobble, gravel, sandy and occasionally mud or boulder (COSEWIC 2015)	Yes, riffles with cobble substrate present.	SAR, SWH, spring botanical, summer botanical, breeding bird surveys, and aquatic habitat assessment completed.	None observed.	COSEWIC. 2015. COSEWIC assessment and status report on the Rainbow (<i>Villosa iris</i>) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xii + 82 pp.
American Badger	<i>Taxidea taxus</i>	Mammals	END	END	S1	MNDMNRF Species Distribution Mapping	Associated with open habitat, including agricultural hedgerows, grasslands, fallow habitat and open linear corridors in forests. Soil composition must be coherent to maintain structure for digging and tunneling, usually coarse silts to fine sands, in Ontario usually found in areas of sandy and loam soils. Prey availability is also important for site suitability (COSEWIC, 2012c).	No habitat matching criteria identified in study area.	SAR, SWH, spring botanical, summer botanical, breeding bird surveys, and aquatic habitat assessment completed.	None observed.	COSEWIC. 2012. COSEWIC assessment and status report on the American Badger (<i>Taxidea taxus</i>) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. iv + 63 pp.

Common name	Scientific name	Group	SAR O	Cosewic	S-rank	Background sources	Habitat requirements	Suitable habitat in study area	Field studies completed/ required	Observed by AA	Reference
Eastern Small-footed Myotis	<i>Myotis leibii</i>	Mammals	END	NA	S2S3	MNDMNRF Species Distribution Mapping	Associated with hilly or mountainous terrain, in or near coniferous or deciduous forest habitat. Maternity roosts are located in cracks and crevices of talus slopes and rocky outcrops, or, occasionally in bridges, old buildings, hollow trees (or loose bark) and caves and mines during the maternity season. Hibernates singly or in small clusters in mines and caves (NatureServe, 2015).	Yes, canopy trees present.	SAR, SWH, spring botanical, summer botanical, breeding bird surveys, and aquatic habitat assessment completed.	None observed.	COSEWIC. 2013. COSEWIC assessment and status report on the Little Brown Myotis (<i>Myotis lucifugus</i>), Northern Myotis (<i>Myotis septentrionalis</i>) and Tri-colored Bat (<i>Perimyotis subflavus</i>) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xxiv + 93 pp.
Little Brown Myotis	<i>Myotis lucifugus</i>	Mammals	END	END	S3	MNDMNRF Species Distribution Mapping	Hibernate in Caves; maternity colonies located in warm sites, often associated with human habitation; including attics, old buildings, under bridges, rock crevices and cavities in canopy trees in wooded areas (COSEWIC, 2013c).	Yes, canopy trees present.	SAR, SWH, spring botanical, summer botanical, breeding bird surveys, and aquatic habitat assessment completed.	None observed.	COSEWIC. 2013. COSEWIC assessment and status report on the Little Brown Myotis (<i>Myotis lucifugus</i>), Northern Myotis (<i>Myotis septentrionalis</i>) and Tri-colored Bat (<i>Perimyotis subflavus</i>) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xxiv + 93 pp.
Northern Myotis	<i>Myotis septentrionalis</i>	Mammals	END	END	S3	MNDMNRF Species Distribution Mapping	Hibernate in Caves; maternity colonies are usually located in trees and are closely associated with specific tree characteristics and density of suitable trees. Characterized by tall, large diameter trees in early stages of decay, located in openings in mature forest canopies (COSEWIC, 2013c).	Yes, canopy trees present.	SAR, SWH, spring botanical, summer botanical, breeding bird surveys, and aquatic habitat assessment completed.	None observed.	COSEWIC. 2013. COSEWIC assessment and status report on the Little Brown Myotis (<i>Myotis lucifugus</i>), Northern Myotis (<i>Myotis septentrionalis</i>) and Tri-colored Bat (<i>Perimyotis subflavus</i>) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xxiv + 93 pp.
Tri-colored Bat	<i>Perimyotis subflavus</i>	Mammals	END	END	S3?	MNDMNRF Species Distribution Mapping	Hibernate in caves, abandoned mines, wells, and tunnels. Summer roosts include clumps of dead foliage and lichens, typically found in forested habitat close to water sources. May also use anthropogenic structures such as barns for maternity roosts. Foraging habitat includes forested riparian areas over water in relatively open areas (Environment Canada, 2015).	Yes, canopy trees present.	SAR, SWH, spring botanical, summer botanical, breeding bird surveys, and aquatic habitat assessment completed.	None observed.	Environment Canada. 2015. Recovery Strategy for Little Brown Myotis (<i>Myotis lucifugus</i>), Northern Myotis (<i>Myotis septentrionalis</i>), and Tri-colored Bat (<i>Perimyotis subflavus</i>) in Canada [Proposed]. Species at Risk Act Recovery Strategy Series. Environment Canada, Ottawa. ix + 110 pp
Blanding's Turtle	<i>Emydoidea blandingii</i>	Reptiles	THR	THR	S3	MNDMNRF Species Distribution Mapping	Use a variety of eutrophic wetland habitat types, including lakes, ponds, watercourses, marshes, man-made channels, farm fields, coastal areas and bays. Seasonal overland terrestrial movements up to 2.5 km occur to reach nesting and overwintering areas, generally through wooded coniferous or mixed forest habitat. Nests are usually laid in loose sand or organic soil (COSEWIC 2005b).	Yes, wooded coniferous habitats and deep stream present.	SAR, SWH, spring botanical, summer botanical, breeding bird surveys, and aquatic habitat assessment completed.	None observed.	COSEWIC 2005. COSEWIC assessment and update status report on the Blanding's Turtle (<i>Emydoidea blandingii</i>) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. viii + 40 pp.

Common name	Scientific name	Group	SAR O	Cosewic	S-rank	Background sources	Habitat requirements	Suitable habitat in study area	Field studies completed/ required	Observed by AA	Reference
Midland Painted Turtle	<i>Chrysemys picta marginata</i>	Reptiles	NL	SC	S4	ORAA (2018), iNat (2022)	Occupy slow moving, relatively shallow and well-vegetated wetlands and water bodies with abundant basking sites and organic substrate. Found in association with submergent aquatic plants, which are used for cover and feeding. Semi -tolerant of human-altered landscapes, occasionally found occupying urban ponds and lands subject to anthropogenic disturbance. Suitable nesting habitat includes open, often south-facing, and sloped areas with sandy-loamy and/or gravel substrate usually within 1200 m of aquatic active season habitats. Overwinter in shallow water with deep sediment (COSEWIC 2018).	No habitat matching criteria identified in study area.	SAR, SWH, spring botanical, summer botanical, breeding bird surveys, and aquatic habitat assessment completed.	None observed.	COSEWIC. 2018. COSEWIC assessment and status report on the Midland Painted Turtle (<i>Chrysemys picta marginata</i>) and the Eastern Painted Turtle (<i>Chrysemys picta picta</i>) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xvi + 107 pp.
Snapping Turtle	<i>Chelydra serpentina</i>	Reptiles	SC	SC	S4	MNDMNR Species Distribution Mapping, ORAA (2019)	Inhabit slow-moving waters with soft, muck bottom and dense aquatic vegetation. Ponds, sloughs and shallow bays are all often used as summering and overwintering habitat (COSEWIC 2008d).	No habitat matching criteria identified in study area.	SAR, SWH, spring botanical, summer botanical, breeding bird surveys, and aquatic habitat assessment completed.	None observed.	COSEWIC. 2008. COSEWIC assessment and status report on the Snapping Turtle (<i>Chelydra serpentina</i>) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vii + 47 pp.
Spotted Turtle	<i>Clemmys guttata</i>	Reptiles	END	END	S2	MNDMNR Species Distribution Mapping	Found in wetlands with high organic content, including bogs, fens, marshes, woodland streams, sedge meadows, and shallow bays. Only one population is known from Wellington County, in Luther Marsh. Preferential to unpolluted shallow water with aquatic vegetation and soft substrates. Presence of Sphagnum moss, sedge tussocks, cattails and water lilies, may be important to Canadian populations (COSEWIC, 2002b).	No habitat matching criteria identified in study area.	SAR, SWH, spring botanical, summer botanical, breeding bird surveys, and aquatic habitat assessment completed.	None observed.	COSEWIC 2004. COSEWIC assessment and update status report on the Spotted Turtle (<i>Clemmys guttata</i>) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vi + 27 pp.
Wood Turtle	<i>Glyptemys insculpta</i>	Reptiles	END	THR	S2	MNDMNR Species Distribution Mapping	Generally found in forested landscapes, associated with clear freshwater streams, and associated floodplains. Preferential to streams with year-round current, with sandy or gravelly-sandy bottoms. Streams used are typically meandering with frequent oxbows. Overwintering is associated with stable, high concentration dissolved oxygen in pools, under mud or under overhanging banks. Nesting occurs in open areas with high sun exposure, typically within 10 to 50m of aquatic habitat. Home ranges are typically linear, following streams (Environment Canada, 2016).	No habitat matching criteria identified in study area.	SAR, SWH, spring botanical, summer botanical, breeding bird surveys, and aquatic habitat assessment completed.	None observed.	Environment Canada. 2016. Recovery Strategy for the Wood Turtle (<i>Glyptemys insculpta</i>) in Canada [Proposed]. Species at Risk Act Recovery Strategy Series. Environment Canada, Ottawa. v + 48 pp.

Common name	Scientific name	Group	SAR O	Cosewic	S-rank	Background sources	Habitat requirements	Suitable habitat in study area	Field studies completed/ required	Observed by AA	Reference
Eastern Ribbonsnake	<i>Thamnophis sauritus</i>	Reptiles	SC	SC	S4	MNDMNRF Species Distribution Mapping, ORAA (1980)	A semi-aquatic species that inhabits dense, low- vegetation, edges of ponds, streams, marshes, fens, and bogs, with open sunlit areas for basking (COSEWIC 2002c).	Yes, vegetated stream edge present.	SAR, SWH, spring botanical, summer botanical, breeding bird surveys, and aquatic habitat assessment completed.	None observed.	COSEWIC 2002. COSEWIC assessment and status report on the Eastern Ribbonsnake (<i>Thamnophis sauritus</i>). Committee on the Status of Endangered Wildlife in Canada. Ottawa. vi + 24 pp.
Milksnake	<i>Lampropeltis triangulum</i>	Reptiles	SC	SC	S4	MNDMNRF Species Distribution Mapping, ORAA (2018)	Habitat generalists are often associated with edge habitat, meadows, prairies, pastures, rocky outcrops, and human disturbances such as hydro corridors and railway embankments. Habitat is usually close to a water source. Hibernation occurs in a variety of natural and man-made features, including rotting logs, old foundations, basements, and burrows (COSEWIC 2014).	No habitat matching criteria identified in study area.	SAR, SWH, spring botanical, summer botanical, breeding bird surveys, and aquatic habitat assessment completed.	None observed.	COSEWIC. 2014. COSEWIC assessment and status report on the Eastern Milksnake (<i>Lampropeltis Triangulum</i>) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. x + 61 pp.
Massasauga Rattlesnake	<i>Sistrurus catenatus</i>	Reptiles	SC	THR	S3	MNDMNRF Species Distribution Mapping	Only historic observations of Masassauga in the north western portion of Wellington County. Found in wet prairies, old fields, peatlands, rock barrens and coniferous forests, with open-areas, and areas of dense shrub cover. Hibernate in damp areas below the frost line (COSEWIC, 2012b).	No habitat matching criteria identified in study area.	SAR, SWH, spring botanical, summer botanical, breeding bird surveys, and aquatic habitat assessment completed.	None observed.	COSEWIC. 2012. COSEWIC assessment and status report on the Massasauga (<i>Sistrurus catenatus</i>) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xiii + 84 pp.
American Ginseng	<i>Panax quinquefolius</i>	Vascular plants	END	END	S2	MNDMNRF Species Distribution Mapping	Occur in moist, rich, undisturbed, mature Sugar Maple dominated deciduous woodlands. Often, colonies are located at the bottom of south facing slopes (COSEWIC, 2000).	No habitat matching criteria identified in study area.	SAR, SWH, spring botanical, summer botanical, breeding bird surveys, and aquatic habitat assessment completed.	None observed.	COSEWIC 2000. COSEWIC assessment and update status report on the American Ginseng (<i>Panax quinquefolius</i>) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vii + 17 pp.
American Hart's Tongue Fern	<i>Asplenium scolopendrium</i>	Vascular plants	SC	SC	S3	MNDMNRF Species Distribution Mapping	Grows on rocks or rocky substrates and requires calcareous soils, preferential to sites with dolomitic limestone, in Ontario found in upper talus and mid-slopes of the Niagara Escarpment (Environment Canada 2013).	No habitat matching criteria identified in study area.	SAR, SWH, spring botanical, summer botanical, breeding bird surveys, and aquatic habitat assessment completed.	None observed.	Environment Canada. 2013. Management Plan for the Hart's-tongue Fern (<i>Asplenium scolopendrium</i>) in Canada. Species at Risk Act Management Plan Series. Environment Canada, Ottawa. iii + 16 pp
Broad Beech Fern	<i>Phegopteris hexagonoptera</i>	Vascular plants	SC	SC	S3	MNDMNRF Species Distribution Mapping	Prefers rich, undisturbed deciduous forest, particularly mature Beech-maple forests. Typically occurs in moister areas such as lower valley slopes, bottomlands and even swamps. Primarily a shade-tolerant species and is unlikely to withstand major opening of the forest canopy (van Overbeeke et. al., 2013)	No habitat matching criteria identified in study area.	SAR, SWH, spring botanical, summer botanical, breeding bird surveys, and aquatic habitat assessment completed.	None observed.	van Overbeeke, J.C., J.V. Jalava and R.H. Donley. 2013. Management Plan for the Broad Beech Fern (<i>Phegopteris hexagonoptera</i>) in Ontario. Ontario Management Plan Series. Prepared for the Ontario Ministry of Natural Resources, Peterborough, Ontario. V + 25 pp.

Common name	Scientific name	Group	SAR O	Cosewic	S-rank	Background sources	Habitat requirements	Suitable habitat in study area	Field studies completed/ required	Observed by AA	Reference
Butternut	<i>Juglans cinerea</i>	Vascular plants	END	END	S2?	MNDMNRF Species Distribution Mapping	Occur in rich moist sites, that are well-drained, often found along stream banks or gravelly sites. Butternut is shade intolerant (COSEWIC, 2003b).	No habitat matching criteria identified in study area.	SAR, SWH, spring botanical, summer botanical, breeding bird surveys, and aquatic habitat assessment completed.	None observed.	COSEWIC 2003. COSEWIC assessment and status report on the butternut (<i>Juglans cinerea</i>) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vii + 32 pp.
Eastern Prairie-fringed Orchid	<i>Platanthera leucophaea</i>	Vascular plants	END	END	S2	MNDMNRF Species Distribution Mapping	Habitat includes fens, wet tallgrass prairie and moist old fields with open growing conditions. Species does not flower annually (Environment Canada 2012).	No habitat matching criteria identified in study area.	SAR, SWH, spring botanical, summer botanical, breeding bird surveys, and aquatic habitat assessment completed.	None observed.	Environment Canada. 2012. Recovery Strategy for the Eastern Prairie Fringed-orchid (<i>Platanthera leucophaea</i>) in Canada. Species at Risk Act Recovery Strategy Series. Environment Canada, Ottawa. ii + 11 pp. + Appendices.
Gattinger's Agalinis	<i>Agalinis gattingeri</i>	Vascular plants	END	END	S2S3	MNDMNRF Species Distribution Mapping	Native to both alvar and tallgrass prairie habitat and requires open unshaded conditions for growth (Environment and Climate Change Canada 2019)	No habitat matching criteria identified in study area.	SAR, SWH, spring botanical, summer botanical, breeding bird surveys, and aquatic habitat assessment completed.	None observed.	Environment and Climate Change Canada. 2019. Recovery Strategy for the Gattinger's Agalinis (<i>Agalinis gattingeri</i>) in Canada. <i>Species at Risk Act</i> Recovery Strategy Series. Environment and Climate Change Canada, Ottawa. 3 parts, 44 pp. + vi + 33 pp. + 7 pp.
Hill's Pondweed	<i>Potamogeton hillii</i>	Vascular plants	SC	SC	S2S3	MNDMNRF Species Distribution Mapping	Occur in cold clear calcareous streams, ponds, and ditches, which are alkaline in nature (COSEWIC 2005c).	No habitat matching criteria identified in study area.	SAR, SWH, spring botanical, summer botanical, breeding bird surveys, and aquatic habitat assessment completed.	None observed.	COSEWIC 2005c COSEWIC assessment and update status report on the Hill's Pondweed (<i>Potamogeton hillii</i>) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vi + 19 pp.
Tuberous Indian Plantain	<i>Arnoglossum plantagineum</i>	Vascular plants	SC	SC	S2	MNDMNRF Species Distribution Mapping	Habitat includes open, sunny areas in wet calcareous soils, including wet meadows and shoreline fens (COSEWIC 2002).	No habitat matching criteria identified in study area.	SAR, SWH, spring botanical, summer botanical, breeding bird surveys, and aquatic habitat assessment completed.	None observed.	COSEWIC 2002. COSEWIC assessment and update status report on the tuberous Indian-plantain (<i>Arnoglossum plantagineum</i>) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vi + 11 pp.

References:

Cadman, M.D., D.A. Sutherland, G.G. Beck, D. Lepage, and A.R. Couturier. 2007. The Atlas of the Breeding Birds Ontario 2001-2005. Bird Studies Canada, Environment Canada, Ontario Field Ornithologists, Ontario Ministry of Natural Resources, and Ontario Nature, Toronto, xxii + 706pp. (Available online here: <http://www.birdsontario.org/atlas/datasummaries.jsp>)

Colin Jones, Ross Layberry, and Alan Macnaughton. Ontario Butterfly Atlas Online. (Available online here: Toronto Entomologists' Association: http://www.ontarioinsects.org/atlas_online.htm)

Dobbyn, J. 1994. Atlas of the Mammals of Ontario. Federation of Ontario Naturalists, Altona Manitoba, Canada. (Available online here: <http://www.ontarionature.org/discover/resources/publications.php>)

MNRF, 2015. Wellington County Upper Tier Species at Risk. Ministry of Natural Resources and Forestry. Provided February 10, 2015.

NatureServe. 2015. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.1. NatureServe, Arlington, Virginia. Available <http://explorer.natureserve.org>.

NHIC, 2015. MNR Make a map: Natural Heritage Areas. (Available online: <http://www.ontario.ca/environment-and-energy/make-natural-heritage-area-map>)

Ontario Nature. 2015. Ontario Reptile and Amphibian Atlas: a citizen science project to map the distribution of Ontario's reptiles and amphibians. Ontario Nature, Ontario. (Available online here: <http://www.ontarionature.org/atlas>)

APPENDIX 9
Background Wildlife List

SOURCE	COMMON NAME	SCIENTIFIC NAME	COSSARO ¹	SARO ²	COSEWIC ³	SARA ⁴	SCHEDULE	S-RANK ⁵	G-RANK ⁶	N-RANK ⁷	AREA SENSITIVE ⁸	AREA REQUIRED ⁸	PIF SPECIES ⁹
	BUTTERFLIES & MOTHS												
OBA (2021)	Silver-spotted Skipper	<i>Epargyreus clarus</i>						S4	G5	N5			
OBA (1958)	Dreamy Duskywing	<i>Erynnis icelus</i>						S5	G5	N5			
OBA (2016)	Long Dash Skipper	<i>Polites mystic</i>						S5	G5	N5			
OBA (2016)	European Skipper	<i>Thymelicus lineola</i>						SNA	G5	NNA			
OBA (2022)	Eastern Tailed Blue	<i>Cupido (Everes) comyntas</i>						S5	G5	N5			
OBA (2019)	Bog Copper	<i>Lycaena epixanthe</i>						S4S5	G4G5	N5			
OBA (2004)	Meadow Fritillary	<i>Boloria bellona</i>						S5	G5	N5			
OBA (1958)	Common Wood-Nymph	<i>Cercyonis pegala</i>						S5	G5	N5			
OBA (2022)	Common Ringlet	<i>Coenonympha tullia</i>						S5	G5	N5			
OBA (2022)	Monarch	<i>Danaus plexippus</i>	SC	SC	END	SC	Schedule 1	S2N,S4B	G5	N3B,NNRM			
OBA (2022)	Viceroy	<i>Limenitis archippus</i>						S5	G5	N5			
OBA (2020)	White Admiral	<i>Limenitis arthemis arthemis</i>						S5	G5T5	N5			
OBA (1981)	Little Wood-Satyr	<i>Megisto cymela</i>						S5	G5	N5			
OBA (2021)	Compton Tortoiseshell	<i>Nymphalis l-album</i>						S5	G5	N5			
OBA (1981)	Northern Crescent	<i>Phyciodes cocyta</i>						S5	G5	N5			
OBA (2019)	Pearl Crescent	<i>Phyciodes tharos</i>						S4	G5	N5			
OBA (2022)	Aphrodite Fritillary	<i>Speyeria aphrodite</i>						S5	G5	N5			
OBA (2021)	Great Spangled Fritillary	<i>Speyeria cybele</i>						S5	G5	N5			
OBA (1981)	American Lady	<i>Vanessa virginiensis</i>						S5	G5	N5B,N5M			
OBA (2022)	Clouded Sulphur	<i>Colias philodice</i>						S5	G5	N5			
OBA (2022)	Cabbage White	<i>Pieris rapae</i>						SNA	G5	NNA			
	AMPHIBIANS												
ORAA (2001), iNat (2021)	American Toad	<i>Anaxyrus americanus</i>						S5	G5	N5			
ORAA (2010)	Gray Treefrog	<i>Hyla versicolor</i>						S5	G5	N5			
ORAA (1989)	Spring Peeper	<i>Pseudacris crucifer</i>						S5	G5	N5			
ORAA (2013)	Western Chorus Frog - Great Lakes / St. Lawrence - Canadian Shield Population	<i>Pseudacris triseriata pop. 2</i>	NL	NAR	THR	THR	Schedule 1	S4	G5TNR	N4			
ORAA (1980)	American Bullfrog	<i>Lithobates catesbeianus</i>						S4	G5	N5	✓		
ORAA (2017)	Green Frog	<i>Lithobates clamitans</i>						S5	G5	N5			
ORAA (1987)	Pickereel Frog	<i>Lithobates palustris</i>		NAR	NAR			S4	G5	N5			
ORAA (2017)	Northern Leopard Frog	<i>Lithobates pipiens</i>		NAR	NAR			S5	G5	N5			

SOURCE	COMMON NAME	SCIENTIFIC NAME	COSSARO ¹	SARO ²	COSEWIC ³	SARA ⁴	SCHEDULE	S-RANK ⁵	G-RANK ⁶	N-RANK ⁷	AREA SENSITIVE ⁸	AREA REQUIRED ⁸	PIF SPECIES ⁹
ORAA (1989)	Wood Frog	<i>Lithobates sylvaticus</i>						S5	G5	N5			
ORAA (1989)	Eastern Red-backed Salamander	<i>Plethodon cinereus</i>						S5	G5	N5			
	SNAKES AND LIZARDS												
ORAA (2018)	Milksnake	<i>Lampropeltis triangulum</i>	NAR	NAR	SC	SC	Schedule 1	S4	G5T5	N3			
ORAA (2019)	Red-bellied Snake	<i>Storeria occipitomaculata occipitomaculata</i>						S5	G5	N5			
ORAA (1980)	Eastern Ribbonsnake	<i>Thamnophis sauritus</i>	SC	SC	SC	SC	Schedule 1	S4	G5	N4			
ORAA (2019)	Eastern Gartersnake	<i>Thamnophis sirtalis sirtalis</i>						S5	G5T5	N5			
	TURTLES												
ORAA (2019)	Snapping Turtle	<i>Chelydra serpentina</i>	NL	SC	SC	SC	Schedule 1	S4	G5T5	N4			
ORAA (2018), iNat (2022)	Midland Painted Turtle	<i>Chrysemys picta marginata</i>	NAR	NAR	SC	SC	Schedule 1	S4	G5T5	N4			
	BIRDS												
OBBA, eBird (2022)	Canada Goose	<i>Branta canadensis</i>						S5	G5	N5B,N5N,N5M			
OBBA	Blue-winged Teal	<i>Anas discors</i>						S3B,S4M	G5	N5B,N5M			
OBBA, eBird (2021)	Mallard	<i>Anas platyrhynchos</i>						S5	G5	N5B,N5N,N5M			
OBBA, eBird (2020)	Hooded Merganser	<i>Lophodytes cucullatus</i>						S5	G5	N5B,N5N,N5M			
eBird (2021)	Common Merganser	<i>Mergus merganser</i>						S5	G5	N5B,N5N,N5M	✓		
OBBA, eBird (2022)	Wild Turkey	<i>Meleagris gallopavo</i>						S5	G5	N5			
OBBA	Ruffed Grouse	<i>Bonasa umbellus</i>						S5	G5	N5			
OBBA	Pied-billed Grebe	<i>Podilymbus podiceps</i>						S4B,S2N	G5	N5B,N4N5N,N5M			
OBBA, eBird (2021)	Rock Pigeon	<i>Columba livia</i>						SNA	G5	NNA			
OBBA, eBird (2021)	Mourning Dove	<i>Zenaida macroura</i>						S5	G5	N5B,N5N,N5M			
OBBA	Black-billed Cuckoo	<i>Coccyzus erythrophthalmus</i>						S4S5B	G5	N5B,N5M			✓
eBird (2021)	Chimney Swift	<i>Chaetura pelagica</i>	THR	THR	THR	THR	Schedule1	S3B	G4G5	N4BN3M			✓
OBBA	Ruby-throated Hummingbird	<i>Archilochus colubris</i>						S5B	G5	N5B,N5M			
OBBA	Virginia Rail	<i>Rallus limicola</i>						S4S5B	G5	N5B,NUM,N5M			
OBBA, eBird (2021)	Killdeer	<i>Charadrius vociferus</i>						S4B	G5	N5B,N4N5N,N5M			
OBBA	Upland Sandpiper	<i>Bartramia longicauda</i>						S2B	G5	N5B,N5M	✓	>25ha	
OBBA, eBird (2021)	American Woodcock	<i>Scolopax minor</i>						S4B	G5	N5B,N5M			
OBBA	Wilson's Snipe	<i>Gallinago delicata</i>						S5B	G5	N5B,N5M			
OBBA	Spotted Sandpiper	<i>Actitis macularius</i>						S5B	G5	N5B,N3N,N5M			
eBird (2021)	Ring-billed Gull	<i>Larus delawarensis</i>						S5	G5	N5B,N5N,N5M			

SOURCE	COMMON NAME	SCIENTIFIC NAME	COSSARO ¹	SARO ²	COSEWIC ³	SARA ⁴	SCHEDULE	S-RANK ⁵	G-RANK ⁶	N-RANK ⁷	AREA SENSITIVE ⁸	AREA REQUIRED ⁸	PIF SPECIES ⁹
eBird (2020)	Herring Gull	<i>Larus argentatus</i>						S4B,S5N	G5	N5B,N5N,N5M			
OBBA	Great Blue Heron	<i>Ardea herodias</i>						S4	G5	N5B,N3N,N5M			
OBBA, eBird (2022)	Turkey Vulture	<i>Cathartes aura</i>						S5B, S3N	G5	N5B,N5M			
OBBA, eBird (2022)	Osprey	<i>Pandion haliaetus</i>						S5B	G5	N5B,N5N,N5M			
OBBA	Northern Harrier	<i>Circus cyaneus</i>		NAR	NAR			S5B,S4N	G5	N5B,N4N	✓	>30ha	✓
OBBA	Cooper's Hawk	<i>Accipiter cooperii</i>		NAR	NAR			S4	G5	N5B,N5N,N4N5M	✓	>10ha	
OBBA	Red-shouldered Hawk	<i>Buteo lineatus</i>		NAR	NAR			S4B,S2N	G5	N4N5B,N4N5M	✓	>100ha	✓
OBBA	Broad-winged Hawk	<i>Buteo platypterus</i>						S5B	G5	N5B,N5M	✓	>100ha	
OBBA, eBird (2022)	Red-tailed Hawk	<i>Buteo jamaicensis</i>		NAR	NAR			S5	G5	N5B,N5N,N5M			
OBBA	Eastern Screech-Owl	<i>Megascops asio</i>		NAR	NAR			S4	G5	N4N5			
OBBA	Belted Kingfisher	<i>Megaceryle alcyon</i>						S5B,S4N	G5	N5B,N4N5N,N5M			✓
eBird (2021)	Red-bellied Woodpecker	<i>Melanerpes carolinus</i>						S5	G5	N4B,N4N,N3M			
OBBA, eBird (2021)	Yellow-bellied Sapsucker	<i>Sphyrapicus varius</i>						S5B,S3N	G5	N5B,N5M	✓	2-5ha	
OBBA, eBird (2023)	Downy Woodpecker	<i>Picoides pubescens</i>						S5	G5	N5			
OBBA, eBird (2023)	Hairy Woodpecker	<i>Picoides villosus</i>						S5	G5	N5B,N5N,NUM	✓	4-8ha	
OBBA, eBird (2022)	Northern Flicker	<i>Colaptes auratus</i>						S5	G5	N5B,N5N,N5M			✓
OBBA, eBird (2022)	Pileated Woodpecker	<i>Dryocopus pileatus</i>						S5	G5	N5	✓	>40ha	
OBBA, eBird (2021)	American Kestrel	<i>Falco sparverius</i>						S4	G5	N5B,N1N,N5M			✓
OBBA, eBird (2021)	Great Crested Flycatcher	<i>Myiarchus crinitus</i>						S5B	G5	N5B,N5M			
OBBA	Eastern Kingbird	<i>Tyrannus tyrannus</i>						S4B	G5	N5B,N5M			✓
OBBA	Eastern Wood-Pewee	<i>Contopus virens</i>	SC	SC	SC	SC	No Schedule	S4B	G5	N5B,N5M			✓
OBBA	Alder Flycatcher	<i>Empidonax alnorum</i>						S5B	G5	N5B,N5M			
OBBA	Willow Flycatcher	<i>Empidonax traillii</i>						S4B	G5	N5B,N5M			✓
OBBA, eBird (2021)	Least Flycatcher	<i>Empidonax minimus</i>						S5B	G5	N5B,N5M	✓	>100ha	
OBBA, eBird (2021)	Eastern Phoebe	<i>Sayornis phoebe</i>						S5B	G5	N5B,N5M			
OBBA	Blue-headed Vireo	<i>Vireo solitarius</i>						S5B	G5	N5B,N5M	✓	>100ha	
OBBA	Warbling Vireo	<i>Vireo gilvus</i>						S5B	G5	N5B,N5M			
OBBA, eBird (2021)	Red-eyed Vireo	<i>Vireo olivaceus</i>						S5B	G5	N5B,N5N,N5M			
OBBA, eBird (2022)	Blue Jay	<i>Cyanocitta cristata</i>						S5	G5	N5B,N5N,NNRM			
OBBA, eBird (2022)	American Crow	<i>Corvus brachyrhynchos</i>						S5	G5	N5B,N5N,N5M			
OBBA, eBird (2021)	Common Raven	<i>Corvus corax</i>						S5	G5	N5			
OBBA, eBird (2023)	Black-capped Chickadee	<i>Poecile atricapillus</i>						S5	G5	N5			
OBBA	Horned Lark	<i>Eremophila alpestris</i>						S4	G5	N5B,N5N,N5M			

SOURCE	COMMON NAME	SCIENTIFIC NAME	COSSARO ¹	SARO ²	COSEWIC ³	SARA ⁴	SCHEDULE	S-RANK ⁵	G-RANK ⁶	N-RANK ⁷	AREA SENSITIVE ⁸	AREA REQUIRED ⁸	PIF SPECIES ⁹
OBBA	Bank Swallow	<i>Riparia riparia</i>	THR	THR	THR	THR	No Schedule	S4B	G5	N5B,N5M			✓
OBBA, eBird (2021)	Tree Swallow	<i>Tachycineta bicolor</i>						S4S5B	G5	N5B,N5M			
OBBA	Northern Rough-winged Swallow	<i>Stelgidopteryx serripennis</i>						S4B	G5	N5B,N5M			
OBBA, eBird (2021)	Barn Swallow	<i>Hirundo rustica</i>	SC	SC	THR	THR	No Schedule	S4B	G5	N3N4B,N3N4M			
OBBA	Cliff Swallow	<i>Petrochelidon pyrrhonota</i>						S4S5B	G5	N5B,N5M			
eBird (2021)	Golden-crowned Kinglet	<i>Regulus satrapa</i>						S5	G5	N5B,N5N,N5M			
eBird (2021)	Ruby-crowned Kinglet	<i>Corthylio calendula</i>						S5B,S3N	G5	N5B,N5N,N5M			
OBBA	Cedar Waxwing	<i>Bombycilla cedrorum</i>						S5	G5	N5B,N5N,N5M			
OBBA, eBird (2023)	Red-breasted Nuthatch	<i>Sitta canadensis</i>						S5	G5	N5B,N5N,N5M	✓	>10ha	
OBBA, eBird (2023)	White-breasted Nuthatch	<i>Sitta carolinensis</i>						S5	G5	N5	✓	>10ha	
OBBA, eBird (2021)	Brown Creeper	<i>Certhia americana</i>						S5	G5	N5B,N5N,N5M	✓	>30ha	
OBBA, eBird (2021)	House Wren	<i>Troglodytes aedon</i>						S5B	G5	N5B,N5M			
OBBA, eBird (2022)	Winter Wren	<i>Troglodytes troglodytes</i>						S5B,S4N	G5	N5B,N5M	✓	>30ha	
OBBA, eBird (2022)	Gray Catbird	<i>Dumetella carolinensis</i>						S5B,S3N	G5	N5B,N5M			
OBBA, eBird (2021)	Brown Thrasher	<i>Toxostoma rufum</i>						S4B	G5	N5B,NUN,N5M			✓
OBBA, eBird (2021)	European Starling	<i>Sturnus vulgaris</i>						SNA	G5	NNA			
OBBA	Eastern Bluebird	<i>Sialia sialis</i>		NAR	NAR			S5B,S4N	G5	N5B,N5M			
OBBA	Veery	<i>Catharus fuscescens</i>						S5B	G5	N5B,N5M	✓	>10ha	
OBBA	Hermit Thrush	<i>Catharus guttatus</i>						S5B,S4N	G5	N5B,NUN,N5M	✓	>100ha	
OBBA	Wood Thrush	<i>Hylocichla mustelina</i>	SC	SC	THR	THR	No Schedule	S4B	G4	N4B,NUM			✓
OBBA, eBird (2022)	American Robin	<i>Turdus migratorius</i>						S5	G5	N5B,N4N5N,N5M			
OBBA	House Sparrow	<i>Passer domesticus</i>						SNA	G5	NNA			
OBBA	Purple Finch	<i>Carpodacus purpureus</i>						S5	G5	N5B,N5N,N5M			
eBird (2020)	Common Redpoll	<i>Carduelis flammea</i>						S5	G5	N5B,N5N,N5M			
OBBA, eBird (2022)	American Goldfinch	<i>Carduelis tristis</i>						S5	G5	N5B,N5N,N5M			
OBBA, eBird (2022)	Chipping Sparrow	<i>Spizella passerina</i>						S5B,S3N	G5	N5B,N5M			
OBBA	Field Sparrow	<i>Spizella pusilla</i>						S4B,S3N	G5	N4B,NUM			✓
eBird (2020)	American Tree Sparrow	<i>Spizella arborea</i>						S5	G5	N5B,N5N,N5M			
eBird (2023)	Dark-eyed Junco	<i>Junco hyemalis</i>						S5	G5	N5B,N5N,N5M			
OBBA, eBird (2022)	White-throated Sparrow	<i>Zonotrichia albicollis</i>						S5	G5	N5B,N5N,N5M			
OBBA	Vesper Sparrow	<i>Poocetes gramineus</i>						S4B	G5	N5B,N5M			✓
OBBA	Savannah Sparrow	<i>Passerculus sandwichensis</i>						S5B,S3N	G5	N5B,N4N,N5M	✓	>50ha	✓
OBBA, eBird (2022)	Song Sparrow	<i>Melospiza melodia</i>						S5	G5	N5B,N5N,N5M			

SOURCE	COMMON NAME	SCIENTIFIC NAME	COSSARO ¹	SARO ²	COSEWIC ³	SARA ⁴	SCHEDULE	S-RANK ⁵	G-RANK ⁶	N-RANK ⁷	AREA SENSITIVE ⁸	AREA REQUIRED ⁸	PIF SPECIES ⁹
OBBA, eBird (2021)	Swamp Sparrow	<i>Melospiza georgiana</i>						S5B,S4N	G5	N5B,NUN,N5M			
OBBA, eBird (2021)	Eastern Towhee	<i>Pipilo erythrophthalmus</i>						S4B,S3N	G5	N4N5B,N4M			✓
OBBA, NHIC	Bobolink	<i>Dolichonyx oryzivorus</i>	THR	THR	THR	THR	No Schedule	S4B	G5	N5B,N4N5M	✓	>10ha	✓
OBBA, NHIC	Eastern Meadowlark	<i>Sturnella magna</i>	THR	THR	THR	THR	No Schedule	S4B,S3N	G5	N4B,NUM	✓	>10ha	✓
OBBA	Baltimore Oriole	<i>Icterus galbula</i>						S4B	G5	N5B,N5M			✓
OBBA, eBird (2021)	Red-winged Blackbird	<i>Agelaius phoeniceus</i>						S5	G5	N5B,N5N,N5M			
OBBA	Brown-headed Cowbird	<i>Molothrus ater</i>						S5	G5	N5B,NUN,N5M			
OBBA, eBird (2021)	Common Grackle	<i>Quiscalus quiscula</i>						S5	G5	N5B,NUN,N5M			
OBBA, eBird (2021)	Ovenbird	<i>Seiurus aurocapilla</i>						S5B	G5	N5B,N5M	✓	>70ha	
OBBA, eBird (2022)	Northern Waterthrush	<i>Seiurus noveboracensis</i>						S5B	G5	N5B,N5M			
OBBA	Black-and-white Warbler	<i>Mniotilta varia</i>						S5B	G5	N5B,N5M	✓	>100ha	
OBBA, eBird (2022)	Nashville Warbler	<i>Vermivora ruficapilla</i>						S5B	G5	N5B,N5M			
OBBA	Mourning Warbler	<i>Oporomis philadelphia</i>						S5B	G5	N5B,N5M			
OBBA	Common Yellowthroat	<i>Geothlypis trichas</i>						S5B,S3N	G5	N5B,N5M			
OBBA, eBird (2021)	American Redstart	<i>Setophaga ruticilla</i>						S5B	G5	N5B,N5M	✓	>100ha	
OBBA	Magnolia Warbler	<i>Dendroica magnolia</i>						S5B	G5	N5B,N5M	✓	>30ha	
OBBA, eBird (2021)	Yellow Warbler	<i>Dendroica petechia</i>						S5B	G5	N5B,N5M			
OBBA	Chestnut-sided Warbler	<i>Dendroica pensylvanica</i>						S5B	G5	N5B,N5M			
OBBA	Black-throated Blue Warbler	<i>Dendroica caerulescens</i>						S5B	G5	N5B,N5M	✓	>100ha	
OBBA, eBird (2021)	Pine Warbler	<i>Dendroica pinus</i>						S5B,S3N	G5	N5B,N5M	✓	15-30ha	
OBBA	Yellow-rumped Warbler	<i>Dendroica coronata</i>						S5B,S4N	G5	N5B,N4N,N5M			
OBBA, eBird (2021)	Black-throated Green Warbler	<i>Dendroica virens</i>						S5B	G5	N5B,N5M	✓	>30ha	
OBBA	Canada Warbler	<i>Wilsonia canadensis</i>	SC	SC	SC	THR	Schedule1	S4B	G5	N4B,N3M	✓	>30ha	
eBird (2022)	Wilson's Warbler	<i>Wilsonia pusilla</i>						S5B	G5	N5B,N5M			
OBBA	Scarlet Tanager	<i>Piranga olivacea</i>						S5B	G5	N5B,N4N5M	✓	>20ha	
OBBA, eBird (2021)	Northern Cardinal	<i>Cardinalis cardinalis</i>						S5	G5	N5			
OBBA, eBird (2021)	Rose-breasted Grosbeak	<i>Pheucticus ludovicianus</i>						S5B	G5	N5B,N5M			✓
OBBA	Indigo Bunting	<i>Passerina cyanea</i>						S5B	G5	N5B,N5M			
	MAMMALS												
OMA	White-tailed Deer	<i>Odocoileus virginianus</i>						S5	G5	N5			
OMA	Red Fox	<i>Vulpes vulpes</i>						S5	G5	N5			
OMA	Striped Skunk	<i>Mephitis mephitis</i>						S5	G5	N5			
OMA	American Mink	<i>Neovison vison</i>						S4	G5	N5			

SOURCE	COMMON NAME	SCIENTIFIC NAME	COSSARO ¹	SARO ²	COSEWIC ³	SARA ⁴	SCHEDULE	S-RANK ⁵	G-RANK ⁶	N-RANK ⁷	AREA SENSITIVE ⁸	AREA REQUIRED ⁸	PIF SPECIES ⁹
OMA	Northern Raccoon	<i>Procyon lotor</i>						S5	G5	N5			
OMA	Beaver	<i>Castor canadensis</i>						S5	G5	N5			
OMA	Muskrat	<i>Ondatra zibethicus</i>						S5	G5	N5			
OMA	Red Squirrel	<i>Tamiasciurus hudsonicus</i>						S5	G5	N5			
	FISH												
ARA, iNat (2019)	White Sucker	<i>Catostomus commersonii</i>						S5	G5	N5			
ARA	Northern Redbelly Dace	<i>Chrosomus eos</i>						S5	G5	N5			
DFO	Redside Dace	<i>Clinostomus elongatus</i>	END	END	END	END	Schedule 1	S1	G3G4	N1			
ARA, iNat (2019)	Common Shiner	<i>Luxilus comutus</i>						S5	G5	N5			
iNat (2019)	Hornyhead Chub	<i>Nocomis biguttatus</i>		NAR	NAR			S4	G5	N4N5			
ARA	Bluntnose Minnow	<i>Pimephales notatus</i>		NAR	NAR			S5	G5	N5			
ARA	Creek Chub	<i>Semotilus atromaculatus</i>						S5	G5	N5			
MNDMNRF	Northern Pike	<i>Esox lucius</i>						S5	G5	N5			
ARA	Central Mudminnow	<i>Umbra limi</i>						S5	G5	N5			
ARA	Brook Stickleback	<i>Culaea inconstans</i>						S5	G5	N5			
MNDMNRF	Smallmouth Bass	<i>Micropterus dolomieu</i>						S5	G5	N5			
ARA	Iowa Darter	<i>Etheostoma exile</i>						S5	G5	N5			
ARA	Least Darter	<i>Etheostoma microperca</i>		NAR	NAR			S4	G5	N4			
ARA, MNDMNRF	Rainbow Trout	<i>Oncorhynchus mykiss</i>						SNA	G5	N5B,N5N,N5M			
MNDMNRF	Brook Trout	<i>Salvelinus fontinalis fontinalis</i>						S5	G5T5	N5			
ARA	Black Bullhead	<i>Ameiurus melas</i>						S4	G5	N5			

Legend:

COSSARO: Committee on Species at Risk Ontario
 COSEWIC: Committee on the Status of Endangered Wildlife in Canada
 SARA: Species at Risk Act
 ESA: Endangered Species Act NAR: Not At Risk
 END: Endangered NL: Not listed
 THR: Threatened DD: Data Deficient
 SC: Special Concern

N- and S-Rank:

S1: Critically Imperiled—Critically imperiled in the jurisdiction (often 5 or fewer occurrences)
 S2: Imperiled—Imperiled in the jurisdiction, very few populations (often 20 or fewer),
 S3: Vulnerable—Vulnerable in the jurisdiction, relatively few populations (often 80 or fewer)
 S4: Apparently Secure—Uncommon but not rare
 S5: Secure—Common, widespread, and abundant in the jurisdiction
 SX: Presumed Extirpated
 SH: Possibly Extirpated (Historical)
 SNR: Unranked
 SU: Unrankable—Currently unrankable due to lack of information
 SNA: Not Applicable—The species is not a suitable target for conservation activities
 S#S#: Range Rank—Indicates a range of uncertainty about the status of the species
 S#B- Breeding Status Rank
 S#N- Non Breeding Status Rank
 ?: Indicates uncertainty in the assigned rank

References:

1. COSSARO Status Endangered Species Act, 2007 (Bill 184). Schedules 1- 5. January 25, 2023.
2. Species at Risk in Ontario List. Endangered Species Act, 2007 (Ontario Regulation 230/08). January 25, 2023.
3. COSEWIC Status COSEWIC. 2014. Canadian Species at Risk. Committee on the Status of Endangered Wildlife in Canada. January 25, 2023.
4. Endangered Species Act, 2007 (Bill 184). Schedules 1- 5. January 25, 2023.
5. Provincial Rarity Rank. NatureServe. 2023.
6. Global Rarity Rank. NatureServe. 2023.
7. National Rank. NatureServe. 2023.
8. Significant Wildlife Habitat Technical Guide. Ontario Ministry of Natural Resources. 2000. Appendix C: A list of area sensitive species and key references.
9. Ontario Partners in Flight (PIF). 2008. Ontario Landbird Conservation Plan: Lower Great Lakes/St. Lawrence Plain (North American Bird Conservation Region 13), Priorities, Objectives and Recommended Actions. Environment Canada (Ontario Region) and Ontario Ministry of Natural Resources. Final Draft, November, 2008.

G-Rank:

G1: Extremely rare globally
 G1G2: Extremely rare to very rare globally
 G2: Very rare globally
 G2G3: Very rare to uncommon globally
 G3: Rare to uncommon globally
 G3G4: Rare to common globally
 G4: Common globally
 G4G5: Common to very common globally
 G5: Very common globally; demonstrably secure
 T: Denotes that the rank applies to a subspecies or variety

Source Codes

OBA: Ontario Butterfly Atlas
 ORAA: Ontario Reptile and Amphibian Atlas
 OMA: Ontario Mammal Atlas
 OBBA: Ontario Breeding Bird Atlas
 eBird: eBird
 ARA: Aquatic Resource Area Survey Points
 DFO: Department of Fisheries and Oceans Species at Risk Mapping
 iNat: iNaturalist
 NHIC: Natural Heritage Information Centre

APPENDIX 10
Agency Communication



3-5 Edinburgh Road South
Guelph . Ontario
N1H 5N8

T: 519.822.6839
info@aboutdng.com
www.aboutdng.com

URBAN FORESTRY

ARBORIST REPORTS
MANAGEMENT PLANS
TREE PRESERVATION PLANS
TREE RISK ASSESSMENT
GIS TREE INVENTORIES
TREE APPRAISALS
MONITORING

ECOLOGICAL RESTORATION

NATURAL SYSTEMS DESIGN
HABITAT RESTORATION
EDGE MANAGEMENT PLANS
RAVINE STEWARDSHIP PLANS
NATURALIZATION PLANS
INTERPRETIVE DESIGN
MONITORING
CONTRACT ADMINISTRATION

ENVIRONMENTAL STUDIES

SUBWATERSHED STUDIES
ENVIRONMENTAL IMPACT
STATEMENTS
ECOLOGICAL LAND
CLASSIFICATION
WETLAND EVALUATION
VEGETATION ASSESSMENT
BOTANICAL INVENTORIES
WILDLIFE SURVEYS
MONITORING

LANDSCAPE ARCHITECTURE

MASTER PLANNING
RESIDENTIAL COMMUNITIES
COMMERCIAL/INDUSTRIAL
HEALTHCARE AND EDUCATION
STREETSCAPES
PARKS AND OPEN SPACES
TRAIL SYSTEMS
GREEN ROOFS
CONTRACT ADMINISTRATION

EXPERT OPINION

OMB TESTIMONY
LEGAL PROCEEDINGS
PEER REVIEW
RESEARCH
EDUCATION

June 12, 2023

Our Project #: AA23-099A
Sent by email: scp.aurora@ontario.ca

Ministry of Northern Development, Mines, Natural Resources and Forestry
Aurora Midhurst Owen Sound District
50 Bloomington Rd
Aurora, ON L4G 0L8

**Re: Northline Road Bridge (Structure 44), Municipality of West Grey, ON
Request for Local Site Information**

Dear MNDMNRF Staff,

Please accept this request for Information regarding:

- Wetland Mapping and/or Evaluation and Data Records
- Fish Dot Information
- ANSI Mapping and/or check-sheet

Any other possible site constraints or information would also be greatly appreciated, as it applies to a bridge rehabilitation in the Municipality of West Grey, ON (*Figure 1*), including timing windows and thermal regime. The information provided will be used to inform the field program.

Project Location

Township/Municipality: Municipality of West Grey, ON

County: Grey County

UTM Coordinates: 17T 524572.00 E 4895818.00 N

Proposed Activity

The Municipality of West Grey is proposing the rehabilitation of Structure 44 on Northline Road, east of County Road 23.

Existing Site Conditions

The structure is located approximately 500 m east of County Road 23. The study area comprises the subject structure and up to 120 metres from it, where access is provided.

Background Information

A thorough background search has been completed; using available resources provided online related to the subject lands and adjacent lands and is listed below:

1. A review of the NHIC Make-a-Map (2007) indicates the presence of unevaluated wetlands in the study area.
2. The Aquatic Resources Area (ARA) Survey Point and Line Segment mapping indicated the presence of eleven species of fish within 1 km of the study area, none of which are SAR.
3. A review of the Saugeen Valley Conservation Authority mapping indicates the study area is within the approximate screening area.
4. A review of the LIO Wildlife Value Area mapping indicates the presence of White-tailed Deer Wintering Area (Stratum 2).

Please contact the undersigned should you require additional information of the above.

Yours truly,

ABOUD & ASSOCIATES INC.



Heather Dixon, PhD
Aquatic Ecologist
heather@aboudtng.com

Attachment: Figure 1



LEGEND

- STUDY AREA
- WETLANDS
- BRIDGE LOCATION
- WOODLANDS

Information Sources:
 1. Orthophotography provided by SWOOP
 Accessed April 2023.
 2. Woodlands & wetlands provided by LIO Open Data
 Accessed April 2023.

Title:
STUDY AREA

Project:
**NORTHLINE ROAD BRIDGE
 WEST GREY, ON**



Date: APRIL 2023
 Project: AA23-087A
 Scale: 1 : 1500



ABOUT & ASSOCIATES INC.
 Consulting Arborists • Ecologists • Landscape Architects
 3-5 Scarborough Road South • Guelph, Ontario • N1W 2N6 • 519 822-8839 • www.aboudatg.com

Figure No: **1**

Heather Dixon

From: Varga, Steve (MNRF) <steve.varga@ontario.ca>
Sent: Thursday, June 15, 2023 2:14 PM
To: Heather Dixon
Subject: RE: Request for Information-Proposed Bridge Rehabilitation, Northline Road Bridge, ON (AA23-099A)
Attachments: stdprod-109170.pdf

Caution. Outside Sender

Hi Heather

As you noted there are unevaluated wetlands in the vicinity of Bridge 44 on North Line and just east of Glenelg Road 23 in West Grey. The Ministry has no additional information on these wetlands which are based on air-photo interpretation. Their extent and presence would need to be confirmed in the field.

Our provincial database shows no ARA Survey Points on the Saugeen River within a few kilometres of the subject bridge. In our ARA Polygon Segment the reach of the Saugeen River upstream of the dam at Durham and through the area of the subject bridge and further upstream almost to Highway 10 is classified as coldwater. In this reach the ARA Polygon Segment lists 22 fish species. These include Brook Trout, Northern Pike, Rainbow Trout and Smallmouth Bass. The Ministry has recommended in water work timing window guidelines for these species (see attached document). The fish list also includes Redside Dace. You should consult MECP in regards to this species at risk.

You are correct our records show a White-tailed Deer wintering area along the Saugeen River on either side of the subject bridge that encompasses a 3 km long band of conifer dominated woodlands.

All the best
Steve

Steve Varga

Management Biologist | Ontario Ministry of Natural Resources and Forestry | Aurora-Midhurst-Owen Sound (AMOS) District Office

50 Bloomington Road, Aurora, Ontario, L4G 0L8 | Email: steve.varga@ontario.ca | Phone: 289-221-8157

For general inquiries, please contact the Aurora District line at 905-713-7400



From: Heather Dixon <Heather@aboutdng.com>
Sent: June 12, 2023 12:32 PM
To: Scientific Collection Permits Aurora (MNRF) <scp.aurora@ontario.ca>
Cc: Cheryl-Anne Ross <Cheryl@aboutdng.com>
Subject: Request for Information-Proposed Bridge Rehabilitation, Northline Road Bridge, ON (AA23-099A)

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

Good afternoon,

Please see the attached request for information in regards to wetland, fish dot, and restricted in-water timing window information for the proposed rehabilitation of Northline Road Bridge (Structure 44), Municipality of West Grey, Ontario. Following the amalgamation of the Aurora, Midhurst, and Owen Sound MNDMNR districts I believe this is the appropriate email address to address this query to. Please let me know if there is a more appropriate one. Thank you for any additional information you can provide.

Many thanks,

Heather Dixon, PhD (she/her) . Aquatic Ecologist
ABOUD & ASSOCIATES INC. 3-5 Edinburgh Road South . Guelph . Ontario . N1H 5N8
519.781.1581 www.aboudtng.com . heather@aboudtng.com

Aboud & Associates Inc. is located within the Between the Lakes Purchase (Treaty 3); the treaty lands and territory of the Mississaugas of the Credit.



3-5 Edinburgh Road South
Guelph . Ontario
N1H 5N8

T: 519.822.6839
info@aboutdtn.com
www.aboutdtn.com

URBAN FORESTRY

ARBORIST REPORTS
MANAGEMENT PLANS
TREE PRESERVATION PLANS
TREE RISK ASSESSMENT
GIS TREE INVENTORIES
TREE APPRAISALS
MONITORING

ECOLOGICAL RESTORATION

NATURAL SYSTEMS DESIGN
HABITAT RESTORATION
EDGE MANAGEMENT PLANS
RAVINE STEWARDSHIP PLANS
NATURALIZATION PLANS
INTERPRETIVE DESIGN
MONITORING
CONTRACT ADMINISTRATION

ENVIRONMENTAL STUDIES

SUBWATERSHED STUDIES
ENVIRONMENTAL IMPACT
STATEMENTS
ECOLOGICAL LAND
CLASSIFICATION
WETLAND EVALUATION
VEGETATION ASSESSMENT
BOTANICAL INVENTORIES
WILDLIFE SURVEYS
MONITORING

LANDSCAPE ARCHITECTURE

MASTER PLANNING
RESIDENTIAL COMMUNITIES
COMMERCIAL/INDUSTRIAL
HEALTHCARE AND EDUCATION
STREETSCAPES
PARKS AND OPEN SPACES
TRAIL SYSTEMS
GREEN ROOFS
CONTRACT ADMINISTRATION

EXPERT OPINION

OMB TESTIMONY
LEGAL PROCEEDINGS
PEER REVIEW
RESEARCH
EDUCATION

June 12, 2023

Our Project #: AA23-099A
Sent by email: SAROntario@ontario.ca

Ministry of the Environment, Conservation and Parks
Permissions and Compliance Section, Species at Risk Branch

**Re: Northline Road Bridge (Structure 44), Municipality of West Grey, ON
Request for Species at Risk and Local Site Information**

To whom it may concern:

Please accept this request for information regarding Species at Risk and any other possible site constraints or information would also be greatly appreciated, as it applies to a Natural Environment Assessment Report relating to the proposed rehabilitation of Structure 44, Municipality of West Grey, Ontario (*Figure 1*). The information provided will be used to inform the SAR screening and the field program.

Project Location

Township/Municipality: Municipality of West Grey, ON

County: Grey County

UTM Coordinates: 17T 524572.00 E 4895818.00 N

Proposed Activity

The Municipality of West Grey is proposing the rehabilitation of Structure 44 on Northline Road, east of County Road 23. As a due diligence exercise, a Species at Risk (SAR) Screening, and a SAR habitat assessment will be completed to determine if SAR, or their habitat, are likely to be harmed during the repair of the subject structure.

Existing Site Conditions

The structure is located approximately 500 m east of County Road 23. The study area contains a number of natural heritage and potential hazard features, including an unevaluated wetland, White-tailed Deer wintering area (Stratum 2), significant woodland, and significant valleylands (*Figure 1*). The study area comprises the subject structure and up to 120 metres from it, where access is provided.

Background Information

A thorough background search has been completed; using available resources provided online related to the subject lands and adjacent lands and is listed below:

1. Review of the Ontario Breeding Bird Atlas identified 104 species that are known to occur or have historically occurred in the 10 km x 10 km square that contains the study area (17NJ29). This list includes seven species listed under the ESA and SARA: Bank Swallow (*Riparia riparia*), Barn Swallow (*Hirundo rustica*), Bobolink (*Dolichonyx oryzivorus*), Canada Warbler (*Wilsonia canadensis*), Eastern Meadowlark (*Sturnella magna*), Eastern Wood-Pewee (*Contopus virens*), and Wood Thrush (*Hylocichla mustelina*).
2. Review of the Ontario Reptile and Amphibian Atlas identified 16 species that are known to occur or have historically occurred in the 10 km x 10 km square that contains the study area (17NJ29). This list includes four species which are considered SAR: Snapping Turtle (*Chelydra serpentina*), Midland Painted Turtle (*Chrysemys picta marginata*), Eastern Ribbonsnake (*Thamnophis sauritus*), Milksnake (*Lampropeltis triangulum*), and Western Chorus Frog (Great Lakes / St. Lawrence - Canadian Shield Population; *Pseudacris triseriata* pop. 2).
3. Review of the Atlas of the Mammals of Ontario (1994) identified eight species that are known to occur or have historically occurred in the 10 km x 10 km square that contains the study area (17NJ29). No SAR were identified. It should be noted that SAR bats may be present anywhere in the province.
4. eBird is an online reporting system for birdwatchers managed by the Cornell Lab of Ornithology. The database was reviewed to determine what bird species have been reported in the vicinity of the property. The closest reporting location is Durham CA, Grey County, Ontario, CA, located 9.5 km southwest of the bridge. Sixty-four species were observed, including two species of conservation concern: Barn Swallow and Chimney Swift (*Chaetura pelagica*).
5. iNaturalist, a self-reporting system that is not limited by taxa, was also consulted in the background review. The search was limited to approximately 1 km surrounding the study area and only research grade reports, which are confirmed independently, were used to compile the list. Three fish species, one amphibian, two fungi, one reptile species, and 7 vascular plant species were identified, including one SAR: Midland Painted Turtle.

6. Preliminary investigation through the Natural Heritage Information Centre (NHIC) indicated the presence of a number of SAR and provincially rare species within the 1 km x 1 km square containing the study area (17NJ2495). These include two SAR: Bobolink and Eastern Meadowlark.

7. Review of the Atlas of the Butterflies of Ontario identified 22 species that are known to occur or have historically occurred in the 10 km x 10 km square that contain the study area (17NJ29). This list includes one SAR: Monarch (*Danaus plexippus*).

8. The online Fisheries and Oceans Canada (DFO) mapping system was consulted in the background review. A review for SAR Critical Habitat and species presence was completed in a 1 km radius around the subject structure. Redside Dace (*Clinostomus elongatus*) were identified as present or potentially present in this search radius.

9. The Aquatic Resources Area (ARA) Survey Point and Line Segment mapping identified eleven fish species present within 1 km of the subject structure, none of which are SAR.

Please contact the undersigned should you require additional information of the above.

Yours truly,

ABOUD & ASSOCIATES INC.



Heather Dixon, PhD
Aquatic Ecologist
heather@aboudtng.com

Attachment: Figure 1



LEGEND

- STUDY AREA
- WETLANDS
- WOODLANDS
- BRIDGE LOCATION

Information Sources:
 1. Orthophotography provided by SWOOP
 Accessed April 2023.
 2. Woodlands & wetlands provided by LIO Open Data
 Accessed April 2023.

Title:
STUDY AREA

Project:
**NORTHLINE ROAD BRIDGE
 WEST GREY, ON**



Date: APRIL 2023
 Project: AA23-087A
 Scale: 1 : 1500



ABOUT & ASSOCIATES INC.
 Consulting Arborists • Ecologists • Landscape Architects
3-5 Scarborough Road South • Guelph, Ontario • N1W 2N6 • 519 822-8839 • www.aboudatg.com

Figure No: **1**

Heather Dixon

From: Species at Risk (MECP) <SAROntario@ontario.ca>
Sent: Tuesday, June 13, 2023 7:06 AM
To: Heather Dixon
Subject: RE: Request for SAR Information for Northline Road Bridge (Structure 44), Municipality of West Grey, ON (AA23-099A)
Attachments: DRAFT-Proponents Guide to SAR Screening-May 2019.pdf

Caution. Outside Sender

Hello Heather,

Thank you for your submission to the Ministry of the Environment, Conservation and Parks (MECP) about species at risk (SAR).

MECP is responsible for the administration of the *Endangered Species Act, 2007* (ESA) ([Endangered Species Act, 2007, S.O. 2007, c. 6 \(ontario.ca\)](#)). The ESA provides for the protection and recovery of species on the Species at Risk in Ontario (SARO) List ([O. Reg. 230/08: SPECIES AT RISK IN ONTARIO LIST](#)). The ESA includes prohibitions against killing, harming, harassing, capturing or taking a living member of a species listed as extirpated, endangered, or threatened on the SARO List (section 9) and against damaging or destroying the habitat of a species listed as endangered or threatened on the SARO List (section 10), without an exemption or authorization.

Seeking an ESA authorization or exemption is a proponent-led process. **This means that the person carrying out an activity is responsible for determining whether SAR and their habitat are present on or around the site of the activity, and ultimately ensuring their actions do not contravene the ESA.**

For information about assessing which SAR may be present on or in the area of your site, please refer to the MECP's draft "Client's Guide to Screening for Species at Risk" (attached).

You may proceed with the screening on your own or you may wish to consider hiring a qualified professional to perform a screening on your behalf. MECP recommends that the services of a professional environmental consultant be retained to assist in the completion of a screening, field assessments and surveys. An environmental consultant will be able to provide advice and direction on the type of surveys that should be performed and will be able to interpret the results of any surveys carried out.

If after carrying out a thorough SAR screening, including any field assessments and surveys that might be necessary, there is **no evidence of SAR or SAR habitat located on or adjacent to the site of your activity** and your activity will therefore not cause any prohibited impacts, an exemption or authorization under the ESA would not be necessary to proceed. The ministry strongly recommends that you document your SAR screening and assessment and rationale for avoiding prohibited impacts for future reference if needed. Proponents are responsible for ensuring their actions do not contravene the ESA.

If there is **evidence of species at risk and/or habitat on or around the location of your activity**, the ministry recommends that you carry out the work necessary to prepare an Information Gathering Form (IGF). This includes consideration of all the elements in your SAR screening data collection and further levels of assessment of impacts and potential to minimize adverse effects.

After considering all the data and information in the IGF, if you have determined that the activity can be carried out in such a way that you WILL NOT have adverse impacts prohibited by sections 9 and/or 10 of the ESA, an exemption or authorization under the ESA would not be necessary to proceed if the activity is carried out in that way. Again, proponents are responsible for ensuring their actions do not contravene the ESA.

If after considering all the data and information in the IGF you have determined that the proposed activities COULD POTENTIALLY have adverse impacts prohibited by sections 9 and/or 10 of the ESA, an exemption or authorization may likely be required before you proceed. If there is no applicable exemption in regulations under the ESA, submit the IGF to the ministry at SAROntario@ontario.ca to seek a permit or agreement. Please visit [How to get an Endangered Species Act permit or authorization | ontario.ca](https://www.ontario.ca/en/government/conservation-and-environment/conservation-and-environment/conservation-and-environment/how-to-get-an-endangered-species-act-permit-or-authorization) to obtain information on how to get an ESA permit or authorization.

Please consider in your project planning that it takes an average of 12-15 months from the submission of a complete IGF to a decision about a permit, if one is needed. This considers the time required to conduct the technical review of the application as well as to carry out public and Indigenous consultation, along with factors such as project complexity, seasonal nature of field survey and data collection required, volume of applications and quality of submissions. It is recommended that proponents submit a complete IGF well in advance of the activity's proposed start date. Failure to submit a complete and accurate IGF with supporting rationale and not allowing adequate time for review and the issuance of any required authorizations could result in delays to the activity's anticipated start date.

Thank you,

Species at Risk Branch

From: Heather Dixon <Heather@aboudtng.com>

Sent: June 12, 2023 12:34 PM

To: Species at Risk (MECP) <SAROntario@ontario.ca>

Cc: Cheryl-Anne Ross <Cheryl@aboudtng.com>

Subject: Request for SAR Information for Northline Road Bridge (Structure 44), Municipality of West Grey, ON (AA23-099A)

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

Good afternoon,

Please accept the attached request for SAR information for the proposed rehabilitation of Northline Road Bridge (Structure 44), Municipality of West Grey, ON. Please contact me if you have any questions. We appreciate your prompt response to our request.

Many thanks,

Heather Dixon, PhD (she/her) . Aquatic Ecologist
ABOUD & ASSOCIATES INC. . 3-5 Edinburgh Road South . Guelph . Ontario . N1H 5N8
519.781.1581 www.aboudtng.com . heather@aboudtng.com

Aboud & Associates Inc. is located within the Between the Lakes Purchase (Treaty 3); the treaty lands and territory of the Mississaugas of the Credit.

Heather Dixon

From: Papuga, Victoria (She/Her) (MECP) <Victoria.Papuga@ontario.ca>
Sent: Friday, June 16, 2023 1:42 PM
To: Heather Dixon
Cc: Cheryl-Anne Ross
Subject: RE: Request for SAR Information for Northline Road Bridge (Structure 44), Municipality of West Grey, ON (AA23-099A)

Caution. Outside Sender

Hello Heather,

Although I cannot speak to MNR's timing windows, any project planning would need to consider species protected or regulated under all Acts.

In this case, the window for in-water work as associated with Redside Dace is July 1 – September 15, as you noted. For MECP's purposes, this would be the timing window to respect. But if there are other species, such as those listed, that also have timing windows these would likely compound with Redside Dace's window (so one would not supersede another, but they would need to be combined when considering project work). This is something to confirm with MNR on this project, as MECP can only confirm the window for Redside Dace and those associated impacts.

If there are concerns the project will be impacting species at risk as listed under the ESA, then I would recommend working on an [Information Gathering Form](#) to provide MECP with the information required to review project impacts and potential avoidance measures.

Cheers,

Victoria "Vicky" Papuga (*she/her*)
Management Biologist | Landscape Species Recovery Section
Ministry of the Environment, Conservation and Parks
Email: victoria.papuga@ontario.ca
Telephone: (613) 355-7312

From: Heather Dixon <Heather@aboutdng.com>
Sent: June 16, 2023 7:55 AM
To: Species at Risk (MECP) <SAROntario@ontario.ca>
Cc: Cheryl-Anne Ross <Cheryl@aboutdng.com>
Subject: RE: Request for SAR Information for Northline Road Bridge (Structure 44), Municipality of West Grey, ON (AA23-099A)

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

Good morning,

Thank you for your response. We have been directed to ask you for further information for this project by MNDMNRF, given the potential presence of Redside Dace in this watercourse (as detailed in the attached SAR request for information). The unrestricted in-water timing window for the species present as per MNDMNRF's In-Water Timing Window Guidelines is July 16-September 30, due to the presence of Brook Trout, Northern Pike, Rainbow Trout and Smallmouth Bass in the watercourse. Does the timing window given in the Guidance for Development Activities in

Redside Dace Protected Habitat of July 1-September 15 compound with this, or supersede it? Does MECP have any other comments or recommendations with regards to this watercourse and Redside Dace?

Many thanks,

Heather Dixon, PhD (she/her) . Aquatic Ecologist
ABOUD & ASSOCIATES INC. . 3-5 Edinburgh Road South . Guelph . Ontario . N1H 5N8
519.781.1581 www.aboudtng.com . heather@aboudtng.com

Aboud & Associates Inc. is located within the Between the Lakes Purchase (Treaty 3); the treaty lands and territory of the Mississaugas of the Credit.

From: Species at Risk (MECP) <SAROntario@ontario.ca>

Sent: Tuesday, June 13, 2023 7:06 AM

To: Heather Dixon <Heather@aboudtng.com>

Subject: RE: Request for SAR Information for Northline Road Bridge (Structure 44), Municipality of West Grey, ON (AA23-099A)

Caution. Outside Sender

Hello Heather,

Thank you for your submission to the Ministry of the Environment, Conservation and Parks (MECP) about species at risk (SAR).

MECP is responsible for the administration of the *Endangered Species Act, 2007* (ESA) ([Endangered Species Act, 2007, S.O. 2007, c. 6 \(ontario.ca\)](#)). The ESA provides for the protection and recovery of species on the Species at Risk in Ontario (SARO) List ([O. Reg. 230/08: SPECIES AT RISK IN ONTARIO LIST](#)). The ESA includes prohibitions against killing, harming, harassing, capturing or taking a living member of a species listed as extirpated, endangered, or threatened on the SARO List (section 9) and against damaging or destroying the habitat of a species listed as endangered or threatened on the SARO List (section 10), without an exemption or authorization.

Seeking an ESA authorization or exemption is a proponent-led process. **This means that the person carrying out an activity is responsible for determining whether SAR and their habitat are present on or around the site of the activity, and ultimately ensuring their actions do not contravene the ESA.**

For information about assessing which SAR may be present on or in the area of your site, please refer to the MECP's draft "Client's Guide to Screening for Species at Risk" (attached).

You may proceed with the screening on your own or you may wish to consider hiring a qualified professional to perform a screening on your behalf. MECP recommends that the services of a professional environmental consultant be retained to assist in the completion of a screening, field assessments and surveys. An environmental consultant will be able to provide advice and direction on the type of surveys that should be performed and will be able to interpret the results of any surveys carried out.

If after carrying out a thorough SAR screening, including any field assessments and surveys that might be necessary, there is **no evidence of SAR or SAR habitat located on or adjacent to the site of your activity** and your activity will therefore not cause any prohibited impacts, an exemption or authorization under the ESA would not be necessary to proceed. The ministry strongly recommends that you document your SAR screening and assessment and rationale for avoiding prohibited impacts for future reference if needed. Proponents are responsible for ensuring their actions do not contravene the ESA.

If there IS evidence of species at risk and/or habitat on or around the location of your activity, the ministry recommends that you carry out the work necessary to prepare an Information Gathering Form (IGF). This includes consideration of all the elements in your SAR screening data collection and further levels of assessment of impacts and potential to minimize adverse effects.

After considering all the data and information in the IGF, if you have determined that the activity can be carried out in such a way that you WILL NOT have adverse impacts prohibited by sections 9 and/or 10 of the ESA, an exemption or authorization under the ESA would not be necessary to proceed if the activity is carried out in that way. Again, proponents are responsible for ensuring their actions do not contravene the ESA.

If after considering all the data and information in the IGF you have determined that the proposed activities COULD POTENTIALLY have adverse impacts prohibited by sections 9 and/or 10 of the ESA, an exemption or authorization may likely be required before you proceed. If there is no applicable exemption in regulations under the ESA, submit the IGF to the ministry at SAROntario@ontario.ca to seek a permit or agreement. Please visit [How to get an Endangered Species Act permit or authorization | ontario.ca](#) to obtain information on how to get an ESA permit or authorization.

Please consider in your project planning that it takes an average of 12-15 months from the submission of a complete IGF to a decision about a permit, if one is needed. This considers the time required to conduct the technical review of the application as well as to carry out public and Indigenous consultation, along with factors such as project complexity, seasonal nature of field survey and data collection required, volume of applications and quality of submissions. It is recommended that proponents submit a complete IGF well in advance of the activity's proposed start date. Failure to submit a complete and accurate IGF with supporting rationale and not allowing adequate time for review and the issuance of any required authorizations could result in delays to the activity's anticipated start date.

Thank you,

Species at Risk Branch

From: Heather Dixon <Heather@aboutdng.com>

Sent: June 12, 2023 12:34 PM

To: Species at Risk (MECP) <SAROntario@ontario.ca>

Cc: Cheryl-Anne Ross <Cheryl@aboutdng.com>

Subject: Request for SAR Information for Northline Road Bridge (Structure 44), Municipality of West Grey, ON (AA23-099A)

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

Good afternoon,

Please accept the attached request for SAR information for the proposed rehabilitation of Northline Road Bridge (Structure 44), Municipality of West Grey, ON. Please contact me if you have any questions. We appreciate your prompt response to our request.

Many thanks,

Heather Dixon, PhD (she/her) . Aquatic Ecologist
ABOUD & ASSOCIATES INC. 3-5 Edinburgh Road South . Guelph . Ontario . N1H 5N8
519.781.1581 www.aboutdng.com . heather@aboutdng.com

Aboud & Associates Inc. is located within the Between the Lakes Purchase (Treaty 3); the treaty lands and territory of the Mississaugas of the Credit.

APPENDIX 11
Site Photos



Photos showing the pool immediately downstream of the bridge, and the riffles beyond that.



Photos showing riffles, overhanging vegetation, and cobble predominated substrate upstream of the bridge.

APPENDIX 12
Mitigation

ACTIVITY	PROJECT PHASE	POTENTIAL IMPACTS	INITIAL IMPACT RATING ^{1,3}	MITIGATION RECOMMENDATIONS/COMMENTS	FINAL IMPACT RATING ^{2,3}	PROPOSED IMPLEMENTATION PHASE	MONITORING/ FOLLOW-UP RECOMENDATIONS
Vegetation Removal – Clearing & Grubbing <i>Upland Area</i>	Site Preparation and Servicing	Loss of vegetation and wildlife habitat	Minor	<ul style="list-style-type: none"> Avoidance of significant wildlife habitat Implicate design to avoid or minimize loss of vegetation and edge habitat. Implement compensation plan where possible, using native tree, shrub, and vegetative species. 	Minor-None	Site Preparation and Servicing, Construction, Site Restoration	
Vegetation Removal – Clearing & Grubbing <i>Upland Area</i>	Site Preparation and Servicing	Disturbance of wildlife species	Minor-None	<ul style="list-style-type: none"> Avoid removal or destruction of animal movement corridors. Time activities to avoid wildlife disturbance during important life stages. Implement ESC plan such that it excludes wildlife from within the work site. 	None	Site Preparation and Servicing, Construction	
Vegetation Removal – Clearing & Grubbing <i>Upland Area</i>	Site Preparation and Servicing	Impacts to nesting birds protected under the Migratory Bird Convention Act	Moderate	<ul style="list-style-type: none"> Net off the structure prior to April 1 to prevent Barn Swallow nesting. Complete all vegetation removal outside the Environment Canada breeding bird nesting window (April 1- August 31) Where vegetation removal must occur during the nesting window, conduct a bird nest survey to determine locations of active nests prior to construction works including installation of Erosion Sediment Control (ESC) fence and any site clearing. Create nest protection zones where active bird nests are found. 	None	Site Preparation and Servicing, Construction, Site Restoration	Monitor active nests (as needed, e.g., weekly) until inactive.
Vegetation Removal – Clearing & Grubbing <i>Shoreline/ Riparian Areas</i>	Site Preparation and Servicing	Loss of shade, resulting in increased water temperatures	Moderate-Minor	<ul style="list-style-type: none"> Maintain or restore riparian vegetation where possible 	Minor	Site Preparation and Servicing, Construction, Site Restoration	Monitor restoration areas annually (or per landscape documents/permitting requirements) until established.

ACTIVITY	PROJECT PHASE	POTENTIAL IMPACTS	INITIAL IMPACT RATING ^{1,3}	MITIGATION RECOMMENDATIONS/COMMENTS	FINAL IMPACT RATING ^{2,3}	PROPOSED IMPLEMENTATION PHASE	MONITORING/ FOLLOW-UP RECOMENDATIONS
Vegetation Removal – Clearing & Grubbing <i>Shoreline/ Riparian Areas</i>	Site Preparation and Servicing	Bank erosion and sedimentation during rainfall events	Minor	<ul style="list-style-type: none"> Implement ESC plan as per GGH erosion and sediment guidelines Stabilize banks where necessary, prior to construction 	None	Site Preparation and Servicing, Construction, Site Restoration	Monitor ESC fence weekly, and after a major storm event for any breaks, and repair.
Vegetation Removal – Clearing & Grubbing <i>Shoreline/ Riparian Areas</i>	Site Preparation and Servicing	Reduced vegetation and insect inputs to waterbody	Minor	<ul style="list-style-type: none"> Plant appropriate native species, using local stock 	Minor-None	Site Restoration	Monitor restoration areas annually (or per landscape documents/permitting requirements) until established.
Vegetation Removal – Clearing & Grubbing <i>Shoreline/ Riparian Areas</i>	Site Preparation and Servicing	Disturbance to riparian species	Moderate-Minor	<ul style="list-style-type: none"> Maintain or restore riparian vegetation where possible 	Minor	Site Preparation and Servicing, Construction, Site Restoration	Monitor restoration areas annually (or per landscape documents/permitting requirements) until established.
Vegetation Removal – Clearing & Grubbing <i>Shoreline/ Riparian Areas</i>	Site Preparation and Servicing	Loss of fish spawning habitat	Moderate-Minor	<ul style="list-style-type: none"> Maintain important wildlife areas Maintain fish passage through creek Performing work outside of the restricted in-water timing windows. 	None	Construction	
Vegetation Removal – Clearing & Grubbing <i>Shoreline/ Riparian Areas</i>	Site Preparation and Servicing	Changes in temperature regime for fish species	Moderate-Minor	<ul style="list-style-type: none"> Maintain or restore riparian vegetation and buffers where possible 	Minor-None	Site Preparation and Servicing, Construction, Site Restoration	Monitor restoration areas annually (or per landscape documents/permitting requirements) until established.
Vegetation Removal – Clearing & Grubbing <i>Wetland Areas</i>	Site Preparation and Servicing	Increased erosion, sedimentation into wetland	Moderate	<ul style="list-style-type: none"> Develop & implement ESC plan 	None	Site Preparation and Servicing, Construction, Site Restoration	Monitor ESC fence weekly, and after a major storm event for any breaks, and repair.

ACTIVITY	PROJECT PHASE	POTENTIAL IMPACTS	INITIAL IMPACT RATING ^{1,3}	MITIGATION RECOMMENDATIONS/COMMENTS	FINAL IMPACT RATING ^{2,3}	PROPOSED IMPLEMENTATION PHASE	MONITORING/ FOLLOW-UP RECOMENDATIONS
Grading	Site Preparation and Servicing	Increased erosion, sedimentation, and turbidity	Moderate	<ul style="list-style-type: none"> Maintain or restore vegetative buffers Develop & implement an ESC Plan as per GGH erosion and sediment guidelines 	Minor-None	Site Preparation and Servicing, Construction, Site Restoration	Monitor ESC fence weekly, and after a major storm event for any breaks, and repair
Grading	Site Preparation and Servicing	Increase nutrient inputs and contaminants to waterbodies and wetlands	Moderate	<ul style="list-style-type: none"> Develop & implement ESC Plan per GGH Erosion and Sediment guidelines (TRCA, 2019) Designate areas for equipment storage. 	Minor-None	Site Preparation and Servicing, Construction, Site Restoration	Monitor ESC fence weekly, and after a major storm event for any breaks, and repair
Grading	Site Preparation and Servicing	Increased soil compaction	Moderate	<ul style="list-style-type: none"> Control access and movement of equipment and people 	Minor	Site Preparation and Servicing, Construction, Site Restoration	
Grading	Site Preparation and Servicing	Changes to drainage	Minor	<ul style="list-style-type: none"> Schedule grading to avoid high runoff volumes. Minimize changes to land contours and natural drainage 	None	Construction	
Grading	Site Preparation and Servicing	Changes to surface runoff	Minor	<ul style="list-style-type: none"> Maintain streams and timing, quantity of flows. 	None	Construction	
Grading	Site Preparation and Servicing	Changes in soil moisture, tree cover and vegetation	Moderate	<ul style="list-style-type: none"> Minimize the area and duration of soil exposure 	Minor	Construction	
Grading	Site Preparation and Servicing	Disturbance to wildlife	Minor	<ul style="list-style-type: none"> Time activities and conduct work outside timing windows of sensitive species and avoid sensitive periods (breeding birds, fish spawning) 	Minor-None	Site Preparation and Servicing, Construction	
Grading	Site Preparation and Servicing	Alteration or destruction of wildlife habitat	Minor	<ul style="list-style-type: none"> Identify sensitive species prior to work and design grading to avoid disturbing sensitive species. 	Minor-None	Site Preparation and Servicing, Construction	

ACTIVITY	PROJECT PHASE	POTENTIAL IMPACTS	INITIAL IMPACT RATING ^{1,3}	MITIGATION RECOMMENDATIONS/COMMENTS	FINAL IMPACT RATING ^{2,3}	PROPOSED IMPLEMENTATION PHASE	MONITORING/FOLLOW-UP RECOMENDATIONS
Grading	Site Preparation and Servicing	Wildlife entering construction areas	Minor	<ul style="list-style-type: none"> Develop & implement ESC plan to exclude wildlife 	Minor-None	Site Preparation and Servicing, Construction	Monitor ESC fence weekly, and after a major storm event for any breaks, and repair
Roads – Water Crossings	Construction	Increased erosion, sedimentation, and turbidity	Moderate-Minor	<ul style="list-style-type: none"> Develop and implement sediment and erosion control plan 	Minor-None	Site Preparation and Servicing, Construction, Site Restoration	Monitor ESC fence weekly, and after a major storm event for any breaks, and repair
Roads – Water Crossings	Construction	Loss of riparian vegetation	Moderate	<ul style="list-style-type: none"> Re-vegetate as soon as possible 	Minor	Post-construction Site Restoration	Monitor restoration areas annually (or per landscape documents/permitting requirements) until established.
Roads – Water Crossings	Construction	Linkage interruption along watercourse	Minor	<ul style="list-style-type: none"> Extend bridges beyond shoreline to allow land-based wildlife passage 	None	Construction	

LEGEND:

¹ *Initial Impact* is a relative rating of the expected impact to occur in the absence of any mitigation measures. It evaluates the impact based on the duration, reversibility, extend of influence, frequency, existing ecological site context, likelihood of occurring and cumulative effects.

² *Actual Impact* is the expected impact in consideration of implementation of mitigation measures or where potential impact may cause little to no actual impact.

³ *Impact Rating*

None: An event that, if it occurs, will cause no foreseeable impact.

Minor: An event that, if it occurs, will cause small, reversible, and geographically localized impact that can be easily mitigated.

Moderate: Significant but reversible, OR irreversible and geographically localized, impact that requires significant mitigation.

Severe: Significant AND irreversible impact on the environment, impacts cannot be fully mitigated.

- Urban Forestry
- Ecological Restoration
- Landscape Architecture
- Environmental Studies
- Expert Opinion



Appendix E - Public and Agency Consultation

E.1 Notice of Commencement Related Documents

E.1.1 Notice of Commencement Advertisement

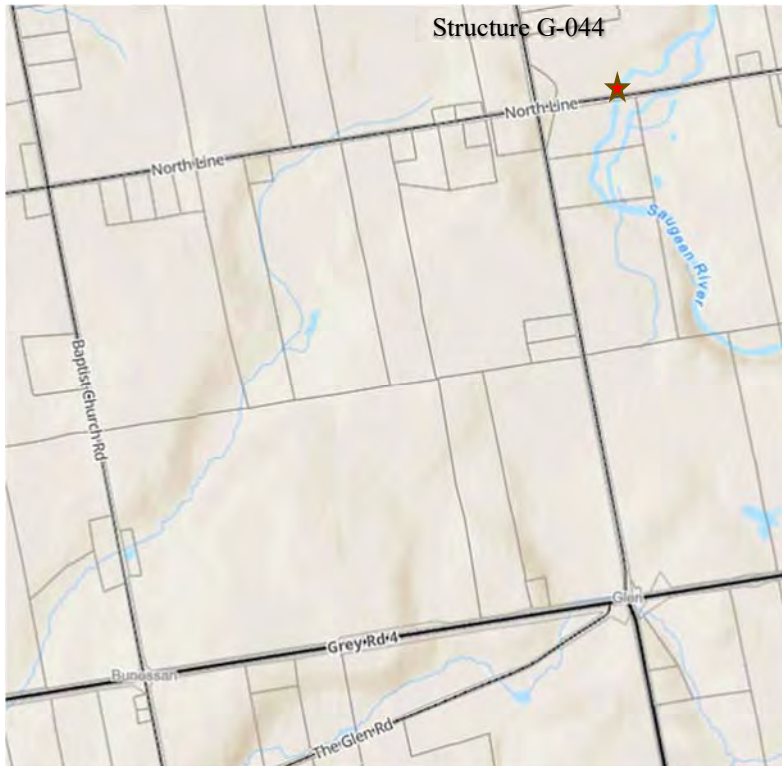


**Municipality of West Grey
Schedule 'B'
Municipal Class Environmental Assessment
Structure G-044 Bridge, Northline Road**

Notice of Project Commencement

The Project:

The Municipality of West Grey (West Grey) has initiated a Municipal Class Environmental Assessment (Class EA) process to investigate alternative options for Structure G-044 bridge, located on Northline Road approximately 0.35 km east of Glenelg Road 23 and 13.5 km northeast of the community of Durham over the Saugeen River. **Structure G-044 is in a state of disrepair and recent 2022 OSIM inspection indicates there is severe concrete spalling and disintegration to multiple bridge components and therefore, recommended for replacement to reduce the risk to bridge users and maintain public access to Northline Road** (Problem Statement). West Grey is initiating a Class EA to identify and evaluate alternatives to address the Problem Statement. Reasonable alternatives being considered are; replacement with a single or narrow 2-lane concrete span structure, replacement with a single or narrow 2-lane wood bridge structure and replacement with a single lane Bailey bridge structure.



The Process:

The project is being planned to follow the Schedule 'B' process in the Municipal Class Environmental Assessment (Municipal Engineers Association, March 2023) to identify, evaluate and make recommendations to address the replacement of Structure G-044. Consultation with affected or interested stakeholders and Indigenous Communities is a key element in the planning process.

Public Involvement:

For further information on the project, or on the planning process being followed, to be added to the study mailing list or to share information for consideration and influence in the decision-making process, please consult Chris Clark, (Consultant Project Manager), listed below. Public Comments are welcomed and will be received until September 29, 2023.

Project Team:

Geoff Aitken, CET, Manager of Public Works
Municipality of West Grey
402813 Grey Road 4
RR 2 Durham, ON N0G 1R0
Phone: 519-369-2200 Ext. 227
Email: publicworks@westgrey.com

Chris Clark, P. Eng., Consultant Project Manager
Triton Engineering Services Limited
39 Elora Street South (PO Box 159)
Harriston, ON N0G 1Z0
Phone: 519-843-3920 Ext. 250
Fax: 519-843-1943
Email: cclark@tritoneng.on.ca

Comments submitted to the Project Team for the purpose of providing feedback regarding this Class EA are collected under the authority of the Environmental Assessment Act. 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. Questions relating to the collection, use and disclosure of this information may be addressed to Chris Clark, Project Manager.

This Notice is issued July 12, 2023.

E.2 PIC Related Documents

E.2.1 Notice of PIC Advertisement and Letters



**TRITON
ENGINEERING
SERVICES
LIMITED**
Consulting Engineers

105 Queen Street West, Unit 14
Fergus
Ontario N1M 1S6
Tel: (519) 843-3920
Fax: (519) 843-1943
Email: info@tritoneng.on.ca

ORANGEVILLE • FERGUS • HARRISTON

July 12, 2023

Ministry of Indigenous Affairs, Indigenous Relations and Programs Division
160 Bloor Street, 4th Floor
Toronto, Ontario
M7A 2E6

ATTENTION: Mr. Michael Reid
Assistant Deputy Minister
michael.reid@ontario.ca

RE: **Municipality of West Grey
Notice of Commencement, Schedule 'B'
Municipal Class Environmental Assessment (Class EA)
Structure G-044 Bridge, Northline Road
Our File: B5306A**

Dear Sir,

Structure G-044 Bridge, Northline Road in the Municipality of West Grey is in a state of disrepair. Recent 2022 OSIM inspection indicates that there is severe concrete spalling and disintegration to multiple bridge components and therefore recommended for replacement to reduce the risk to bridge users and maintain public access to Northline Road (Problem Statement). Therefore, the Municipality of West Grey (Municipality) has retained the services of Triton Engineering Services Limited (Triton) to initiate a Schedule 'B' Municipal Class Environmental Assessment (Class EA) to identify and evaluate alternatives to address the Problem Statement and select a preferred alternative. The attached Notice of Commencement, which has been emailed to you, and is also advertised in the Hanover Post Newspaper and on the Municipal website, provides details of the Class EA.

The purpose of this letter is to introduce the Project and invite initial comments and feedback for consideration and influence in the decision-making process. Consultation with affected or interested stakeholders and Indigenous Communities is a key element in the planning process.

On behalf of the Municipality, we look forward to receiving your comments and feedback on the Project, which will be received until September 30, 2023. We would also appreciate confirmation of your preferred method (i.e., email and/or hard copy mail) for receiving future correspondence as it relates to this Project.

Yours very truly,

TRITON ENGINEERING SERVICES LIMITED

A handwritten signature in black ink, appearing to read "Chris Clark". The signature is fluid and cursive, with the first name "Chris" and last name "Clark" clearly distinguishable.

Chris Clark, P. Eng.

Encl. Notice of Project Commencement

cc: Geoff Aitken, CET, Manager of Public Works

Michelle Braakman, Michelle.Braakman@ontario.ca

Lise Chabot, Lise.Chabot@ontario.ca

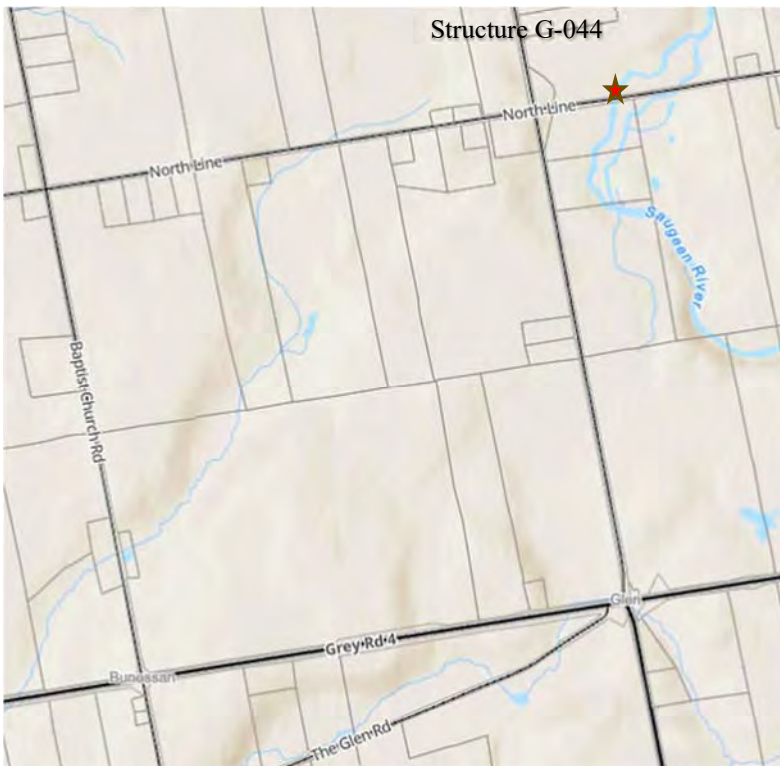


Municipality of West Grey
Schedule 'B'
Municipal Class Environmental Assessment
Structure G-044 Bridge, Northline Road

Notice of Project Commencement

The Project:

The Municipality of West Grey (West Grey) has initiated a Municipal Class Environmental Assessment (Class EA) process to investigate alternative options for Structure G-044 bridge, located on Northline Road approximately 0.35 km east of Glenelg Road 23 and 13.5 km northeast of the community of Durham over the Saugeen River. **Structure G-044 is in a state of disrepair and recent 2022 OSIM inspection indicates there is severe concrete spalling and disintegration to multiple bridge components and therefore, recommended for replacement to reduce the risk to bridge users and maintain public access to Northline Road** (Problem Statement). West Grey is initiating a Class EA to identify and evaluate alternatives to address the Problem Statement. Reasonable alternatives being considered are; replacement with a single or narrow 2-lane concrete span structure, replacement with a single or narrow 2-lane wood bridge structure and replacement with a single lane Bailey bridge structure.



The Process:

The project is being planned to follow the Schedule 'B' process in the Municipal Class Environmental Assessment (Municipal Engineers Association, March 2023) to identify, evaluate and make recommendations to address the replacement of Structure G-044. Consultation with affected or interested stakeholders and Indigenous Communities is a key element in the planning process.

Public Involvement:

For further information on the project, or on the planning process being followed, to be added to the study mailing list or to share information for consideration and influence in the decision-making process, please consult Chris Clark, (Consultant Project Manager), listed below. Public Comments are welcomed and will be received until September 29, 2023.

Project Team:

Geoff Aitken, CET, Manager of Public Works
Municipality of West Grey
402813 Grey Road 4
RR 2 Durham, ON N0G 1R0
Phone: 519-369-2200 Ext. 227
Email: publicworks@westgrey.com

Chris Clark, P. Eng., Consultant Project Manager
Triton Engineering Services Limited
39 Elora Street South (PO Box 159)
Harriston, ON N0G 1Z0
Phone: 519-843-3920 Ext. 250
Fax: 519-843-1943
Email: cclark@tritoneng.on.ca

Comments submitted to the Project Team for the purpose of providing feedback regarding this Class EA are collected under the authority of the Environmental Assessment Act. 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. Questions relating to the collection, use and disclosure of this information may be addressed to Chris Clark, Project Manager.

This Notice is issued July 12, 2023.



**TRITON
ENGINEERING
SERVICES
LIMITED**
Consulting Engineers

105 Queen Street West, Unit 14
Fergus
Ontario N1M 1S6
Tel: (519) 843-3920
Fax: (519) 843-1943
Email: info@tritoneng.on.ca

ORANGEVILLE • FERGUS • HARRISTON

July 12, 2023

Métis Nation of Ontario
Suite 110, 66 Slater Street
Ottawa, Ontario
K1P 5H1

ATTENTION: Consultations
consultations@metisnation.org

RE: **Municipality of West Grey
Notice of Commencement, Schedule 'B'
Municipal Class Environmental Assessment (Class EA)
Structure G-044 Bridge, Northline Road
Our File: B5306A**

Dear Sir/Madam,

Structure G-044 Bridge, Northline Road in the Municipality of West Grey is in a state of disrepair. Recent 2022 OSIM inspection indicates that there is severe concrete spalling and disintegration to multiple bridge components and therefore recommended for replacement to reduce the risk to bridge users and maintain public access to Northline Road (Problem Statement). Therefore, the Municipality of West Grey (Municipality) has retained the services of Triton Engineering Services Limited (Triton) to initiate a Schedule 'B' Municipal Class Environmental Assessment (Class EA) to identify and evaluate alternatives to address the Problem Statement and select a preferred alternative. The attached Notice of Commencement, which has been emailed to you, and is also advertised in the Hanover Post Newspaper and on the Municipal website, provides details of the Class EA.

The purpose of this letter is to introduce the Project and invite initial comments and feedback for consideration and influence in the decision-making process. Consultation with affected or interested stakeholders and Indigenous Communities is a key element in the planning process.

On behalf of the Municipality, we look forward to receiving your comments and feedback on the Project, which will be received until September 30, 2023. We would also appreciate confirmation of your preferred method (i.e., email and/or hard copy mail) for receiving future correspondence as it relates to this Project.

Yours very truly,

TRITON ENGINEERING SERVICES LIMITED

A handwritten signature in black ink, appearing to read "Chris Clark". The signature is fluid and cursive, with the first name "Chris" and last name "Clark" clearly distinguishable.

Chris Clark, P. Eng.

Encl. Notice of Project Commencement
cc: Geoff Aitken, CET, Manager of Public Works

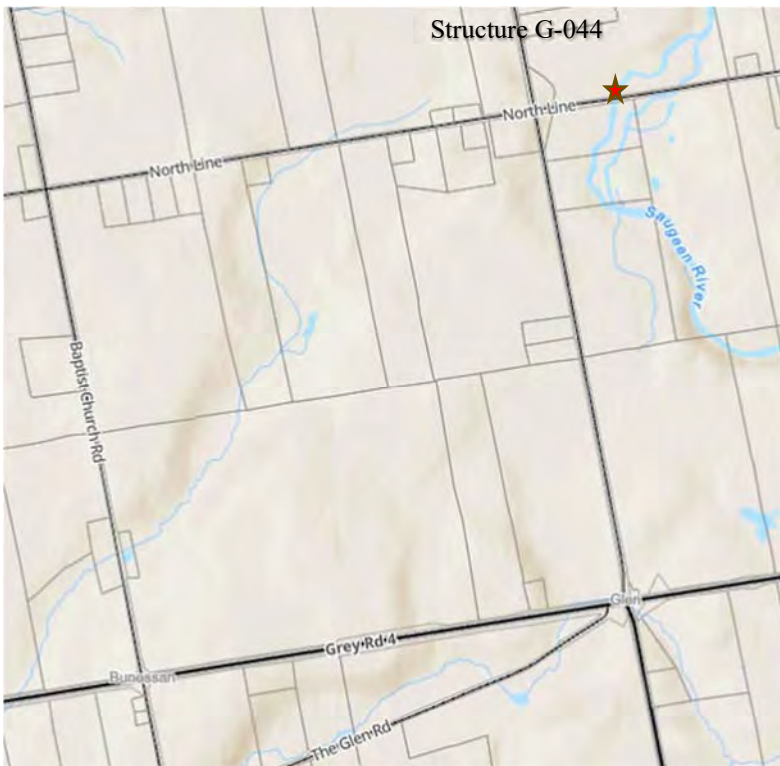


Municipality of West Grey
Schedule 'B'
Municipal Class Environmental Assessment
Structure G-044 Bridge, Northline Road

Notice of Project Commencement

The Project:

The Municipality of West Grey (West Grey) has initiated a Municipal Class Environmental Assessment (Class EA) process to investigate alternative options for Structure G-044 bridge, located on Northline Road approximately 0.35 km east of Glenelg Road 23 and 13.5 km northeast of the community of Durham over the Saugeen River. **Structure G-044 is in a state of disrepair and recent 2022 OSIM inspection indicates there is severe concrete spalling and disintegration to multiple bridge components and therefore, recommended for replacement to reduce the risk to bridge users and maintain public access to Northline Road** (Problem Statement). West Grey is initiating a Class EA to identify and evaluate alternatives to address the Problem Statement. Reasonable alternatives being considered are; replacement with a single or narrow 2-lane concrete span structure, replacement with a single or narrow 2-lane wood bridge structure and replacement with a single lane Bailey bridge structure.



The Process:

The project is being planned to follow the Schedule 'B' process in the Municipal Class Environmental Assessment (Municipal Engineers Association, March 2023) to identify, evaluate and make recommendations to address the replacement of Structure G-044. Consultation with affected or interested stakeholders and Indigenous Communities is a key element in the planning process.

Public Involvement:

For further information on the project, or on the planning process being followed, to be added to the study mailing list or to share information for consideration and influence in the decision-making process, please consult Chris Clark, (Consultant Project Manager), listed below. Public Comments are welcomed and will be received until September 29, 2023.

Project Team:

Geoff Aitken, CET, Manager of Public Works
Municipality of West Grey
402813 Grey Road 4
RR 2 Durham, ON N0G 1R0
Phone: 519-369-2200 Ext. 227
Email: publicworks@westgrey.com

Chris Clark, P. Eng., Consultant Project Manager
Triton Engineering Services Limited
39 Elora Street South (PO Box 159)
Harriston, ON N0G 1Z0
Phone: 519-843-3920 Ext. 250
Fax: 519-843-1943
Email: cclark@tritoneng.on.ca

Comments submitted to the Project Team for the purpose of providing feedback regarding this Class EA are collected under the authority of the Environmental Assessment Act. 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. Questions relating to the collection, use and disclosure of this information may be addressed to Chris Clark, Project Manager.

This Notice is issued July 12, 2023.



**TRITON
ENGINEERING
SERVICES
LIMITED**

Consulting Engineers

105 Queen Street West, Unit 14
Fergus
Ontario N1M 1S6
Tel: (519) 843-3920
Fax: (519) 843-1943
Email: info@tritoneng.on.ca

ORANGEVILLE • FERGUS • HARRISTON

July 12, 2023

Saugeen Valley Conservation Authority
1078 Bruce Road 12
P.O. Box 150
Formosa, Ontario
N0G 1W0

ATTENTION: Mr. Erik Downing
Manager, Environmental Planning and Regulations
e.downing@svca.on.ca

**RE: Municipality of West Grey
Notice of Commencement, Schedule 'B'
Municipal Class Environmental Assessment (Class EA)
Structure G-044 Bridge, Northline Road
Our File: B5306A**

Dear Mr. Downing,

Structure G-044 Bridge, Northline Road in the Municipality of West Grey is in a state of disrepair. Recent 2022 OSIM inspection indicates that there is severe concrete spalling and disintegration to multiple bridge components and therefore recommended for replacement to reduce the risk to bridge users and maintain public access to Northline Road (Problem Statement). Therefore, the Municipality of West Grey (Municipality) has retained the services of Triton Engineering Services Limited (Triton) to initiate a Schedule 'B' Municipal Class Environmental Assessment (Class EA) to identify and evaluate alternatives to address the Problem Statement and select a preferred alternative. The attached Notice of Commencement, which has been emailed to you, and is also advertised in the Hanover Post Newspaper and on the Municipal website, provides details of the Class EA.

The purpose of this letter is to introduce the Project and invite initial comments and feedback for consideration and influence in the decision-making process. Consultation with affected or interested stakeholders and Indigenous Communities is a key element in the planning process.

On behalf of the Municipality, we look forward to receiving your comments and feedback on the Project, which will be received until September 30, 2023. We would also appreciate confirmation of your preferred method (i.e., email and/or hard copy mail) for receiving future correspondence as it relates to this Project.

Yours very truly,

TRITON ENGINEERING SERVICES LIMITED

A handwritten signature in black ink, appearing to read "Chris Clark". The signature is fluid and cursive, with the first name "Chris" and last name "Clark" clearly distinguishable.

Chris Clark, P. Eng.

Encl. Notice of Project Commencement
cc: Geoff Aitken, CET, Manager of Public Works

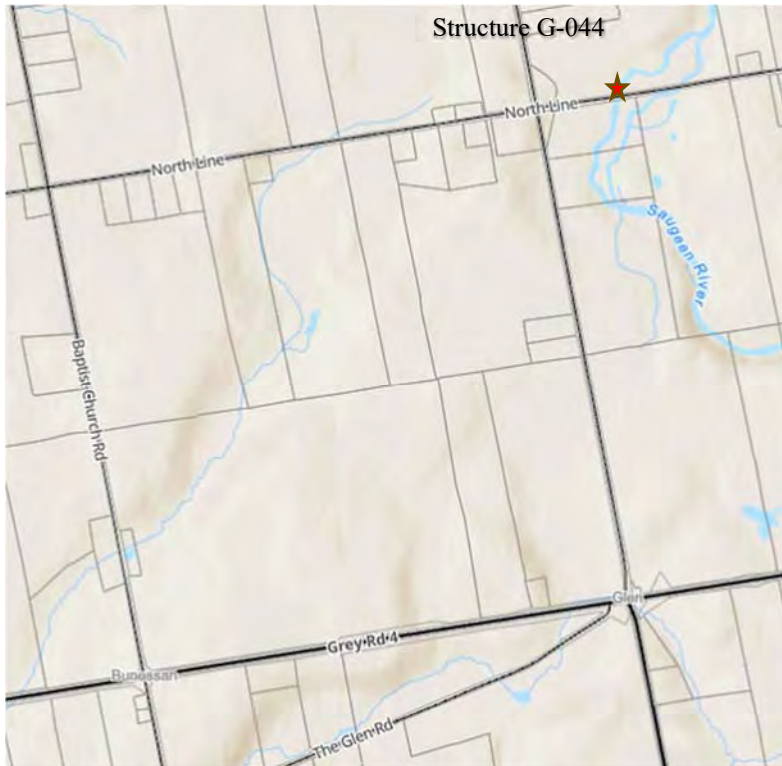


Municipality of West Grey
Schedule 'B'
Municipal Class Environmental Assessment
Structure G-044 Bridge, Northline Road

Notice of Project Commencement

The Project:

The Municipality of West Grey (West Grey) has initiated a Municipal Class Environmental Assessment (Class EA) process to investigate alternative options for Structure G-044 bridge, located on Northline Road approximately 0.35 km east of Glenelg Road 23 and 13.5 km northeast of the community of Durham over the Saugeen River. **Structure G-044 is in a state of disrepair and recent 2022 OSIM inspection indicates there is severe concrete spalling and disintegration to multiple bridge components and therefore, recommended for replacement to reduce the risk to bridge users and maintain public access to Northline Road** (Problem Statement). West Grey is initiating a Class EA to identify and evaluate alternatives to address the Problem Statement. Reasonable alternatives being considered are; replacement with a single or narrow 2-lane concrete span structure, replacement with a single or narrow 2-lane wood bridge structure and replacement with a single lane Bailey bridge structure.



The Process:

The project is being planned to follow the Schedule 'B' process in the Municipal Class Environmental Assessment (Municipal Engineers Association, March 2023) to identify, evaluate and make recommendations to address the replacement of Structure G-044. Consultation with affected or interested stakeholders and Indigenous Communities is a key element in the planning process.

Public Involvement:

For further information on the project, or on the planning process being followed, to be added to the study mailing list or to share information for consideration and influence in the decision-making process, please consult Chris Clark, (Consultant Project Manager), listed below. Public Comments are welcomed and will be received until September 29, 2023.

Project Team:

Geoff Aitken, CET, Manager of Public Works
Municipality of West Grey
402813 Grey Road 4
RR 2 Durham, ON N0G 1R0
Phone: 519-369-2200 Ext. 227
Email: publicworks@westgrey.com

Chris Clark, P. Eng., Consultant Project Manager
Triton Engineering Services Limited
39 Elora Street South (PO Box 159)
Harriston, ON N0G 1Z0
Phone: 519-843-3920 Ext. 250
Fax: 519-843-1943
Email: cclark@tritoneng.on.ca

Comments submitted to the Project Team for the purpose of providing feedback regarding this Class EA are collected under the authority of the Environmental Assessment Act. 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. Questions relating to the collection, use and disclosure of this information may be addressed to Chris Clark, Project Manager.

This Notice is issued July 12, 2023.



**TRITON
ENGINEERING
SERVICES
LIMITED**
Consulting Engineers

105 Queen Street West, Unit 14
Fergus
Ontario N1M 1S6
Tel: (519) 843-3920
Fax: (519) 843-1943
Email: info@tritoneng.on.ca

ORANGEVILLE • FERGUS • HARRISTON

July 12, 2023

**Grey County
Planning and Development**
595 9th Avenue East
Owen Sound, Ontario
N4K 2E3

ATTENTION: **General Planning**
planning@grey.ca

RE: **Municipality of West Grey
Notice of Commencement, Schedule 'B'
Municipal Class Environmental Assessment (Class EA)
Structure G-044 Bridge, Northline Road
Our File: B5306A**

Dear Sir/Madam,

Structure G-044 Bridge, Northline Road in the Municipality of West Grey is in a state of disrepair. Recent 2022 OSIM inspection indicates that there is severe concrete spalling and disintegration to multiple bridge components and therefore recommended for replacement to reduce the risk to bridge users and maintain public access to Northline Road (Problem Statement). Therefore, the Municipality of West Grey (Municipality) has retained the services of Triton Engineering Services Limited (Triton) to initiate a Schedule 'B' Municipal Class Environmental Assessment (Class EA) to identify and evaluate alternatives to address the Problem Statement and select a preferred alternative. The attached Notice of Commencement, which has been emailed to you, and is also advertised in the Hanover Post Newspaper and on the Municipal website, provides details of the Class EA.

The purpose of this letter is to introduce the Project and invite initial comments and feedback for consideration and influence in the decision-making process. Consultation with affected or interested stakeholders and Indigenous Communities is a key element in the planning process.

On behalf of the Municipality, we look forward to receiving your comments and feedback on the Project, which will be received until September 30, 2023. We would also appreciate confirmation of your preferred method (i.e., email and/or hard copy mail) for receiving future correspondence as it relates to this Project.

Yours very truly,

TRITON ENGINEERING SERVICES LIMITED

A handwritten signature in black ink, appearing to read "Chris Clark". The signature is fluid and cursive, with the first name "Chris" and last name "Clark" clearly distinguishable.

Chris Clark, P. Eng.

Encl. Notice of Project Commencement

cc: Geoff Aitken, CET, Manager of Public Works

Scott Taylor, Director of Planning, Grey County scott.taylor@grey.ca

Monica Scribner, Planning Department, Grey County monica.scribner@grey.ca

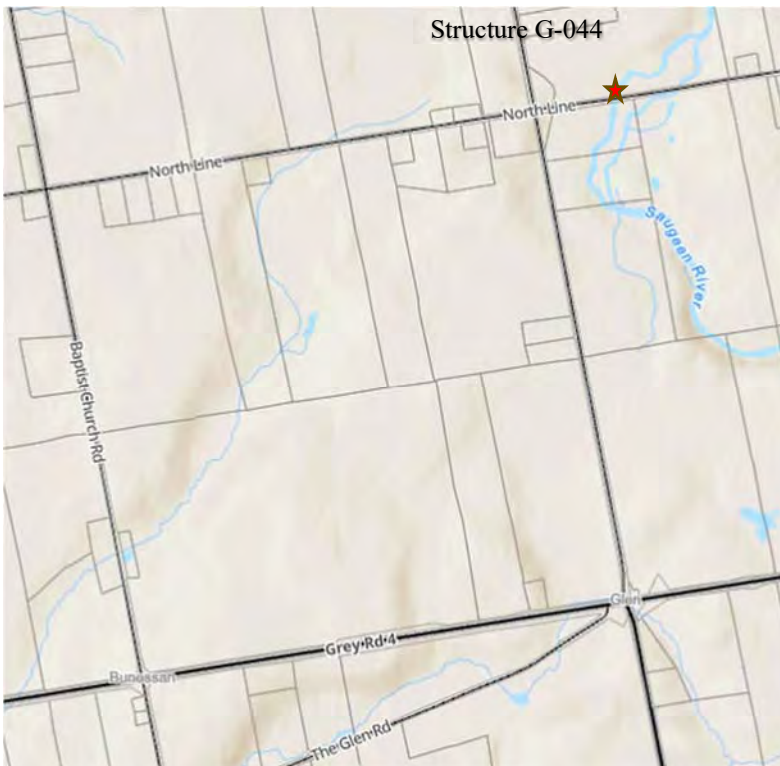


Municipality of West Grey
Schedule 'B'
Municipal Class Environmental Assessment
Structure G-044 Bridge, Northline Road

Notice of Project Commencement

The Project:

The Municipality of West Grey (West Grey) has initiated a Municipal Class Environmental Assessment (Class EA) process to investigate alternative options for Structure G-044 bridge, located on Northline Road approximately 0.35 km east of Glenelg Road 23 and 13.5 km northeast of the community of Durham over the Saugeen River. **Structure G-044 is in a state of disrepair and recent 2022 OSIM inspection indicates there is severe concrete spalling and disintegration to multiple bridge components and therefore, recommended for replacement to reduce the risk to bridge users and maintain public access to Northline Road** (Problem Statement). West Grey is initiating a Class EA to identify and evaluate alternatives to address the Problem Statement. Reasonable alternatives being considered are; replacement with a single or narrow 2-lane concrete span structure, replacement with a single or narrow 2-lane wood bridge structure and replacement with a single lane Bailey bridge structure.



The Process:

The project is being planned to follow the Schedule 'B' process in the Municipal Class Environmental Assessment (Municipal Engineers Association, March 2023) to identify, evaluate and make recommendations to address the replacement of Structure G-044. Consultation with affected or interested stakeholders and Indigenous Communities is a key element in the planning process.

Public Involvement:

For further information on the project, or on the planning process being followed, to be added to the study mailing list or to share information for consideration and influence in the decision-making process, please consult Chris Clark, (Consultant Project Manager), listed below. Public Comments are welcomed and will be received until September 29, 2023.

Project Team:

Geoff Aitken, CET, Manager of Public Works
Municipality of West Grey
402813 Grey Road 4
RR 2 Durham, ON N0G 1R0
Phone: 519-369-2200 Ext. 227
Email: publicworks@westgrey.com

Chris Clark, P. Eng., Consultant Project Manager
Triton Engineering Services Limited
39 Elora Street South (PO Box 159)
Harriston, ON N0G 1Z0
Phone: 519-843-3920 Ext. 250
Fax: 519-843-1943
Email: cclark@tritoneng.on.ca

Comments submitted to the Project Team for the purpose of providing feedback regarding this Class EA are collected under the authority of the Environmental Assessment Act. 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. Questions relating to the collection, use and disclosure of this information may be addressed to Chris Clark, Project Manager.

This Notice is issued July 12, 2023.



**TRITON
ENGINEERING
SERVICES
LIMITED**
Consulting Engineers

105 Queen Street West, Unit 14
Fergus
Ontario N1M 1S6
Tel: (519) 843-3920
Fax: (519) 843-1943
Email: info@tritoneng.on.ca

ORANGEVILLE • FERGUS • HARRISTON

July 12, 2023

Bell Alliant
870 4th Avenue East
Owen Sound, Ontario
N4K 2N7

ATTENTION: Mr. Nick Kellar
Implementation Manager

RE: **Municipality of West Grey
Notice of Commencement, Schedule 'B'
Municipal Class Environmental Assessment (Class EA)
Structure G-044 Bridge, Northline Road
Our File: B5306A**

Dear Mr. Kellar,

Structure G-044 Bridge, Northline Road in the Municipality of West Grey is in a state of disrepair. Recent 2022 OSIM inspection indicates that there is severe concrete spalling and disintegration to multiple bridge components and therefore recommended for replacement to reduce the risk to bridge users and maintain public access to Northline Road (Problem Statement). Therefore, the Municipality of West Grey (Municipality) has retained the services of Triton Engineering Services Limited (Triton) to initiate a Schedule 'B' Municipal Class Environmental Assessment (Class EA) to identify and evaluate alternatives to address the Problem Statement and select a preferred alternative. The attached Notice of Commencement, which has been emailed to you, and is also advertised in the Hanover Post Newspaper and on the Municipal website, provides details of the Class EA.

The purpose of this letter is to introduce the Project and invite initial comments and feedback for consideration and influence in the decision-making process. Consultation with affected or interested stakeholders and Indigenous Communities is a key element in the planning process.

On behalf of the Municipality, we look forward to receiving your comments and feedback on the Project, which will be received until September 30, 2023. We would also appreciate confirmation of your preferred method (i.e., email and/or hard copy mail) for receiving future correspondence as it relates to this Project.

Yours very truly,

TRITON ENGINEERING SERVICES LIMITED

A handwritten signature in black ink, appearing to read "Chris Clark". The signature is fluid and cursive, with the first name "Chris" and the last name "Clark" clearly distinguishable.

Chris Clark, P. Eng.

Encl. Notice of Project Commencement

cc: Geoff Aitken, CET, Manager of Public Works

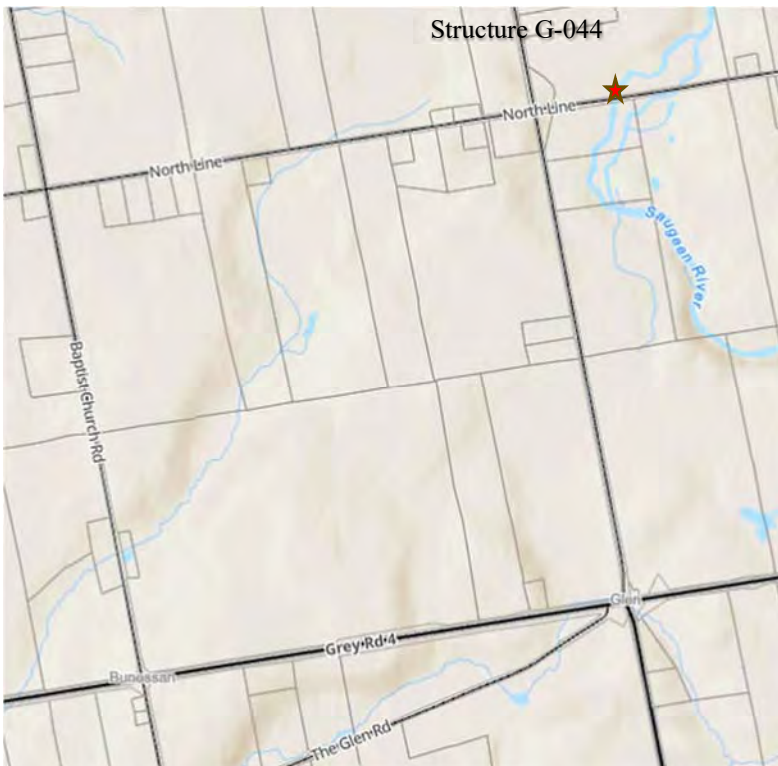


Municipality of West Grey
Schedule 'B'
Municipal Class Environmental Assessment
Structure G-044 Bridge, Northline Road

Notice of Project Commencement

The Project:

The Municipality of West Grey (West Grey) has initiated a Municipal Class Environmental Assessment (Class EA) process to investigate alternative options for Structure G-044 bridge, located on Northline Road approximately 0.35 km east of Glenelg Road 23 and 13.5 km northeast of the community of Durham over the Saugeen River. **Structure G-044 is in a state of disrepair and recent 2022 OSIM inspection indicates there is severe concrete spalling and disintegration to multiple bridge components and therefore, recommended for replacement to reduce the risk to bridge users and maintain public access to Northline Road** (Problem Statement). West Grey is initiating a Class EA to identify and evaluate alternatives to address the Problem Statement. Reasonable alternatives being considered are; replacement with a single or narrow 2-lane concrete span structure, replacement with a single or narrow 2-lane wood bridge structure and replacement with a single lane Bailey bridge structure.



The Process:

The project is being planned to follow the Schedule 'B' process in the Municipal Class Environmental Assessment (Municipal Engineers Association, March 2023) to identify, evaluate and make recommendations to address the replacement of Structure G-044. Consultation with affected or interested stakeholders and Indigenous Communities is a key element in the planning process.

Public Involvement:

For further information on the project, or on the planning process being followed, to be added to the study mailing list or to share information for consideration and influence in the decision-making process, please consult Chris Clark, (Consultant Project Manager), listed below. Public Comments are welcomed and will be received until September 29, 2023.

Project Team:

Geoff Aitken, CET, Manager of Public Works
Municipality of West Grey
402813 Grey Road 4
RR 2 Durham, ON N0G 1R0
Phone: 519-369-2200 Ext. 227
Email: publicworks@westgrey.com

Chris Clark, P. Eng., Consultant Project Manager
Triton Engineering Services Limited
39 Elora Street South (PO Box 159)
Harriston, ON N0G 1Z0
Phone: 519-843-3920 Ext. 250
Fax: 519-843-1943
Email: cclark@tritoneng.on.ca

Comments submitted to the Project Team for the purpose of providing feedback regarding this Class EA are collected under the authority of the Environmental Assessment Act. 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. Questions relating to the collection, use and disclosure of this information may be addressed to Chris Clark, Project Manager.

This Notice is issued July 12, 2023.



**TRITON
ENGINEERING
SERVICES
LIMITED**
Consulting Engineers

105 Queen Street West, Unit 14
Fergus
Ontario N1M 1S6
Tel: (519) 843-3920
Fax: (519) 843-1943
Email: info@tritoneng.on.ca

ORANGEVILLE • FERGUS • HARRISTON

July 12, 2023

Eastlink
6080 Young Street, 8th Floor
Halifax, Nova Scotia
B3K 5L2

ATTENTION: Mr. Michael MacDougall
Manager, Network Design Central, Western
Michael.MacDougall@corp.eastlink.ca

**RE: Municipality of West Grey
Notice of Commencement, Schedule 'B'
Municipal Class Environmental Assessment (Class EA)
Structure G-044 Bridge, Northline Road
Our File: B5306A**

Dear Mr. MacDougall,

Structure G-044 Bridge, Northline Road in the Municipality of West Grey is in a state of disrepair. Recent 2022 OSIM inspection indicates that there is severe concrete spalling and disintegration to multiple bridge components and therefore recommended for replacement to reduce the risk to bridge users and maintain public access to Northline Road (Problem Statement). Therefore, the Municipality of West Grey (Municipality) has retained the services of Triton Engineering Services Limited (Triton) to initiate a Schedule 'B' Municipal Class Environmental Assessment (Class EA) to identify and evaluate alternatives to address the Problem Statement and select a preferred alternative. The attached Notice of Commencement, which has been emailed to you, and is also advertised in the Hanover Post Newspaper and on the Municipal website, provides details of the Class EA.

The purpose of this letter is to introduce the Project and invite initial comments and feedback for consideration and influence in the decision-making process. Consultation with affected or interested stakeholders and Indigenous Communities is a key element in the planning process.

On behalf of the Municipality, we look forward to receiving your comments and feedback on the Project, which will be received until September 30, 2023. We would also appreciate confirmation of your preferred method (i.e., email and/or hard copy mail) for receiving future correspondence as it relates to this Project.

Yours very truly,

TRITON ENGINEERING SERVICES LIMITED

A handwritten signature in black ink, appearing to read "Chris Clark". The signature is fluid and cursive, with the first name "Chris" and last name "Clark" clearly distinguishable.

Chris Clark, P. Eng.

Encl. Notice of Project Commencement
cc: Geoff Aitken, CET, Manager of Public Works

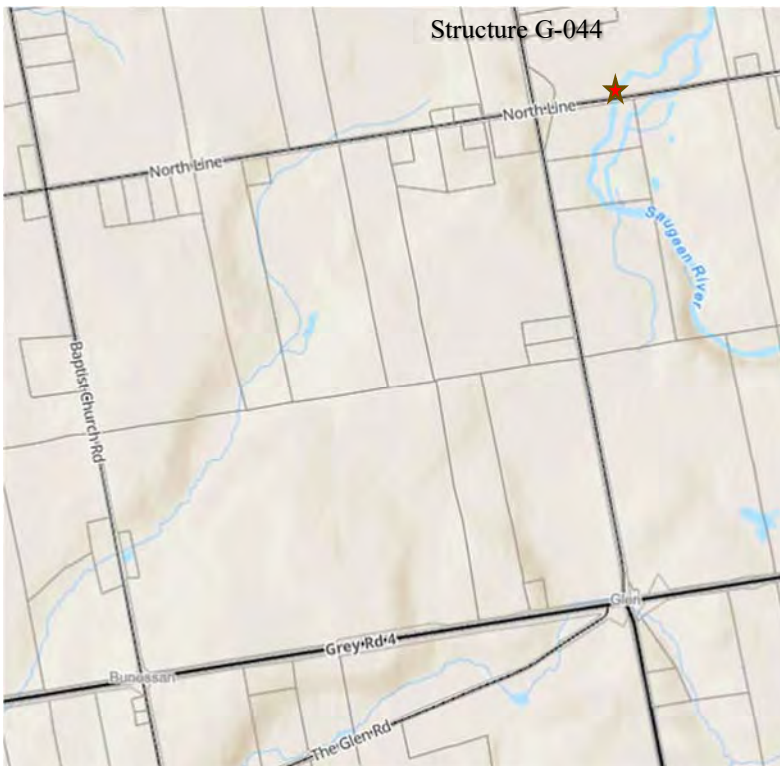


Municipality of West Grey
Schedule 'B'
Municipal Class Environmental Assessment
Structure G-044 Bridge, Northline Road

Notice of Project Commencement

The Project:

The Municipality of West Grey (West Grey) has initiated a Municipal Class Environmental Assessment (Class EA) process to investigate alternative options for Structure G-044 bridge, located on Northline Road approximately 0.35 km east of Glenelg Road 23 and 13.5 km northeast of the community of Durham over the Saugeen River. **Structure G-044 is in a state of disrepair and recent 2022 OSIM inspection indicates there is severe concrete spalling and disintegration to multiple bridge components and therefore, recommended for replacement to reduce the risk to bridge users and maintain public access to Northline Road** (Problem Statement). West Grey is initiating a Class EA to identify and evaluate alternatives to address the Problem Statement. Reasonable alternatives being considered are; replacement with a single or narrow 2-lane concrete span structure, replacement with a single or narrow 2-lane wood bridge structure and replacement with a single lane Bailey bridge structure.



The Process:

The project is being planned to follow the Schedule 'B' process in the Municipal Class Environmental Assessment (Municipal Engineers Association, March 2023) to identify, evaluate and make recommendations to address the replacement of Structure G-044. Consultation with affected or interested stakeholders and Indigenous Communities is a key element in the planning process.

Public Involvement:

For further information on the project, or on the planning process being followed, to be added to the study mailing list or to share information for consideration and influence in the decision-making process, please consult Chris Clark, (Consultant Project Manager), listed below. Public Comments are welcomed and will be received until September 29, 2023.

Project Team:

Geoff Aitken, CET, Manager of Public Works
Municipality of West Grey
402813 Grey Road 4
RR 2 Durham, ON N0G 1R0
Phone: 519-369-2200 Ext. 227
Email: publicworks@westgrey.com

Chris Clark, P. Eng., Consultant Project Manager
Triton Engineering Services Limited
39 Elora Street South (PO Box 159)
Harriston, ON N0G 1Z0
Phone: 519-843-3920 Ext. 250
Fax: 519-843-1943
Email: cclark@tritoneng.on.ca

Comments submitted to the Project Team for the purpose of providing feedback regarding this Class EA are collected under the authority of the Environmental Assessment Act. 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. Questions relating to the collection, use and disclosure of this information may be addressed to Chris Clark, Project Manager.

This Notice is issued July 12, 2023.



**TRITON
ENGINEERING
SERVICES
LIMITED**

Consulting Engineers

105 Queen Street West, Unit 14
Fergus
Ontario N1M 1S6
Tel: (519) 843-3920
Fax: (519) 843-1943
Email: info@tritoneng.on.ca

ORANGEVILLE • FERGUS • HARRISTON

July 12, 2023

Enbridge Gas
603 Kumpf Drive
Waterloo, Ontario
N2V 1K3

ATTENTION: Mr. Kevin Schimus
Sr. Advisor, Construction and Project Manager
kevin.schimus@enbridge.com

**RE: Municipality of West Grey
Notice of Commencement, Schedule 'B'
Municipal Class Environmental Assessment (Class EA)
Structure G-044 Bridge, Northline Road
Our File: B5306A**

Dear Mr. Schimus,

Structure G-044 Bridge, Northline Road in the Municipality of West Grey is in a state of disrepair. Recent 2022 OSIM inspection indicates that there is severe concrete spalling and disintegration to multiple bridge components and therefore recommended for replacement to reduce the risk to bridge users and maintain public access to Northline Road (Problem Statement). Therefore, the Municipality of West Grey (Municipality) has retained the services of Triton Engineering Services Limited (Triton) to initiate a Schedule 'B' Municipal Class Environmental Assessment (Class EA) to identify and evaluate alternatives to address the Problem Statement and select a preferred alternative. The attached Notice of Commencement, which has been emailed to you, and is also advertised in the Hanover Post Newspaper and on the Municipal website, provides details of the Class EA.

The purpose of this letter is to introduce the Project and invite initial comments and feedback for consideration and influence in the decision-making process. Consultation with affected or interested stakeholders and Indigenous Communities is a key element in the planning process.

On behalf of the Municipality, we look forward to receiving your comments and feedback on the Project, which will be received until September 30, 2023. We would also appreciate confirmation of your preferred method (i.e., email and/or hard copy mail) for receiving future correspondence as it relates to this Project.

Yours very truly,

TRITON ENGINEERING SERVICES LIMITED

A handwritten signature in black ink, appearing to read "Chris Clark". The signature is fluid and cursive, with the first name "Chris" and last name "Clark" clearly distinguishable.

Chris Clark, P. Eng.

Encl. Notice of Project Commencement

cc: Geoff Aitken, CET, Manager of Public Works

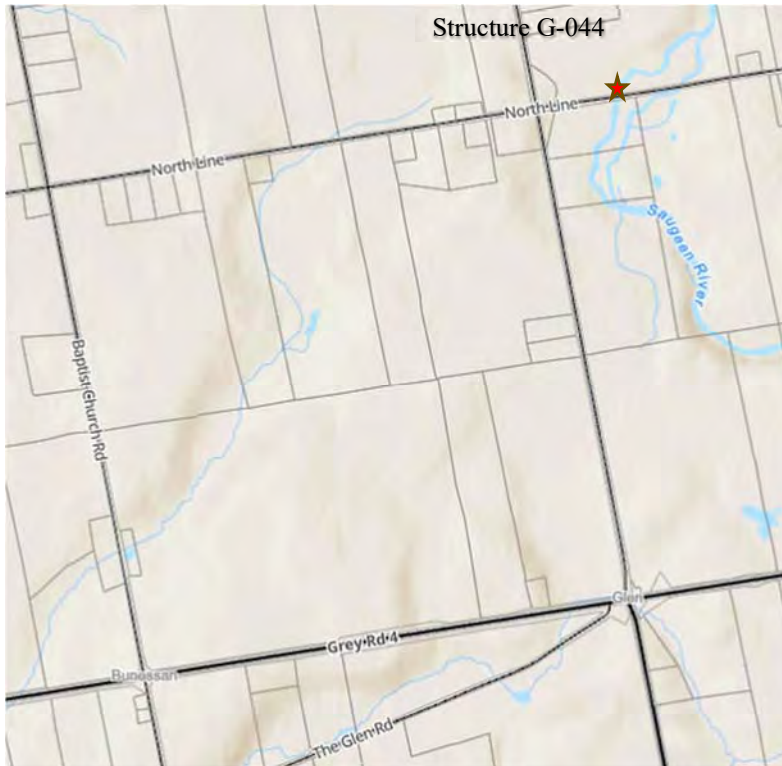


**Municipality of West Grey
Schedule 'B'
Municipal Class Environmental Assessment
Structure G-044 Bridge, Northline Road**

Notice of Project Commencement

The Project:

The Municipality of West Grey (West Grey) has initiated a Municipal Class Environmental Assessment (Class EA) process to investigate alternative options for Structure G-044 bridge, located on Northline Road approximately 0.35 km east of Glenelg Road 23 and 13.5 km northeast of the community of Durham over the Saugeen River. **Structure G-044 is in a state of disrepair and recent 2022 OSIM inspection indicates there is severe concrete spalling and disintegration to multiple bridge components and therefore, recommended for replacement to reduce the risk to bridge users and maintain public access to Northline Road** (Problem Statement). West Grey is initiating a Class EA to identify and evaluate alternatives to address the Problem Statement. Reasonable alternatives being considered are; replacement with a single or narrow 2-lane concrete span structure, replacement with a single or narrow 2-lane wood bridge structure and replacement with a single lane Bailey bridge structure.



The Process:

The project is being planned to follow the Schedule 'B' process in the Municipal Class Environmental Assessment (Municipal Engineers Association, March 2023) to identify, evaluate and make recommendations to address the replacement of Structure G-044. Consultation with affected or interested stakeholders and Indigenous Communities is a key element in the planning process.

Public Involvement:

For further information on the project, or on the planning process being followed, to be added to the study mailing list or to share information for consideration and influence in the decision-making process, please consult Chris Clark, (Consultant Project Manager), listed below. Public Comments are welcomed and will be received until September 29, 2023.

Project Team:

Geoff Aitken, CET, Manager of Public Works
Municipality of West Grey
402813 Grey Road 4
RR 2 Durham, ON N0G 1R0
Phone: 519-369-2200 Ext. 227
Email: publicworks@westgrey.com

Chris Clark, P. Eng., Consultant Project Manager
Triton Engineering Services Limited
39 Elora Street South (PO Box 159)
Harriston, ON N0G 1Z0
Phone: 519-843-3920 Ext. 250
Fax: 519-843-1943
Email: cclark@tritoneng.on.ca

Comments submitted to the Project Team for the purpose of providing feedback regarding this Class EA are collected under the authority of the Environmental Assessment Act. 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. Questions relating to the collection, use and disclosure of this information may be addressed to Chris Clark, Project Manager.

This Notice is issued July 12, 2023.



**TRITON
ENGINEERING
SERVICES
LIMITED**
Consulting Engineers

105 Queen Street West, Unit 14
Fergus
Ontario N1M 1S6
Tel: (519) 843-3920
Fax: (519) 843-1943
Email: info@tritoneng.on.ca

ORANGEVILLE • FERGUS • HARRISTON

July 12, 2023

Hydro One Networks Inc.
430 Clair Road West
Guelph, Ontario
N1L 0H7

ATTENTION: Ms. Kelly Gallagher
Supervising Distribution Technician
kelly.gallagher@HydroOne.com

**RE: Municipality of West Grey
Notice of Commencement, Schedule 'B'
Municipal Class Environmental Assessment (Class EA)
Structure G-044 Bridge, Northline Road
Our File: B5306A**

Dear Ms. Gallagher,

Structure G-044 Bridge, Northline Road in the Municipality of West Grey is in a state of disrepair. Recent 2022 OSIM inspection indicates that there is severe concrete spalling and disintegration to multiple bridge components and therefore recommended for replacement to reduce the risk to bridge users and maintain public access to Northline Road (Problem Statement). Therefore, the Municipality of West Grey (Municipality) has retained the services of Triton Engineering Services Limited (Triton) to initiate a Schedule 'B' Municipal Class Environmental Assessment (Class EA) to identify and evaluate alternatives to address the Problem Statement and select a preferred alternative. The attached Notice of Commencement, which has been emailed to you, and is also advertised in the Hanover Post Newspaper and on the Municipal website, provides details of the Class EA.

The purpose of this letter is to introduce the Project and invite initial comments and feedback for consideration and influence in the decision-making process. Consultation with affected or interested stakeholders and Indigenous Communities is a key element in the planning process.

On behalf of the Municipality, we look forward to receiving your comments and feedback on the Project, which will be received until September 30, 2023. We would also appreciate confirmation of your preferred method (i.e., email and/or hard copy mail) for receiving future correspondence as it relates to this Project.

Yours very truly,

TRITON ENGINEERING SERVICES LIMITED

A handwritten signature in black ink, appearing to read "Chris Clark". The signature is fluid and cursive, with the first name "Chris" and last name "Clark" clearly distinguishable.

Chris Clark, P. Eng.

Encl. Notice of Project Commencement
cc: Geoff Aitken, CET, Manager of Public Works

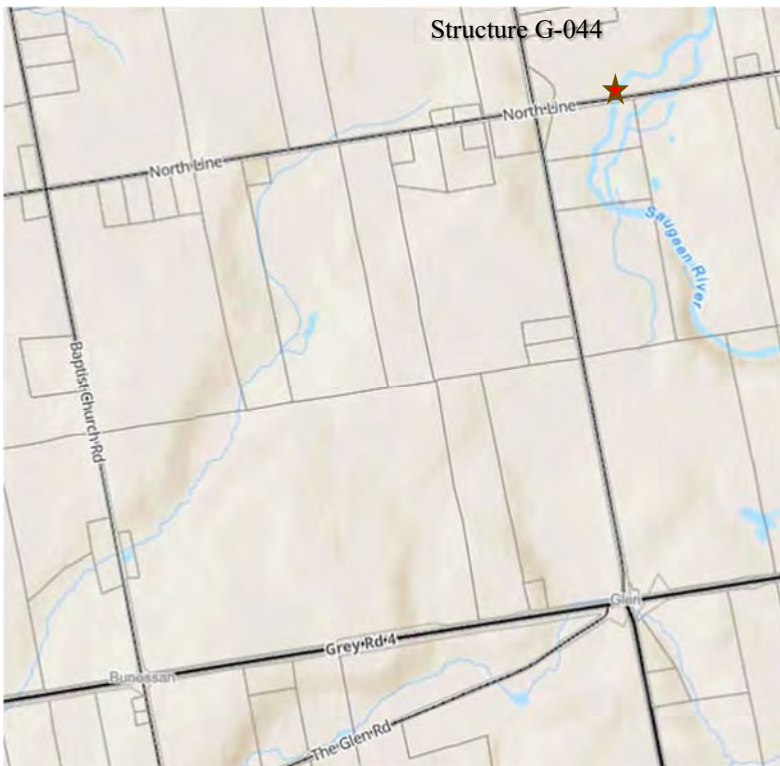


Municipality of West Grey
Schedule 'B'
Municipal Class Environmental Assessment
Structure G-044 Bridge, Northline Road

Notice of Project Commencement

The Project:

The Municipality of West Grey (West Grey) has initiated a Municipal Class Environmental Assessment (Class EA) process to investigate alternative options for Structure G-044 bridge, located on Northline Road approximately 0.35 km east of Glenelg Road 23 and 13.5 km northeast of the community of Durham over the Saugeen River. **Structure G-044 is in a state of disrepair and recent 2022 OSIM inspection indicates there is severe concrete spalling and disintegration to multiple bridge components and therefore, recommended for replacement to reduce the risk to bridge users and maintain public access to Northline Road** (Problem Statement). West Grey is initiating a Class EA to identify and evaluate alternatives to address the Problem Statement. Reasonable alternatives being considered are; replacement with a single or narrow 2-lane concrete span structure, replacement with a single or narrow 2-lane wood bridge structure and replacement with a single lane Bailey bridge structure.



The Process:

The project is being planned to follow the Schedule 'B' process in the Municipal Class Environmental Assessment (Municipal Engineers Association, March 2023) to identify, evaluate and make recommendations to address the replacement of Structure G-044. Consultation with affected or interested stakeholders and Indigenous Communities is a key element in the planning process.

Public Involvement:

For further information on the project, or on the planning process being followed, to be added to the study mailing list or to share information for consideration and influence in the decision-making process, please consult Chris Clark, (Consultant Project Manager), listed below. Public Comments are welcomed and will be received until September 29, 2023.

Project Team:

Geoff Aitken, CET, Manager of Public Works
Municipality of West Grey
402813 Grey Road 4
RR 2 Durham, ON N0G 1R0
Phone: 519-369-2200 Ext. 227
Email: publicworks@westgrey.com

Chris Clark, P. Eng., Consultant Project Manager
Triton Engineering Services Limited
39 Elora Street South (PO Box 159)
Harriston, ON N0G 1Z0
Phone: 519-843-3920 Ext. 250
Fax: 519-843-1943
Email: cclark@tritoneng.on.ca

Comments submitted to the Project Team for the purpose of providing feedback regarding this Class EA are collected under the authority of the Environmental Assessment Act. 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. Questions relating to the collection, use and disclosure of this information may be addressed to Chris Clark, Project Manager.

This Notice is issued July 12, 2023.



**TRITON
ENGINEERING
SERVICES
LIMITED**
Consulting Engineers

105 Queen Street West, Unit 14
Fergus
Ontario N1M 1S6
Tel: (519) 843-3920
Fax: (519) 843-1943
Email: info@tritoneng.on.ca

ORANGEVILLE • FERGUS • HARRISTON

July 12, 2023

KWIC Internet Services
22 Peel Street
Simcoe, Ontario
N3Y 1R9

ATTENTION: Mr. Mark Rapley
Director of Operations
mark@kwic.com

**RE: Municipality of West Grey
Notice of Commencement, Schedule 'B'
Municipal Class Environmental Assessment (Class EA)
Structure G-044 Bridge, Northline Road
Our File: B5306A**

Dear Mr. Rapley,

Structure G-044 Bridge, Northline Road in the Municipality of West Grey is in a state of disrepair. Recent 2022 OSIM inspection indicates that there is severe concrete spalling and disintegration to multiple bridge components and therefore recommended for replacement to reduce the risk to bridge users and maintain public access to Northline Road (Problem Statement). Therefore, the Municipality of West Grey (Municipality) has retained the services of Triton Engineering Services Limited (Triton) to initiate a Schedule 'B' Municipal Class Environmental Assessment (Class EA) to identify and evaluate alternatives to address the Problem Statement and select a preferred alternative. The attached Notice of Commencement, which has been emailed to you, and is also advertised in the Hanover Post Newspaper and on the Municipal website, provides details of the Class EA.

The purpose of this letter is to introduce the Project and invite initial comments and feedback for consideration and influence in the decision-making process. Consultation with affected or interested stakeholders and Indigenous Communities is a key element in the planning process.

On behalf of the Municipality, we look forward to receiving your comments and feedback on the Project, which will be received until September 30, 2023. We would also appreciate confirmation of your preferred method (i.e., email and/or hard copy mail) for receiving future correspondence as it relates to this Project.

Yours very truly,

TRITON ENGINEERING SERVICES LIMITED

A handwritten signature in black ink, appearing to read "Chris Clark". The signature is fluid and cursive, with the first name "Chris" and last name "Clark" clearly distinguishable.

Chris Clark, P. Eng.

Encl. Notice of Project Commencement
cc: Geoff Aitken, CET, Manager of Public Works

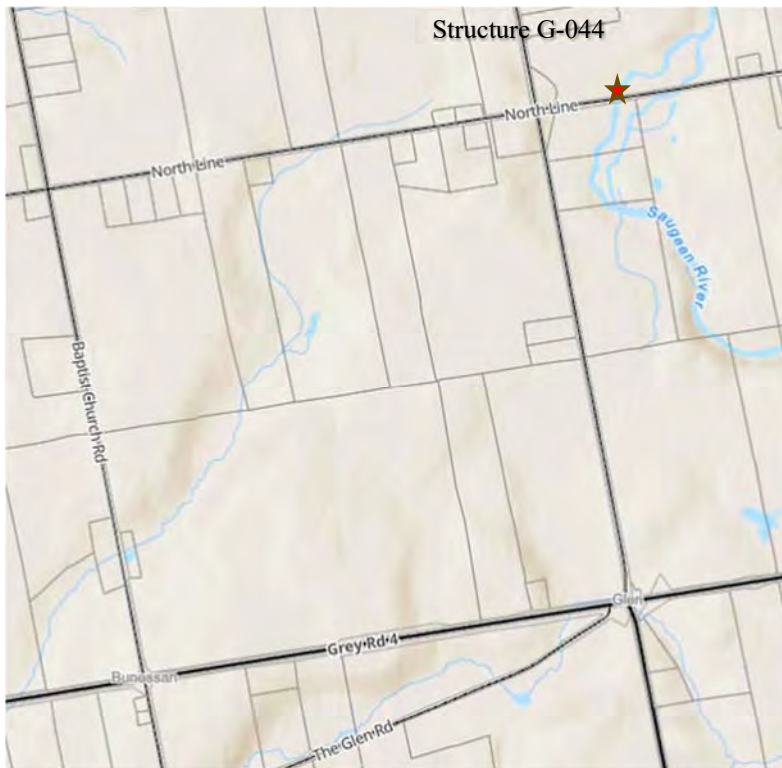


Municipality of West Grey
Schedule 'B'
Municipal Class Environmental Assessment
Structure G-044 Bridge, Northline Road

Notice of Project Commencement

The Project:

The Municipality of West Grey (West Grey) has initiated a Municipal Class Environmental Assessment (Class EA) process to investigate alternative options for Structure G-044 bridge, located on Northline Road approximately 0.35 km east of Glenelg Road 23 and 13.5 km northeast of the community of Durham over the Saugeen River. **Structure G-044 is in a state of disrepair and recent 2022 OSIM inspection indicates there is severe concrete spalling and disintegration to multiple bridge components and therefore, recommended for replacement to reduce the risk to bridge users and maintain public access to Northline Road** (Problem Statement). West Grey is initiating a Class EA to identify and evaluate alternatives to address the Problem Statement. Reasonable alternatives being considered are; replacement with a single or narrow 2-lane concrete span structure, replacement with a single or narrow 2-lane wood bridge structure and replacement with a single lane Bailey bridge structure.



The Process:

The project is being planned to follow the Schedule 'B' process in the Municipal Class Environmental Assessment (Municipal Engineers Association, March 2023) to identify, evaluate and make recommendations to address the replacement of Structure G-044. Consultation with affected or interested stakeholders and Indigenous Communities is a key element in the planning process.

Public Involvement:

For further information on the project, or on the planning process being followed, to be added to the study mailing list or to share information for consideration and influence in the decision-making process, please consult Chris Clark, (Consultant Project Manager), listed below. Public Comments are welcomed and will be received until September 29, 2023.

Project Team:

Geoff Aitken, CET, Manager of Public Works
Municipality of West Grey
402813 Grey Road 4
RR 2 Durham, ON N0G 1R0
Phone: 519-369-2200 Ext. 227
Email: publicworks@westgrey.com

Chris Clark, P. Eng., Consultant Project Manager
Triton Engineering Services Limited
39 Elora Street South (PO Box 159)
Harriston, ON N0G 1Z0
Phone: 519-843-3920 Ext. 250
Fax: 519-843-1943
Email: cclark@tritoneng.on.ca

Comments submitted to the Project Team for the purpose of providing feedback regarding this Class EA are collected under the authority of the Environmental Assessment Act. 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. Questions relating to the collection, use and disclosure of this information may be addressed to Chris Clark, Project Manager.

This Notice is issued July 12, 2023.



**TRITON
ENGINEERING
SERVICES
LIMITED**
Consulting Engineers

105 Queen Street West, Unit 14
Fergus
Ontario N1M 1S6
Tel: (519) 843-3920
Fax: (519) 843-1943
Email: info@tritoneng.on.ca

ORANGEVILLE • FERGUS • HARRISTON

July 12, 2023

Rogers Communications
South Western Ontario Region
85 Grand Crest Place
Kitchener, Ontario
N2G 4A8

ATTENTION: Mr. Richard Bolliger
Municipal and Utility Relations

RE: **Municipality of West Grey
Notice of Commencement, Schedule 'B'
Municipal Class Environmental Assessment (Class EA)
Structure G-044 Bridge, Northline Road
Our File: B5306A**

Dear Mr. Bolliger,

Structure G-044 Bridge, Northline Road in the Municipality of West Grey is in a state of disrepair. Recent 2022 OSIM inspection indicates that there is severe concrete spalling and disintegration to multiple bridge components and therefore recommended for replacement to reduce the risk to bridge users and maintain public access to Northline Road (Problem Statement). Therefore, the Municipality of West Grey (Municipality) has retained the services of Triton Engineering Services Limited (Triton) to initiate a Schedule 'B' Municipal Class Environmental Assessment (Class EA) to identify and evaluate alternatives to address the Problem Statement and select a preferred alternative. The attached Notice of Commencement, which has been emailed to you, and is also advertised in the Hanover Post Newspaper and on the Municipal website, provides details of the Class EA.

The purpose of this letter is to introduce the Project and invite initial comments and feedback for consideration and influence in the decision-making process. Consultation with affected or interested stakeholders and Indigenous Communities is a key element in the planning process.

On behalf of the Municipality, we look forward to receiving your comments and feedback on the Project, which will be received until September 30, 2023. We would also appreciate confirmation of your preferred method (i.e., email and/or hard copy mail) for receiving future correspondence as it relates to this Project.

Yours very truly,

TRITON ENGINEERING SERVICES LIMITED

A handwritten signature in black ink, appearing to read "Chris Clark". The signature is fluid and cursive, with the first name "Chris" and last name "Clark" clearly distinguishable.

Chris Clark, P. Eng.

Encl. Notice of Project Commencement
cc: Geoff Aitken, CET, Manager of Public Works



Municipality of West Grey
Schedule 'B'
Municipal Class Environmental Assessment
Structure G-044 Bridge, Northline Road

Notice of Project Commencement

The Project:

The Municipality of West Grey (West Grey) has initiated a Municipal Class Environmental Assessment (Class EA) process to investigate alternative options for Structure G-044 bridge, located on Northline Road approximately 0.35 km east of Glenelg Road 23 and 13.5 km northeast of the community of Durham over the Saugeen River. **Structure G-044 is in a state of disrepair and recent 2022 OSIM inspection indicates there is severe concrete spalling and disintegration to multiple bridge components and therefore, recommended for replacement to reduce the risk to bridge users and maintain public access to Northline Road** (Problem Statement). West Grey is initiating a Class EA to identify and evaluate alternatives to address the Problem Statement. Reasonable alternatives being considered are; replacement with a single or narrow 2-lane concrete span structure, replacement with a single or narrow 2-lane wood bridge structure and replacement with a single lane Bailey bridge structure.



The Process:

The project is being planned to follow the Schedule 'B' process in the Municipal Class Environmental Assessment (Municipal Engineers Association, March 2023) to identify, evaluate and make recommendations to address the replacement of Structure G-044. Consultation with affected or interested stakeholders and Indigenous Communities is a key element in the planning process.

Public Involvement:

For further information on the project, or on the planning process being followed, to be added to the study mailing list or to share information for consideration and influence in the decision-making process, please consult Chris Clark, (Consultant Project Manager), listed below. Public Comments are welcomed and will be received until September 29, 2023.

Project Team:

Geoff Aitken, CET, Manager of Public Works
Municipality of West Grey
402813 Grey Road 4
RR 2 Durham, ON N0G 1R0
Phone: 519-369-2200 Ext. 227
Email: publicworks@westgrey.com

Chris Clark, P. Eng., Consultant Project Manager
Triton Engineering Services Limited
39 Elora Street South (PO Box 159)
Harriston, ON N0G 1Z0
Phone: 519-843-3920 Ext. 250
Fax: 519-843-1943
Email: cclark@tritoneng.on.ca

Comments submitted to the Project Team for the purpose of providing feedback regarding this Class EA are collected under the authority of the Environmental Assessment Act. 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. Questions relating to the collection, use and disclosure of this information may be addressed to Chris Clark, Project Manager.

This Notice is issued July 12, 2023.



**TRITON
ENGINEERING
SERVICES
LIMITED**
Consulting Engineers

105 Queen Street West, Unit 14
Fergus
Ontario N1M 1S6
Tel: (519) 843-3920
Fax: (519) 843-1943
Email: info@tritoneng.on.ca

ORANGEVILLE • FERGUS • HARRISTON

July 12, 2023

Wightman Telecom
100 Elora Street North
P.O. Box 70
Clifford, Ontario
N0G 1M0

ATTENTION: Mr. Paul Rhody
Manager, Access Network Design
prhody@wightman.ca

**RE: Municipality of West Grey
Notice of Commencement, Schedule 'B'
Municipal Class Environmental Assessment (Class EA)
Structure G-044 Bridge, Northline Road
Our File: B5306A**

Dear Mr. Rhody,

Structure G-044 Bridge, Northline Road in the Municipality of West Grey is in a state of disrepair. Recent 2022 OSIM inspection indicates that there is severe concrete spalling and disintegration to multiple bridge components and therefore recommended for replacement to reduce the risk to bridge users and maintain public access to Northline Road (Problem Statement). Therefore, the Municipality of West Grey (Municipality) has retained the services of Triton Engineering Services Limited (Triton) to initiate a Schedule 'B' Municipal Class Environmental Assessment (Class EA) to identify and evaluate alternatives to address the Problem Statement and select a preferred alternative. The attached Notice of Commencement, which has been emailed to you, and is also advertised in the Hanover Post Newspaper and on the Municipal website, provides details of the Class EA.

The purpose of this letter is to introduce the Project and invite initial comments and feedback for consideration and influence in the decision-making process. Consultation with affected or interested stakeholders and Indigenous Communities is a key element in the planning process.

On behalf of the Municipality, we look forward to receiving your comments and feedback on the Project, which will be received until September 30, 2023. We would also appreciate confirmation of your preferred method (i.e., email and/or hard copy mail) for receiving future correspondence as it relates to this Project.

Yours very truly,

TRITON ENGINEERING SERVICES LIMITED

A handwritten signature in black ink, appearing to read "Chris Clark". The signature is fluid and cursive, with the first name "Chris" and last name "Clark" clearly distinguishable.

Chris Clark, P. Eng.

Encl. Notice of Project Commencement
cc: Geoff Aitken, CET, Manager of Public Works

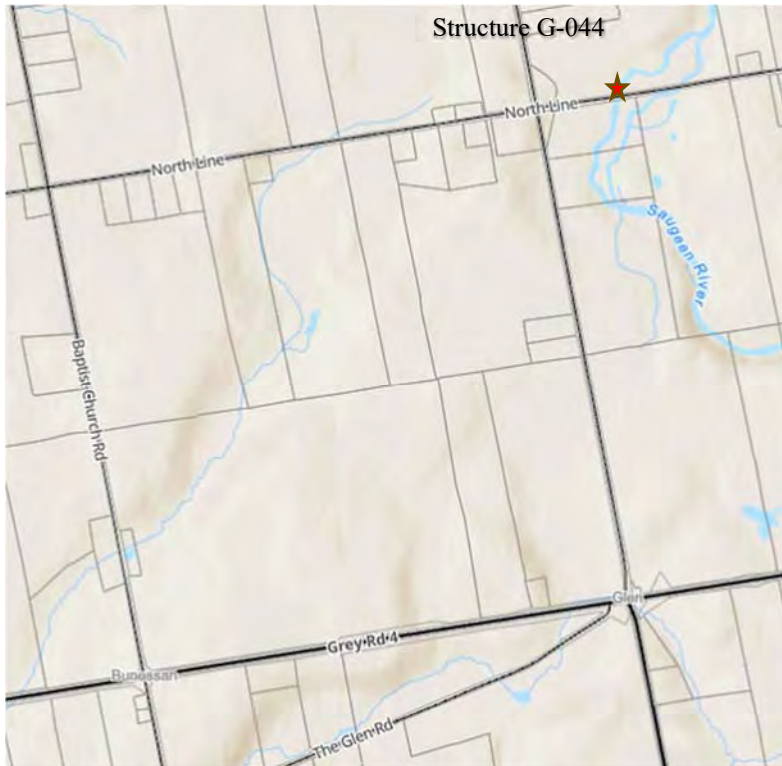


Municipality of West Grey
Schedule 'B'
Municipal Class Environmental Assessment
Structure G-044 Bridge, Northline Road

Notice of Project Commencement

The Project:

The Municipality of West Grey (West Grey) has initiated a Municipal Class Environmental Assessment (Class EA) process to investigate alternative options for Structure G-044 bridge, located on Northline Road approximately 0.35 km east of Glenelg Road 23 and 13.5 km northeast of the community of Durham over the Saugeen River. **Structure G-044 is in a state of disrepair and recent 2022 OSIM inspection indicates there is severe concrete spalling and disintegration to multiple bridge components and therefore, recommended for replacement to reduce the risk to bridge users and maintain public access to Northline Road** (Problem Statement). West Grey is initiating a Class EA to identify and evaluate alternatives to address the Problem Statement. Reasonable alternatives being considered are; replacement with a single or narrow 2-lane concrete span structure, replacement with a single or narrow 2-lane wood bridge structure and replacement with a single lane Bailey bridge structure.



The Process:

The project is being planned to follow the Schedule 'B' process in the Municipal Class Environmental Assessment (Municipal Engineers Association, March 2023) to identify, evaluate and make recommendations to address the replacement of Structure G-044. Consultation with affected or interested stakeholders and Indigenous Communities is a key element in the planning process.

Public Involvement:

For further information on the project, or on the planning process being followed, to be added to the study mailing list or to share information for consideration and influence in the decision-making process, please consult Chris Clark, (Consultant Project Manager), listed below. Public Comments are welcomed and will be received until September 29, 2023.

Project Team:

Geoff Aitken, CET, Manager of Public Works
Municipality of West Grey
402813 Grey Road 4
RR 2 Durham, ON N0G 1R0
Phone: 519-369-2200 Ext. 227
Email: publicworks@westgrey.com

Chris Clark, P. Eng., Consultant Project Manager
Triton Engineering Services Limited
39 Elora Street South (PO Box 159)
Harriston, ON N0G 1Z0
Phone: 519-843-3920 Ext. 250
Fax: 519-843-1943
Email: cclark@tritoneng.on.ca

Comments submitted to the Project Team for the purpose of providing feedback regarding this Class EA are collected under the authority of the Environmental Assessment Act. 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. Questions relating to the collection, use and disclosure of this information may be addressed to Chris Clark, Project Manager.

This Notice is issued July 12, 2023.

Shari Page

From: Chris Clark
Sent: Tuesday, August 15, 2023 5:00 PM
To: Badali, Mark (MECP); publicworks@westgrey.com
Cc: Ritchie, John (He/Him) (MECP); Shari Page
Subject: RE: Municipality of West Grey, MCEA, Structure G-044 Bridge, Northline Road

Hi Mark,

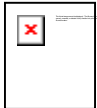
Thank you for your email and for taking my call.

Moving forward when submitting to MECP for Class EA processes we will send to the applicable regional emails only and no other MECP contacts.

Thanks for this clarification.

Chris

Chris Clark, M.A.Sc., P.Eng.



Triton Engineering Services Limited
The Old Post - 39 Elora Street South, Unit 7, 8 & 9
P.O. Box 159
Harriston, ON N0G 1Z0
Tel - (519) 993-7918 • www.tritoneng.on.ca

This email message and any files transmitted with it are proprietary and confidential information of the sender and are intended only for the person(s) to whom this email is addressed. If you have received this email message in error, please notify the sender immediately by telephone or email and destroy the original message without making a copy.

From: Badali, Mark (MECP) <Mark.Badali1@ontario.ca>
Sent: Tuesday, August 15, 2023 2:50 PM
To: publicworks@westgrey.com
Cc: Chris Clark <cclark@tritoneng.on.ca>; Ritchie, John (He/Him) (MECP) <John.S.Ritchie@ontario.ca>
Subject: RE: Municipality of West Grey, MCEA, Structure G-044 Bridge, Northline Road

Good afternoon,

Please find the attached letter of acknowledgement and supporting attachments in response to the Notice of Commencement of the Structure G-044 Bridge, Northline Road project being undertaken by the Municipality of West Grey in accordance with the Municipal Class Environmental Assessment (Schedule B).

I am presently acting as the Regional Environmental Planner (REP) who is assigned to your project. In addition to the emails below, I am also in receipt of Triton Engineering's email to Kathleen O'Neill. Moving forward, please do not send notices to other MECP contacts besides the appropriate Regional EA email address and the assigned REP. The reason MECP implemented the regional email address notification procedure is to create certainty for proponents/consultants on where to

send notices and to avoid situations where proponents send notices to multiple contacts in the MECP which complicates internal processes unnecessarily.

Best regards,

Mark Badali ([he/him](#)) | Senior Project Evaluator
Environmental Assessment Program Support | Environmental Assessment Branch
Ontario Ministry of the Environment, Conservation and Parks
Mark.Badali1@ontario.ca | (416) 457-2155

From: Chris Clark <cclark@tritoneng.on.ca>
Sent: July 12, 2023 3:25 PM
To: EA Notices to SWRegion (MECP) <eanotification.swregion@ontario.ca>
Cc: Public Works <publicworks@westgrey.com>; Shari Page <spage@tritoneng.on.ca>
Subject: Municipality of West Grey, MCEA, Structure G-044 Bridge, Northline Road

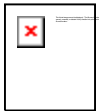
CAUTION -- EXTERNAL E-MAIL - Do not click links or open attachments unless you recognize the sender.

Hello again,

Further to my previous email sent below, please find attached the Project Information Form for the above noted Project.

Regards,

Chris Clark, M.A.Sc., P.Eng.



Triton Engineering Services Limited
The Old Post - 39 Elora Street South, Unit 7, 8 & 9
P.O. Box 159
Harriston, ON N0G 1Z0
Tel - (519) 993-7918 • www.tritoneng.on.ca

This email message and any files transmitted with it are proprietary and confidential information of the sender and are intended only for the person(s) to whom this email is addressed. If you have received this email message in error, please notify the sender immediately by telephone or email and destroy the original message without making a copy.

From: Chris Clark
Sent: Wednesday, July 12, 2023 3:20 PM
To: eanotification.swregion@ontario.ca
Cc: Public Works <publicworks@westgrey.com>; Shari Page <spage@tritoneng.on.ca>
Subject: Municipality of West Grey, MCEA, Structure G-044 Bridge, Northline Road

Good afternoon,

Please see attached Notice of Project Commencement and Project Information Form for the Schedule B Municipal Class Environmental Assessment, Structure G-044 located on Northline Road in the Municipality of West Grey.

Regards,

Chris Clark, M.A.Sc., P.Eng.

Triton Engineering Services Limited

The Old Post - 39 Elora Street South, Unit 7, 8 & 9
P.O. Box 159
Harriston, ON N0G 1Z0
Tel - (519) 993-7918 • www.tritoneng.on.ca

This email message and any files transmitted with it are proprietary and confidential information of the sender and are intended only for the person(s) to whom this email is addressed. If you have received this email message in error, please notify the sender immediately by telephone or email and destroy the original message without making a copy.

Shari Page

From: Laura Desaulniers <LauraD@metisnation.org>
Sent: Monday, August 28, 2023 1:41 PM
To: Shari Page
Subject: RE: mailed in project notifications

Hi Shari,

Thank you for reaching out, yes please remove myself but keep the consultations@metisnation.org as your contact. I manage this inbox by sorting the notifications to the correct regions for the regional staff to review.

Laura Desaulniers (she/her)

Environmental Advisor | Konsèyé dlanvirawnman

Lands, Resources & Consultations (LRC) Branch

Métis Nation of Ontario

Thunder Bay, ON

E: LauraD@metisnation.org

C: 807-375-0208

W: www.metsnation.org

Mon-Fri 7:30 am – 3:30 pm EST

This email is intended only for the named recipient(s) and may contain information that is CONFIDENTIAL. No waiver of privilege, confidence or otherwise is intended by virtue of this email. Any unauthorized copying is strictly prohibited. If you have received this email in error, or are not the named recipient, please immediately notify the sender and destroy all copies of this email.

Please consider the environment before printing this e-mail. Maarsii, Thank you.

From: Shari Page <spage@tritoneng.on.ca>
Sent: August 28, 2023 1:36 PM
To: Laura Desaulniers <LauraD@metisnation.org>
Subject: FW: mailed in project notifications

Hi Laura,

Thank you for your reply to the Project Notifications we recently sent to you.

Just to let you know that I also sent to consultations@metisnation.org and will continue sending future notifications to that inbox. Shall I remove you from our official contact lists for each of these three projects?

Thank you for your assistance and direction.

Have a wonderful day!
Shari

Shari Page



Triton Engineering Services Limited
105 Queen Street West, Unit 14, Fergus, ON N1M 1S6
(519) 843-3920 Ext 220 || www.tritoneng.on.ca

This email message and any files transmitted with it are proprietary and confidential information of the sender and are intended only for the person(s) to whom this email is addressed. If you have received this email message in error, please notify the sender immediately by telephone or email and destroy the original message without making a copy.

Thank you!

From: Chris Clark <cclark@tritoneng.on.ca>
Sent: Monday, August 28, 2023 1:22 PM
To: Shari Page <spage@tritoneng.on.ca>
Cc: Lindsay Scott <lscott@tritoneng.on.ca>
Subject: FW: mailed in project notifications

Fyi, from Metis group

From: Laura Desaulniers <LauraD@metisnation.org>
Sent: Monday, August 28, 2023 1:11 PM
To: Chris Clark <cclark@tritoneng.on.ca>
Subject: mailed in project notifications

Hello,

I have received your project notifications by registered mail for the municipalities of West Grey, Wellington North and Minto. Thank you for sending them. If possible, going forward please email notifications to our consultations@metisnation.org inbox.

Thank you,

Laura Desaulniers (she/her)
Environmental Advisor | Konsèyé dlanvirawnman
Lands, Resources & Consultations (LRC) Branch
Métis Nation of Ontario
Thunder Bay, ON
E: LauraD@metisnation.org
C: 807-375-0208
W: www.metisnation.org
Mon-Fri 7:30 am – 3:30 pm EST

This email is intended only for the named recipient(s) and may contain information that is CONFIDENTIAL. No waiver of privilege, confidence or otherwise is intended by virtue of this email. Any unauthorized copying is strictly prohibited. If you have received this email in error, or are not the named recipient, please immediately notify the sender and destroy all copies of this email.

Please consider the environment before printing this e-mail. Maarsii, Thank you.

Attention: This email originated from outside the **MNO**. Please use caution when clicking links, opening attachments or replying to requests for account information or funds.

Shari Page

From: Southern Region Planning Inbox (MNRF) <SR.Planning@ontario.ca>
Sent: Friday, July 21, 2023 10:50 AM
To: Shari Page
Subject: RE: NOTICE OF COMMENCEMENT, Schedule B, Municipal Class EA, Municipality of West Grey Structure G-044 Bridge, Northline Road
Attachments: 2023-07-21_MNRF_Comments.pdf

Hello Shari,

Thank you for circulating this notice to MNRF. Attached are some sources of information to consider from MNRF as part of your project. There is also some information about MNRF authorities which you may require if in-water works are being considered.

Please let me know if you have any questions about this.

Thanks,
Catherine

From: Shari Page <spage@tritoneng.on.ca>
Sent: July 19, 2023 11:09 AM
To: Fairbairn, Ella (MNRF) <Ella.Fairbairn2@ontario.ca>
Subject: FW: NOTICE OF COMMENCEMENT, Schedule B, Municipal Class EA, Municipality of West Grey Structure G-044 Bridge, Northline Road

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

Good morning Ella

I am forwarding the attached and email correspondence below on behalf of Mr.Thornton.

Thank you!
Shari

Shari Page



Triton Engineering Services Limited
105 Queen Street West, Unit 14, Fergus, ON N1M 1S6
(519) 843-3920 Ext 220 || www.tritoneng.on.ca

This email message and any files transmitted with it are proprietary and confidential information of the sender and are intended only for the person(s) to whom this email is addressed. If you have received this email message in error, please notify the sender immediately by telephone or email and destroy the original message without making a copy.

Thank you!

From: Shari Page
Sent: Wednesday, July 19, 2023 10:01 AM
To: ian.thornton@ontario.ca

Subject: NOTICE OF COMMENCEMENT, Schedule B, Municipal Class EA, Municipality of West Grey Structure G-044 Bridge, Northline Road

Good morning,

On behalf of the Municipality of West Grey, please find attached, *Notice of Commencement, Schedule 'B', Municipal Class Environmental Assessment (Class EA) for Structure G-044 Bridge, Northline Road.*

This Notice will publicly appear in the next two (2) consecutive editions of *The Hanover Post*, July 20th and July 27th, 2023.

Should you have any questions or require further clarification to the attached, please do not hesitate to contact our Project Team.

Kind regards,
Shari

Shari Page



Triton Engineering Services Limited
105 Queen Street West, Unit 14, Fergus, ON N1M 1S6
(519) 843-3920 Ext 220 || www.tritoneng.on.ca

This email message and any files transmitted with it are proprietary and confidential information of the sender and are intended only for the person(s) to whom this email is addressed. If you have received this email message in error, please notify the sender immediately by telephone or email and destroy the original message without making a copy.

Thank you!

Shari Page

From: Lebi, Jonathan (He/Him) (MTO) <Jonathan.Lebi@ontario.ca>
Sent: Thursday, July 20, 2023 10:01 AM
To: Shari Page
Subject: RE: NOTICE OF COMMENCEMENT, Schedule B, Municipal Class EA, Municipality of West Grey Structure G-044 Bridge, Northline Road

Hi Shari – this was forwarded to the correct person, Emily Roadhouse, West Environmental Delivery in MTO.

Thanks!

From: Shari Page <spage@tritoneng.on.ca>
Sent: July 19, 2023 3:45 PM
To: Lebi, Jonathan (He/Him) (MTO) <Jonathan.Lebi@ontario.ca>
Subject: RE: NOTICE OF COMMENCEMENT, Schedule B, Municipal Class EA, Municipality of West Grey Structure G-044 Bridge, Northline Road

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

Good afternoon Mr. Lebi,

No we haven't. I would appreciate your direction as to the correct contact at MTO's Transportation Infrastructure Management Division with regard to this project.

Thank you so much for your assistance.

Shari

Shari Page



Triton Engineering Services Limited
105 Queen Street West, Unit 14, Fergus, ON N1M 1S6
(519) 843-3920 Ext 220 || www.tritoneng.on.ca

This email message and any files transmitted with it are proprietary and confidential information of the sender and are intended only for the person(s) to whom this email is addressed. If you have received this email message in error, please notify the sender immediately by telephone or email and destroy the original message without making a copy.

Thank you!

From: Lebi, Jonathan (He/Him) (MTO) <Jonathan.Lebi@ontario.ca>
Sent: Wednesday, July 19, 2023 1:16 PM
To: Shari Page <spage@tritoneng.on.ca>
Subject: RE: NOTICE OF COMMENCEMENT, Schedule B, Municipal Class EA, Municipality of West Grey Structure G-044 Bridge, Northline Road

Thank you for sharing this – have you also shared with others at MTO, including in our Transportation Infrastructure Management Division? If not, we can.

Thanks.

From: Shari Page <spage@tritoneng.on.ca>

Sent: July 19, 2023 10:07 AM

To: Lebi, Jonathan (He/Him) (MTO) <Jonathan.Lebi@ontario.ca>

Subject: NOTICE OF COMMENCEMENT, Schedule B, Municipal Class EA, Municipality of West Grey Structure G-044 Bridge, Northline Road

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

Good morning,

On behalf of the Municipality of West Grey, please find attached, *Notice of Commencement, Schedule 'B', Municipal Class Environmental Assessment (Class EA) for Structure G-044 Bridge, Northline Road.*

This Notice will publicly appear in the next two (2) consecutive editions of *The Hanover Post*, July 20th and July 27th, 2023.

Should you have any questions or require further clarification to the attached, please do not hesitate to contact our Project Team.

Kind regards,
Shari

Shari Page



Triton Engineering Services Limited
105 Queen Street West, Unit 14, Fergus, ON N1M 1S6
(519) 843-3920 Ext 220 || www.tritoneng.on.ca

This email message and any files transmitted with it are proprietary and confidential information of the sender and are intended only for the person(s) to whom this email is addressed. If you have received this email message in error, please notify the sender immediately by telephone or email and destroy the original message without making a copy.

Thank you!

Shari Page

From: Shari Page
Sent: Thursday, July 20, 2023 10:55 AM
To: Adair, Jane (She/Her) (MOI)
Subject: RE: NOTICE OF COMMENCEMENT, Schedule B, Municipal Class EA, Municipality of West Grey Structure G-044 Bridge, Northline Road

Good morning Jane

Thank you so much for taking the time to give us direction on these projects.

Your help is greatly appreciated.

Enjoy your day!
Shari

Shari Page



Triton Engineering Services Limited
105 Queen Street West, Unit 14, Fergus, ON N1M 1S6
(519) 843-3920 Ext 220 || www.tritoneng.on.ca

This email message and any files transmitted with it are proprietary and confidential information of the sender and are intended only for the person(s) to whom this email is addressed. If you have received this email message in error, please notify the sender immediately by telephone or email and destroy the original message without making a copy.

Thank you!

From: Adair, Jane (She/Her) (MOI) <jane.adair@ontario.ca>
Sent: Thursday, July 20, 2023 10:42 AM
To: Shari Page <spage@tritoneng.on.ca>
Cc: Adair, Jane (She/Her) (MOI) <jane.adair@ontario.ca>
Subject: FW: NOTICE OF COMMENCEMENT, Schedule B, Municipal Class EA, Municipality of West Grey Structure G-044 Bridge, Northline Road

Hello Shari,

Your message has been forwarded to the Ministry of Infrastructure (MOI).

Please note that OMAFRA no longer administers infrastructure projects as they are now administered by the MOI. We would recommend that you forward any notices of this type to the provincial funding program involved.

For example if funding for the municipality in question is being provided funding by the Ontario Community Infrastructure Fund, please send the notices to OCIF@ontario.ca. The OCIF inbox can also be used for other EA notifications of a more general nature, however, please note that this area of the ministry will only retain and relay information on the projects that they are directly involved in.

Hope this helps.

Jane

Jane Adair, Senior Program Advisor
Infrastructure Renewal Programs Unit
Infrastructure Program Delivery Branch
Ministry of Infrastructure
519-766-6774

From: Shari Page <spage@tritoneng.on.ca>
Sent: July 19, 2023 11:01 AM
To: Crawley, Alan (OMAFRA) <alan.crawley@ontario.ca>
Cc: Steffen-Petrie, Heidi (She/Her) (OMAFRA) <heidi.steffen-petrie@ontario.ca>
Subject: FW: NOTICE OF COMMENCEMENT, Schedule B, Municipal Class EA, Municipality of West Grey Structure G-044 Bridge, Northline Road

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

Good morning,

I am forwarding the attached and message below as per the direction of Barry Walker, Retired.

I have updated our contact list regarding this project to include yourselves however kindly let me know if I should be reaching out to other contacts at OMAFRA.

Thank you!
Shari

Shari Page



Triton Engineering Services Limited
105 Queen Street West, Unit 14, Fergus, ON N1M 1S6
(519) 843-3920 Ext 220 || www.tritoneng.on.ca

This email message and any files transmitted with it are proprietary and confidential information of the sender and are intended only for the person(s) to whom this email is addressed. If you have received this email message in error, please notify the sender immediately by telephone or email and destroy the original message without making a copy.

Thank you!

From: Shari Page
Sent: Wednesday, July 19, 2023 10:03 AM
To: barry.walker@ontario.ca
Subject: NOTICE OF COMMENCEMENT, Schedule B, Municipal Class EA, Municipality of West Grey Structure G-044 Bridge, Northline Road

Good morning,

On behalf of the Municipality of West Grey, please find attached, *Notice of Commencement, Schedule 'B', Municipal Class Environmental Assessment (Class EA) for Structure G-044 Bridge, Northline Road.*

This Notice will publicly appear in the next two (2) consecutive editions of *The Hanover Post*, July 20th and July 27th, 2023.

Should you have any questions or require further clarification to the attached, please do not hesitate to contact our Project Team.

Kind regards,
Shari

Shari Page



Triton Engineering Services Limited
105 Queen Street West, Unit 14, Fergus, ON N1M 1S6
(519) 843-3920 Ext 220 || www.tritoneng.on.ca

This email message and any files transmitted with it are proprietary and confidential information of the sender and are intended only for the person(s) to whom this email is addressed. If you have received this email message in error, please notify the sender immediately by telephone or email and destroy the original message without making a copy.

Thank you!

Shari Page

From: Kellar, Nicholas <nicholas.kellar@bell.ca>
Sent: Wednesday, July 19, 2023 11:55 AM
To: Shari Page; Ackerman, R. Neil
Subject: RE: NOTICE OF COMMENCEMENT, Schedule B, Municipal Class EA, Municipality of West Grey Structure G-044 Bridge, Northline Road

Hi Shari. Please add me to the list. Thank you.

Nick Kellar

Implementation Manager
Owen Sound, ON
870 4th Ave E, N4K 2N7
office: 519-371-3125
fax: 519-376-3563
email: nicholas.kellar@bell.ca

From: Shari Page <spage@tritoneng.on.ca>
Sent: July-19-23 11:51 AM
To: Ackerman, R. Neil <neil.ackerman1@bell.ca>
Cc: Kellar, Nicholas <nicholas.kellar@bell.ca>
Subject: [EXT]RE: NOTICE OF COMMENCEMENT, Schedule B, Municipal Class EA, Municipality of West Grey Structure G-044 Bridge, Northline Road

Good morning Neil and thank you for your reply.

I will remove you from our contact list for the above noted project.

Nick, please let me know if you wish to be added to the correspondence list or should I be including other contacts.

Thanks so much for your help!
Shari

Shari Page



Triton Engineering Services Limited
105 Queen Street West, Unit 14, Fergus, ON N1M 1S6
(519) 843-3920 Ext 220 || www.tritoneng.on.ca

This email message and any files transmitted with it are proprietary and confidential information of the sender and are intended only for the person(s) to whom this email is addressed. If you have received this email message in error, please notify the sender immediately by telephone or email and destroy the original message without making a copy.

Thank you!

From: Ackerman, R. Neil <neil.ackerman1@bell.ca>

Sent: Wednesday, July 19, 2023 11:27 AM

To: Shari Page <spage@tritoneng.on.ca>; Kellar, Nicholas <nicholas.kellar@bell.ca>

Subject: RE: NOTICE OF COMMENCEMENT, Schedule B, Municipal Class EA, Municipality of West Grey Structure G-044 Bridge, Northline Road

Hi Shari

This looks to be west of Flesherton and in Nick's area.



Neil Ackerman
Implementation Manager,
Network Provisioning

Flr 3,20 Cork St East
Guelph, N1H-2W7
neil.ackerman1@bell.ca

Bell customer website: www.bell.ca or call 310-3255

519 N/E Engineering Control Center kitchenercell1@bell.ca

Emergency repairs to damaged Bell plant 1-866-480-5901 Option 4

Complaints related to broken or unsightly existing Bell plant please direct emails to Complaints@bell.ca

From: Shari Page <spage@tritoneng.on.ca>

Sent: July-19-23 10:38 AM

To: Ackerman, R. Neil <neil.ackerman1@bell.ca>

Subject: [EXT]NOTICE OF COMMENCEMENT, Schedule B, Municipal Class EA, Municipality of West Grey Structure G-044 Bridge, Northline Road

Good morning,

On behalf of the Municipality of West Grey, please find attached, *Notice of Commencement, Schedule 'B', Municipal Class Environmental Assessment (Class EA) for Structure G-044 Bridge, Northline Road.*

This Notice will publicly appear in the next two (2) consecutive editions of *The Hanover Post*, July 20th and July 27th, 2023.

Should you have any questions or require further clarification to the attached, please do not hesitate to contact our Project Team.

Kind regards,
Shari

Shari Page



Triton Engineering Services Limited
105 Queen Street West, Unit 14, Fergus, ON N1M 1S6
(519) 843-3920 Ext 220 || www.tritoneng.on.ca

This email message and any files transmitted with it are proprietary and confidential information of the sender and are intended only for the person(s) to whom this email is addressed. If you have received this email message in error, please notify the sender immediately by telephone or email and destroy the original message without making a copy.

Thank you!

External Email: Please use caution when opening links and attachments / Courriel externe: Soyez prudent avec les liens et documents joints

External Email: Please use caution when opening links and attachments / Courriel externe: Soyez prudent avec les liens et documents joints

Shari Page

From: Michael MacDougall <Michael.MacDougall@corp.eastlink.ca>
Sent: Thursday, July 20, 2023 6:34 AM
To: Chris Clark
Cc: Shari Page
Subject: RE: NOTICE OF COMMENCEMENT, Schedule B, Municipal Class EA, Municipality of West Grey Structure G-044 Bridge, Northline Road

Thank you
Eastlink does not have any cables in this area.

Michael

Michael MacDougall | Manager, Network Design Central, Western
Michael.MacDougall@corp.eastlink.ca T: 902.401.2238

From: Chris Clark <cclark@tritoneng.on.ca>
Sent: July-19-23 5:17 PM
To: Michael MacDougall <Michael.MacDougall@corp.eastlink.ca>
Cc: Shari Page <spage@tritoneng.on.ca>
Subject: RE: NOTICE OF COMMENCEMENT, Schedule B, Municipal Class EA, Municipality of West Grey Structure G-044 Bridge, Northline Road

Hi Michael,

The coordinates for the Project site are as follows: - [44.215197](#), [-80.692328](#)

Let us know if you have any questions.

Chris

Chris Clark, M.A.Sc., P.Eng.



Triton Engineering Services Limited
The Old Post - 39 Elora Street South, Unit 7, 8 & 9
P.O. Box 159
Harriston, ON N0G 1Z0
Tel - (519) 993-7918 • www.tritoneng.on.ca

This email message and any files transmitted with it are proprietary and confidential information of the sender and are intended only for the person(s) to whom this email is addressed. If you have received this email message in error, please notify the sender immediately by telephone or email and destroy the original message without making a copy.

Cc: [File B5304](#)

From: Shari Page <spage@tritoneng.on.ca>
Sent: Wednesday, July 19, 2023 11:03 AM

To: Chris Clark <cclark@tritoneng.on.ca>

Subject: FW: NOTICE OF COMMENCEMENT, Schedule B, Municipal Class EA, Municipality of West Grey Structure G-044 Bridge, Northline Road

Good morning Chris

Are you able to respond to the email below from Michael MacDougall at Eastlink?

Thank you!
Shari

Shari Page



Triton Engineering Services Limited
105 Queen Street West, Unit 14, Fergus, ON N1M 1S6
(519) 843-3920 Ext 220 || www.tritoneng.on.ca

This email message and any files transmitted with it are proprietary and confidential information of the sender and are intended only for the person(s) to whom this email is addressed. If you have received this email message in error, please notify the sender immediately by telephone or email and destroy the original message without making a copy.

Thank you!

From: Michael MacDougall <Michael.MacDougall@corp.eastlink.ca>

Sent: Wednesday, July 19, 2023 10:55 AM

To: Shari Page <spage@tritoneng.on.ca>

Subject: RE: NOTICE OF COMMENCEMENT, Schedule B, Municipal Class EA, Municipality of West Grey Structure G-044 Bridge, Northline Road

Are you able to send the lat / long for this project.
Thank you

Michael MacDougall | Manager, Network Design Central, Western
Michael.MacDougall@corp.eastlink.ca T: 902.401.2238

From: Shari Page <spage@tritoneng.on.ca>

Sent: July-19-23 11:40 AM

To: Michael MacDougall <Michael.MacDougall@corp.eastlink.ca>

Subject: NOTICE OF COMMENCEMENT, Schedule B, Municipal Class EA, Municipality of West Grey Structure G-044 Bridge, Northline Road

Good morning,

On behalf of the Municipality of West Grey, please find attached, *Notice of Commencement, Schedule 'B', Municipal Class Environmental Assessment (Class EA) for Structure G-044 Bridge, Northline Road.*

This Notice will publicly appear in the next two (2) consecutive editions of *The Hanover Post*, July 20th and July 27th, 2023.

Should you have any questions or require further clarification to the attached, please do not hesitate to contact our Project Team.

Kind regards,
Shari

Shari Page



Triton Engineering Services Limited
105 Queen Street West, Unit 14, Fergus, ON N1M 1S6
(519) 843-3920 Ext 220 || www.tritoneng.on.ca

This email message and any files transmitted with it are proprietary and confidential information of the sender and are intended only for the person(s) to whom this email is addressed. If you have received this email message in error, please notify the sender immediately by telephone or email and destroy the original message without making a copy.

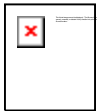
Thank you!

Shari Page

From: Chris Clark
Sent: Wednesday, July 19, 2023 5:38 PM
To: Kevin Schimus; Shari Page
Subject: RE: NOTICE OF COMMENCEMENT, Schedule B, Municipal Class EA, Municipality of West Grey Structure G-044 Bridge, Northline Road

Thanks Kevin.,

Chris Clark, M.A.Sc., P.Eng.



Triton Engineering Services Limited
The Old Post - 39 Elora Street South, Unit 7, 8 & 9
P.O. Box 159
Harriston, ON N0G 1Z0
Tel - (519) 993-7918 • www.tritoneng.on.ca

This email message and any files transmitted with it are proprietary and confidential information of the sender and are intended only for the person(s) to whom this email is addressed. If you have received this email message in error, please notify the sender immediately by telephone or email and destroy the original message without making a copy.

From: Kevin Schimus <Kevin.Schimus@enbridge.com>
Sent: Wednesday, July 19, 2023 4:02 PM
To: Shari Page <spage@tritoneng.on.ca>; Chris Clark <cclark@tritoneng.on.ca>
Subject: RE: NOTICE OF COMMENCEMENT, Schedule B, Municipal Class EA, Municipality of West Grey Structure G-044 Bridge, Northline Road

Good afternoon,

There's currently no existing or proposed Enbridge Gas infrastructure in this area. No further comments or concerns. I can be removed from project distribution list going forward.

Regards,

Kevin Schimus

Sr. Advisor, Construction and Project Management
Southeast Region Construction and Growth

Enbridge Gas Inc
Cell: 519-635-9488 | Kevin.Schimus@enbridge.com
603 Kumpf Drive, Waterloo, Ontario, N2V 1K3

enbridgegas.com

Safety. Integrity. Respect. Inclusion.

From: Shari Page <spage@tritoneng.on.ca>

Sent: Wednesday, July 19, 2023 10:41 AM

To: Kevin Schimus <Kevin.Schimus@enbridge.com>

Subject: [External] NOTICE OF COMMENCEMENT, Schedule B, Municipal Class EA, Municipality of West Grey Structure G-044 Bridge, Northline Road

CAUTION! EXTERNAL SENDER

Were you expecting this email? TAKE A CLOSER LOOK. Is the sender legitimate?

DO NOT click links or open attachments unless you are 100% sure that the email is safe.

Good morning,

On behalf of the Municipality of West Grey, please find attached, *Notice of Commencement, Schedule 'B', Municipal Class Environmental Assessment (Class EA) for Structure G-044 Bridge, Northline Road.*

This Notice will publicly appear in the next two (2) consecutive editions of *The Hanover Post*, July 20th and July 27th, 2023.

Should you have any questions or require further clarification to the attached, please do not hesitate to contact our Project Team.

Kind regards,
Shari

Shari Page



Triton Engineering Services Limited
105 Queen Street West, Unit 14, Fergus, ON N1M 1S6
(519) 843-3920 Ext 220 || www.tritoneng.on.ca

This email message and any files transmitted with it are proprietary and confidential information of the sender and are intended only for the person(s) to whom this email is addressed. If you have received this email message in error, please notify the sender immediately by telephone or email and destroy the original message without making a copy.

Thank you!

Shari Page

From: GALLAUGHER Kelly <kelly.gallaugh@HydroOne.com>
Sent: Wednesday, July 19, 2023 4:17 PM
To: Shari Page
Cc: FBC WOODSTOCK
Subject: RE: NOTICE OF COMMENCEMENT, Schedule B, Municipal Class EA, Municipality of West Grey Structure G-044 Bridge, Northline Road

Hi Shari

For Municipal Notifications, please have these sent to our Field Business Centre at fbcwoodstock@hydroone.com

Thank you

Kelly Gallagher

Supervising Distribution Technician
Walkerton Operations WA1
Cell 519.540.8063
Email kelly.gallaugh@hydroone.com

From: Shari Page <spage@tritoneng.on.ca>
Sent: Wednesday, July 19, 2023 2:58 PM
To: GALLAUGHER Kelly <kelly.gallaugh@HydroOne.com>
Subject: NOTICE OF COMMENCEMENT, Schedule B, Municipal Class EA, Municipality of West Grey Structure G-044 Bridge, Northline Road

You don't often get email from spage@tritoneng.on.ca. [Learn why this is important](#)

***** Exercise caution. This is an EXTERNAL email. DO NOT open attachments or click links from unknown senders or unexpected email. *****

Good afternoon,

On behalf of the Municipality of West Grey, please find attached, *Notice of Commencement, Schedule 'B', Municipal Class Environmental Assessment (Class EA) for Structure G-044 Bridge, Northline Road.*

This Notice will publicly appear in the next two (2) consecutive editions of *The Hanover Post*, July 20th and July 27th, 2023.

Should you have any questions or require further clarification to the attached, please do not hesitate to contact our Project Team.

Kind regards,
Shari

Shari Page



Triton Engineering Services Limited
105 Queen Street West, Unit 14, Fergus, ON N1M 1S6
(519) 843-3920 Ext 220 || www.tritoneng.on.ca

This email message and any files transmitted with it are proprietary and confidential information of the sender and are intended only for the person(s) to whom this email is addressed. If you have received this email message in error, please notify the sender immediately by telephone or email and destroy the original message without making a copy.

Thank you!

This email and any attached files are privileged and may contain confidential information intended only for the person or persons named above. Any other distribution, reproduction, copying, disclosure, or other dissemination is strictly prohibited. If you have received this email in error, please notify the sender immediately by reply email and delete the transmission received by you. This statement applies to the initial email as well as any and all copies (replies and/or forwards) of the initial email

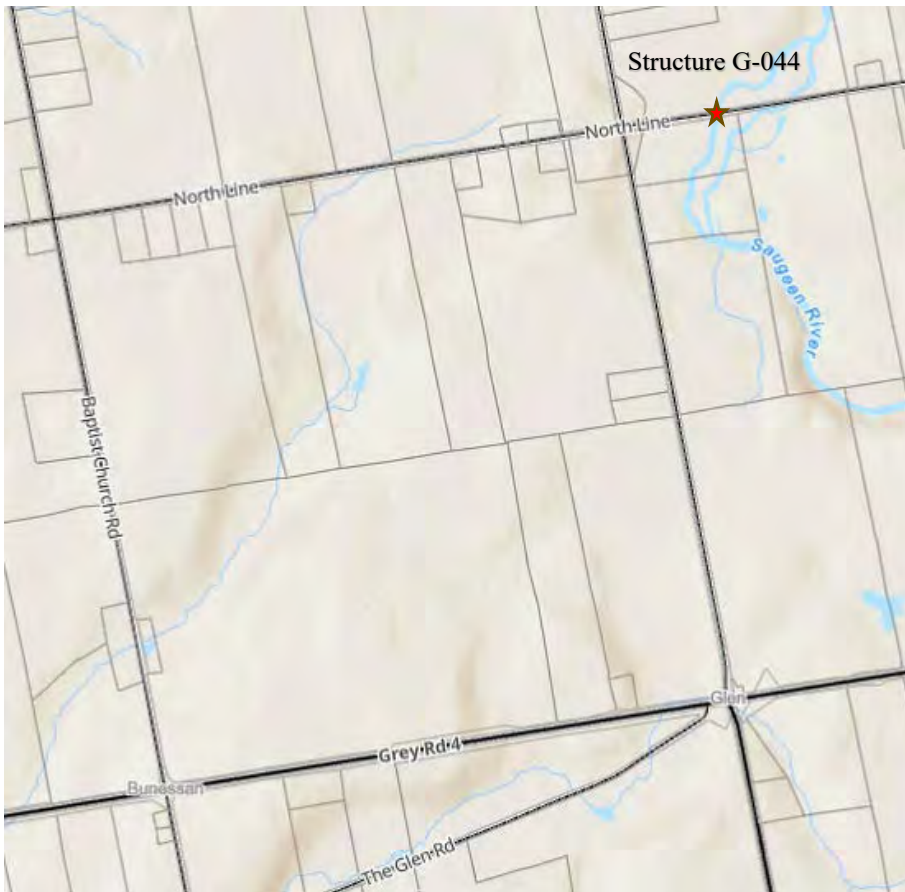


Municipality of West Grey
Schedule 'B'
Municipal Class Environmental Assessment
Structure G-044 Bridge, Northline Road

Notice of Project Public Information Centre and Open House

The Project:

The Municipality of West Grey (West Grey) initiated a Schedule 'B', Municipal Class Environmental Assessment (MCEA) to investigate alternative options to address the advanced deterioration and present condition of Structure G-044 bridge, located on Northline Road approximately 0.35 km east of Glenelg Road 23 and 13.5 km northeast of the community of Durham over the Saugeen River. **“Structure G-044 is in a state of disrepair and recent 2022 OSIM inspection indicates there is severe concrete spalling and disintegration to multiple bridge components and therefore, recommended for replacement to reduce the risk to bridge users and maintain public access to Northline Road”** (Problem Statement). During this Study process, all reasonable alternatives are being considered including: 1) Do nothing; 2) Replacement with a single or narrow 2-lane concrete span structure; 3) Replacement with a single or narrow 2-lane wood or modular steel structure.



The Study Process:

The Class Environmental Assessment (Class EA) is to identify, evaluate, and establish a preferred option and make recommendations to address the replacement of Structure G-044. The project is being organized to follow the planning process established for Schedule 'B' activities under the Municipal Class Environmental Assessment (Municipal Engineers Association, March 2023).

Public Involvement:

Consultation with the public, interested stakeholders, Indigenous communities and regulatory agencies is an essential element and a key component in the planning process. To share information for consideration and influence in the decision-making process, please refer to the contact information below.

Public Information Centre (PIC) No. 1:

The purpose of a Public Information Centre (PIC) is to allow residents and interested stakeholders the opportunity to provide their comments. It is to solicit feedback and input on the Study, as well as to provide an overview of the Study process, to discuss the evaluation of alternative solutions along with the steps that the Municipality is taking towards the preliminary 'preferred' alternative. A Public Information Centre and Open House will be held on Thursday, June 6, 2024, drop-in type format, and will be held at the Municipality of West Grey's Municipal Office at 402813 Grey County Rd 4, Durham, Ontario between 7:00 p.m. and 9:00 p.m.

How to Respond:

If you have any questions, comments, require further information, and/or would like to be added to the project contact list, please contact both of the following:

Project Team:

Geoff Aitken, CET,
Director of Infrastructure and Public Works
Municipality of West Grey
402813 Grey Road 4
RR 2 Durham, ON N0G 1R0
Phone: 519-369-2200 Ext. 227
Email: publicworks@westgrey.com

Chris Clark, P. Eng., Consultant Project Manager
Triton Engineering Services Limited
39 Elora Street South (PO Box 159)
Harriston, ON N0G 1Z0
Phone: 519-843-3920 Ext. 250
Fax: 519-843-1943
Email: cclark@tritoneng.on.ca

Comments submitted to the Project Team for the purpose of providing feedback regarding this Class EA are collected under the authority of the Environmental Assessment Act. 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. Questions relating to the collection, use and disclosure of this information may be addressed to Chris Clark, Project Manager.

This Notice first issued May 24, 2024.

Shari Page

From: Shari Page
Sent: Tuesday, May 28, 2024 10:26 AM
To: Southern Region Planning Inbox (MNRF)
Cc: Fairbairn, Ella (MNRF)
Subject: RE: NOTICE OF PUBLIC INFORMATION CENTRE, Schedule B, Municipal Class EA, Municipality of West Grey Structure G-044 Bridge, Northline Road
Attachments: (B5306A) West Grey Structure 44 Northline Road Class EA NOTICE OF PIC NO. 1.pdf

Good morning,

On behalf of the Municipality of West Grey, please find attached, *Notice of Public Information Centre No. 1, Schedule 'B', Municipal Class Environmental Assessment (Class EA) for Structure G-044 Bridge, Northline Road.*

Formal Notice has been posted on the Municipality's website as will any Project updates and PIC details.

Should you have any questions or require further clarification to the attached, please do not hesitate to contact our Project Team.

Kind regards,
Shari



Shari Page

Triton Engineering Services Limited

105 Queen Street West, Unit 14

Fergus, ON N1M 1S6

(519) 843-3920 Ext. 220 • www.tritoneng.on.ca

Celebrating 60 Years in 2024

This email message and any files transmitted with it are proprietary and confidential information of the sender and are intended only for the person(s) to whom this email is addressed. If you have received this email message in error, please notify the sender immediately by telephone or email and destroy the original message without making a copy.

From: Shari Page
Sent: Wednesday, July 19, 2023 10:01 AM
To: ian.thornton@ontario.ca
Subject: NOTICE OF COMMENCEMENT, Schedule B, Municipal Class EA, Municipality of West Grey Structure G-044 Bridge, Northline Road

Good morning,

On behalf of the Municipality of West Grey, please find attached, *Notice of Commencement, Schedule 'B', Municipal Class Environmental Assessment (Class EA) for Structure G-044 Bridge, Northline Road.*

This Notice will publicly appear in the next two (2) consecutive editions of *The Hanover Post*, July 20th and July 27th, 2023.

Should you have any questions or require further clarification to the attached, please do not hesitate to contact our Project Team.

Kind regards,
Shari

Shari Page



Triton Engineering Services Limited
105 Queen Street West, Unit 14, Fergus, ON N1M 1S6
(519) 843-3920 Ext 220 || www.tritoneng.on.ca

This email message and any files transmitted with it are proprietary and confidential information of the sender and are intended only for the person(s) to whom this email is addressed. If you have received this email message in error, please notify the sender immediately by telephone or email and destroy the original message without making a copy.

Thank you!

Shari Page

From: Shari Page
Sent: Tuesday, May 28, 2024 10:42 AM
To: consultations@metisnation.org
Subject: RE: NOTICE OF PUBLIC INFORMATION CENTRE, Schedule B, Municipal Class EA, Municipality of West Grey Structure G-044 Bridge, Northline Road
Attachments: (B5306A) West Grey Structure 44 Northline Road Class EA NOTICE OF PIC NO. 1.pdf

Good morning,

On behalf of the Municipality of West Grey, please find attached, *Notice of Public Information Centre No. 1, Schedule 'B', Municipal Class Environmental Assessment (Class EA) for Structure G-044 Bridge, Northline Road.*

Formal Notice has been posted on the Municipality's website as will any Project updates and PIC details.

Should you have any questions or require further clarification to the attached, please do not hesitate to contact our Project Team.

Kind regards,
Shari



Shari Page

Triton Engineering Services Limited

105 Queen Street West, Unit 14

Fergus, ON N1M 1S6

(519) 843-3920 Ext. 220 • www.tritoneng.on.ca

Celebrating 60 Years in 2024

This email message and any files transmitted with it are proprietary and confidential information of the sender and are intended only for the person(s) to whom this email is addressed. If you have received this email message in error, please notify the sender immediately by telephone or email and destroy the original message without making a copy.

From: Laura Desaulniers <LauraD@metisnation.org>

Sent: Monday, August 28, 2023 1:41 PM

To: Shari Page <spage@tritoneng.on.ca>

Subject: RE: mailed in project notifications

Hi Shari,

Thank you for reaching out, yes please remove myself but keep the consultations@metisnation.org as your contact. I manage this inbox by sorting the notifications to the correct regions for the regional staff to review.

Laura Desaulniers (she/her)

Environmental Advisor | Konsèyé dlanvirawnman

Lands, Resources & Consultations (LRC) Branch

Métis Nation of Ontario
Thunder Bay, ON
E: LauraD@metisnation.org
C: 807-375-0208
W: www.metisnation.org
Mon-Fri 7:30 am – 3:30 pm EST

This email is intended only for the named recipient(s) and may contain information that is CONFIDENTIAL. No waiver of privilege, confidence or otherwise is intended by virtue of this email. Any unauthorized copying is strictly prohibited. If you have received this email in error, or are not the named recipient, please immediately notify the sender and destroy all copies of this email.

Please consider the environment before printing this e-mail. Maarsij, Thank you.

From: Shari Page <spage@tritoneng.on.ca>
Sent: August 28, 2023 1:36 PM
To: Laura Desaulniers <LauraD@metisnation.org>
Subject: FW: mailed in project notifications

Hi Laura,

Thank you for your reply to the Project Notifications we recently sent to you.

Just to let you know that I also sent to consultations@metisnation.org and will continue sending future notifications to that inbox. Shall I remove you from our official contact lists for each of these three projects?

Thank you for your assistance and direction.

Have a wonderful day!
Shari

Shari Page



Triton Engineering Services Limited
105 Queen Street West, Unit 14, Fergus, ON N1M 1S6
(519) 843-3920 Ext 220 || www.tritoneng.on.ca

This email message and any files transmitted with it are proprietary and confidential information of the sender and are intended only for the person(s) to whom this email is addressed. If you have received this email message in error, please notify the sender immediately by telephone or email and destroy the original message without making a copy.

Thank you!

From: Chris Clark <cclark@tritoneng.on.ca>
Sent: Monday, August 28, 2023 1:22 PM
To: Shari Page <spage@tritoneng.on.ca>
Cc: Lindsay Scott <lscott@tritoneng.on.ca>
Subject: FW: mailed in project notifications

Fyi, from Metis group

From: Laura Desaulniers <LauraD@metisnation.org>

Sent: Monday, August 28, 2023 1:11 PM

To: Chris Clark <cclark@tritoneng.on.ca>

Subject: mailed in project notifications

Hello,

I have received your project notifications by registered mail for the municipalities of West Grey, Wellington North and Minto. Thank you for sending them. If possible, going forward please email notifications to our consultations@metisnation.org inbox.

Thank you,

Laura Desaulniers (she/her)

Environmental Advisor | Konsèyé dlanvirawnman

Lands, Resources & Consultations (LRC) Branch

Métis Nation of Ontario

Thunder Bay, ON

E: LauraD@metisnation.org

C: 807-375-0208

W: www.metsnation.org

Mon-Fri 7:30 am – 3:30 pm EST

This email is intended only for the named recipient(s) and may contain information that is CONFIDENTIAL. No waiver of privilege, confidence or otherwise is intended by virtue of this email. Any unauthorized copying is strictly prohibited. If you have received this email in error, or are not the named recipient, please immediately notify the sender and destroy all copies of this email.

Please consider the environment before printing this e-mail. Maarsii, Thank you.

Attention: This email originated from outside the **MNO**. Please use caution when clicking links, opening attachments or replying to requests for account information or funds.

Shari Page

From: Shari Page
Sent: Tuesday, May 28, 2024 2:19 PM
To: planning@grey.ca
Cc: scott.taylor@grey.ca; Monica Scribner
Subject: RE: NOTICE OF PUBLIC INFORMATION CENTRE, Schedule B, Municipal Class EA, Municipality of West Grey Structure G-044 Bridge, Northline Road
Attachments: (B5306A) West Grey Structure 44 Northline Road Class EA NOTICE OF PIC NO. 1.pdf

Good afternoon,

On behalf of the Municipality of West Grey, please find attached, *Notice of Public Information Centre No. 1, Schedule 'B', Municipal Class Environmental Assessment (Class EA) for Structure G-044 Bridge, Northline Road.*

Formal Notice has been posted on the Municipality's website as will any Project updates and PIC details.

Should you have any questions or require further clarification to the attached, please do not hesitate to contact our Project Team.

Kind regards,
Shari



Shari Page

Triton Engineering Services Limited

105 Queen Street West, Unit 14

Fergus, ON N1M 1S6

(519) 843-3920 Ext. 220 • www.tritoneng.on.ca

Celebrating 60 Years in 2024

This email message and any files transmitted with it are proprietary and confidential information of the sender and are intended only for the person(s) to whom this email is addressed. If you have received this email message in error, please notify the sender immediately by telephone or email and destroy the original message without making a copy.

From: Shari Page
Sent: Wednesday, July 19, 2023 10:18 AM
To: planning@grey.ca
Cc: scott.taylor@grey.ca; monica.scribner@grey.ca
Subject: NOTICE OF COMMENCEMENT, Schedule B, Municipal Class EA, Municipality of West Grey Structure G-044 Bridge, Northline Road

Good morning,

On behalf of the Municipality of West Grey, please find attached, *Notice of Commencement, Schedule 'B', Municipal Class Environmental Assessment (Class EA) for Structure G-044 Bridge, Northline Road.*

This Notice will publicly appear in the next two (2) consecutive editions of *The Hanover Post*, July 20th and July 27th, 2023.

Should you have any questions or require further clarification to the attached, please do not hesitate to contact our Project Team.

Kind regards,
Shari

Shari Page



Triton Engineering Services Limited
105 Queen Street West, Unit 14, Fergus, ON N1M 1S6
(519) 843-3920 Ext 220 || www.tritoneng.on.ca

This email message and any files transmitted with it are proprietary and confidential information of the sender and are intended only for the person(s) to whom this email is addressed. If you have received this email message in error, please notify the sender immediately by telephone or email and destroy the original message without making a copy.

Thank you!

Shari Page

From: Shari Page
Sent: Tuesday, May 28, 2024 12:09 PM
To: 'ICIPRural@ontario.ca'
Cc: 'ocif@ontario.ca'
Subject: FW: NOTICE OF PUBLIC INFORMATION CENTRE, Schedule B, Municipal Class EA, Municipality of West Grey Structure G-044 Bridge, Northline Road
Attachments: (B5306A) West Grey Structure 44 Northline Road Class EA NOTICE OF PIC NO. 1.pdf

From: Shari Page
Sent: Tuesday, May 28, 2024 10:26 AM
To: Adair, Jane (She/Her) (MOI) <jane.adair@ontario.ca>
Subject: RE: NOTICE OF PUBLIC INFORMATION CENTRE, Schedule B, Municipal Class EA, Municipality of West Grey Structure G-044 Bridge, Northline Road

Good morning,

On behalf of the Municipality of West Grey, please find attached, *Notice of Public Information Centre No. 1, Schedule 'B', Municipal Class Environmental Assessment (Class EA) for Structure G-044 Bridge, Northline Road.*

Formal Notice has been posted on the Municipality's website as will any Project updates and PIC details.

Should you have any questions or require further clarification to the attached, please do not hesitate to contact our Project Team.

Kind regards,
Shari



Shari Page

Triton Engineering Services Limited
105 Queen Street West, Unit 14
Fergus, ON N1M 1S6
(519) 843-3920 Ext. 220 • www.tritoneng.on.ca

Celebrating 60 Years in 2024

This email message and any files transmitted with it are proprietary and confidential information of the sender and are intended only for the person(s) to whom this email is addressed. If you have received this email message in error, please notify the sender immediately by telephone or email and destroy the original message without making a copy.

From: Shari Page
Sent: Thursday, July 20, 2023 10:55 AM
To: Adair, Jane (She/Her) (MOI) <jane.adair@ontario.ca>
Subject: RE: NOTICE OF COMMENCEMENT, Schedule B, Municipal Class EA, Municipality of West Grey Structure G-044 Bridge, Northline Road

Good morning Jane

Thank you so much for taking the time to give us direction on these projects.

Your help is greatly appreciated.

Enjoy your day!

Shari

Shari Page



Triton Engineering Services Limited
105 Queen Street West, Unit 14, Fergus, ON N1M 1S6
(519) 843-3920 Ext 220 || www.tritoneng.on.ca

This email message and any files transmitted with it are proprietary and confidential information of the sender and are intended only for the person(s) to whom this email is addressed. If you have received this email message in error, please notify the sender immediately by telephone or email and destroy the original message without making a copy.

Thank you!

From: Adair, Jane (She/Her) (MOI) <jane.adair@ontario.ca>

Sent: Thursday, July 20, 2023 10:42 AM

To: Shari Page <spage@tritoneng.on.ca>

Cc: Adair, Jane (She/Her) (MOI) <jane.adair@ontario.ca>

Subject: FW: NOTICE OF COMMENCEMENT, Schedule B, Municipal Class EA, Municipality of West Grey Structure G-044 Bridge, Northline Road

Hello Shari,

Your message has been forwarded to the Ministry of Infrastructure (MOI).

Please note that OMAFRA no longer administers infrastructure projects as they are now administered by the MOI. We would recommend that you forward any notices of this type to the provincial funding program involved.

For example if funding for the municipality in question is being provided by the Ontario Community Infrastructure Fund, please send the notices to OCIF@ontario.ca. The OCIF inbox can also be used for other EA notifications of a more general nature, however, please note that this area of the ministry will only retain and relay information on the projects that they are directly involved in.

Hope this helps.

Jane

Jane Adair, Senior Program Advisor
Infrastructure Renewal Programs Unit
Infrastructure Program Delivery Branch
Ministry of Infrastructure

519-766-6774

From: Shari Page <spage@tritoneng.on.ca>
Sent: July 19, 2023 11:01 AM
To: Crawley, Alan (OMAFRA) <alan.crawley@ontario.ca>
Cc: Steffen-Petrie, Heidi (She/Her) (OMAFRA) <heidi.steffen-petrie@ontario.ca>
Subject: FW: NOTICE OF COMMENCEMENT, Schedule B, Municipal Class EA, Municipality of West Grey Structure G-044 Bridge, Northline Road

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

Good morning,

I am forwarding the attached and message below as per the direction of Barry Walker, Retired.

I have updated our contact list regarding this project to include yourselves however kindly let me know if I should be reaching out to other contacts at OMAFRA.

Thank you!
Shari

Shari Page



Triton Engineering Services Limited
105 Queen Street West, Unit 14, Fergus, ON N1M 1S6
(519) 843-3920 Ext 220 || www.tritoneng.on.ca

This email message and any files transmitted with it are proprietary and confidential information of the sender and are intended only for the person(s) to whom this email is addressed. If you have received this email message in error, please notify the sender immediately by telephone or email and destroy the original message without making a copy.

Thank you!

From: Shari Page
Sent: Wednesday, July 19, 2023 10:03 AM
To: barry.walker@ontario.ca
Subject: NOTICE OF COMMENCEMENT, Schedule B, Municipal Class EA, Municipality of West Grey Structure G-044 Bridge, Northline Road

Good morning,

On behalf of the Municipality of West Grey, please find attached, *Notice of Commencement, Schedule 'B', Municipal Class Environmental Assessment (Class EA) for Structure G-044 Bridge, Northline Road.*

This Notice will publicly appear in the next two (2) consecutive editions of *The Hanover Post*, July 20th and July 27th, 2023.

Should you have any questions or require further clarification to the attached, please do not hesitate to contact our Project Team.

Kind regards,
Shari

Shari Page



Triton Engineering Services Limited
105 Queen Street West, Unit 14, Fergus, ON N1M 1S6
(519) 843-3920 Ext 220 || www.tritoneng.on.ca

This email message and any files transmitted with it are proprietary and confidential information of the sender and are intended only for the person(s) to whom this email is addressed. If you have received this email message in error, please notify the sender immediately by telephone or email and destroy the original message without making a copy.

Thank you!

Shari Page

From: Shari Page
Sent: Tuesday, May 28, 2024 2:30 PM
To: Reid, Michael (He/Him) (IAO)
Cc: Michelle.Braakman@ontario.ca; Lise.Chabot@ontario.ca
Subject: RE: NOTICE OF PUBLIC INFORMATION CENTRE, Schedule B, Municipal Class EA, Municipality of West Grey Structure G-044 Bridge, Northline Road
Attachments: (B5306A) West Grey Structure 44 Northline Road Class EA NOTICE OF PIC NO. 1.pdf



Shari Page

Triton Engineering Services Limited
105 Queen Street West, Unit 14
Fergus, ON N1M 1S6
(519) 843-3920 Ext. 220 • www.tritoneng.on.ca

Celebrating 60 Years in 2024

This email message and any files transmitted with it are proprietary and confidential information of the sender and are intended only for the person(s) to whom this email is addressed. If you have received this email message in error, please notify the sender immediately by telephone or email and destroy the original message without making a copy.

From: Shari Page
Sent: Tuesday, May 28, 2024 10:26 AM
To: Reid, Michael (He/Him) (IAO) <michael.reid@ontario.ca>
Cc: Michelle.Braakman@ontario.ca; Lise.Chabot@ontario.ca
Subject: RE: NOTICE OF PUBLIC INFORMATION CENTRE, Schedule B, Municipal Class EA, Municipality of West Grey Structure G-044 Bridge, Northline Road

Good morning,

On behalf of the Municipality of West Grey, please find attached, *Notice of Public Information Centre No. 1, Schedule 'B', Municipal Class Environmental Assessment (Class EA) for Structure G-044 Bridge, Northline Road.*

Formal Notice has been posted on the Municipality's website as will any Project updates and PIC details.

Should you have any questions or require further clarification to the attached, please do not hesitate to contact our Project Team.

Kind regards,
Shari



Shari Page

Triton Engineering Services Limited

105 Queen Street West, Unit 14

Fergus, ON N1M 1S6

(519) 843-3920 Ext. 220 • www.tritoneng.on.ca

Celebrating 60 Years in 2024

This email message and any files transmitted with it are proprietary and confidential information of the sender and are intended only for the person(s) to whom this email is addressed. If you have received this email message in error, please notify the sender immediately by telephone or email and destroy the original message without making a copy.

From: Shari Page

Sent: Wednesday, July 19, 2023 9:49 AM

To: Reid, Michael (He/Him) (IAO) <michael.reid@ontario.ca>

Cc: Michelle.Braakman@ontario.ca; Lise.Chabot@ontario.ca

Subject: NOTICE OF COMMENCEMENT, Schedule B, Municipal Class EA, Municipality of West Grey Structure G-044 Bridge, Northline Road

Good morning,

On behalf of the Municipality of West Grey, please find attached, *Notice of Commencement, Schedule 'B', Municipal Class Environmental Assessment (Class EA) for Structure G-044 Bridge, Northline Road.*

This Notice has been sent to you by registered mail and will publicly appear in the next two (2) consecutive editions of *The Hanover Post*, July 20th and July 27th, 2023.

Should you have any questions or require further clarification to the attached, please do not hesitate to contact our Project Team.

Kind regards,
Shari

Shari Page



Triton Engineering Services Limited

105 Queen Street West, Unit 14, Fergus, ON N1M 1S6

(519) 843-3920 Ext 220 || www.tritoneng.on.ca

This email message and any files transmitted with it are proprietary and confidential information of the sender and are intended only for the person(s) to whom this email is addressed. If you have received this email message in error, please notify the sender immediately by telephone or email and destroy the original message without making a copy.

Thank you!

E.2.2 PIC#1 Presentation Materials



Municipality of West Grey



Structure G-044 and G-033 Bridge

Schedule B Municipal Class Environmental

Assessment

Public Information Centre No.1

June 6, 2024

7 – 9 pm



Welcome

Thank you for your interest in this project. We encourage your input, questions, and/or comments on the material presented through this Public Information Centre. This presentation will also be available on the Community of West Grey website from June 6th to July 6th, 2024.

Upon your review of this material, please submit your input, questions, and/or comments on or before **July 6th, 2024**, to cclark@tritoneng.on.ca. A member of the Project Team will respond to any questions raised.

As part of the Public Open House, a comment sheet will be available to fill out. Background reports are available upon request.

There is an opportunity at any time during the EA process for interested persons to provide written input. Comments and information received will be collected under the Ontario Environmental Assessment Act and in accordance with the Freedom of Information and Protection of Privacy Act, and, with the exception of personal information, may be included in the project documentation and become part of the public record.





Contacts



Project Team members are available to assist with website navigation and submission of comments by mail / phone / email to:

Chris Clark, P. Eng.,

Consultant Project Manager

Triton Engineering Services Limited

39 Elora Street S, (PO Box 159)

Harriston, ON, N0G 1Z0

Phone: 519-843-3920 x250

Fax: 519-843-1943

Email: cclark@tritoneng.on.ca

Geoff Aitken, CET

Director of Infrastructure & Public

Works

Municipality of West Grey

402813 Grey Road 4

RR 2 Durham, ON, N0G 1R0

Phone: 519-369-2200 x227

Email: publicworks@westgrey.com

Municipal Class Environmental Assessment Planning Design Process

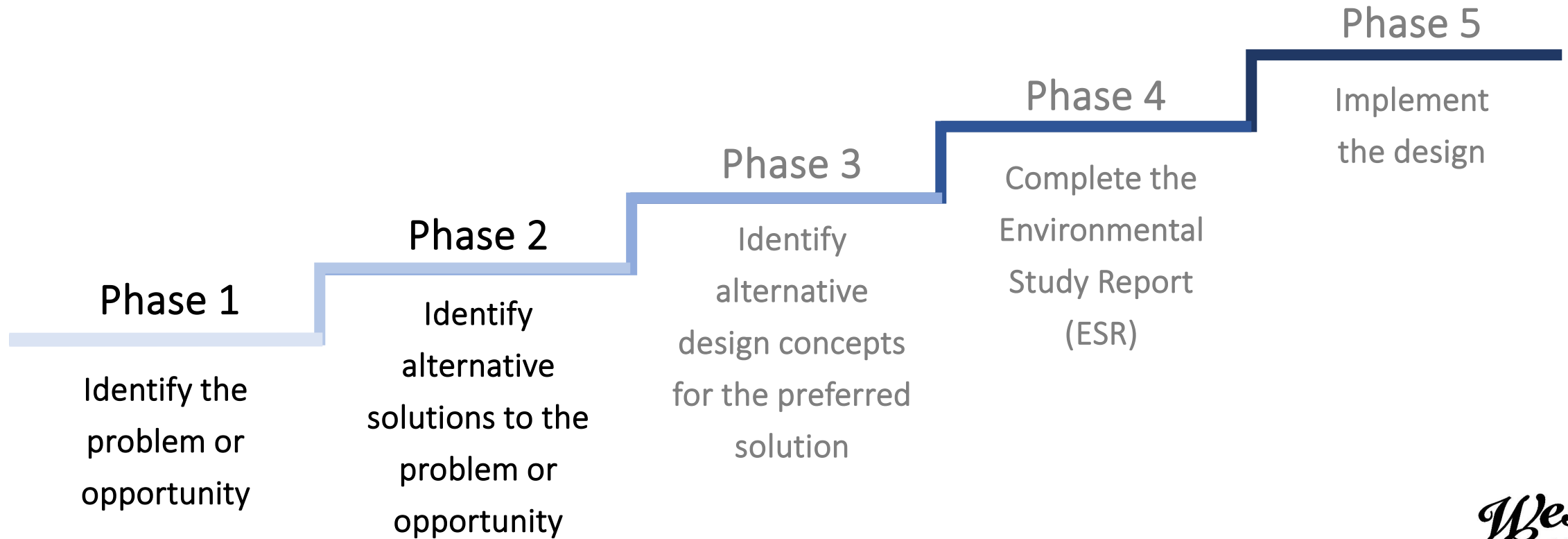


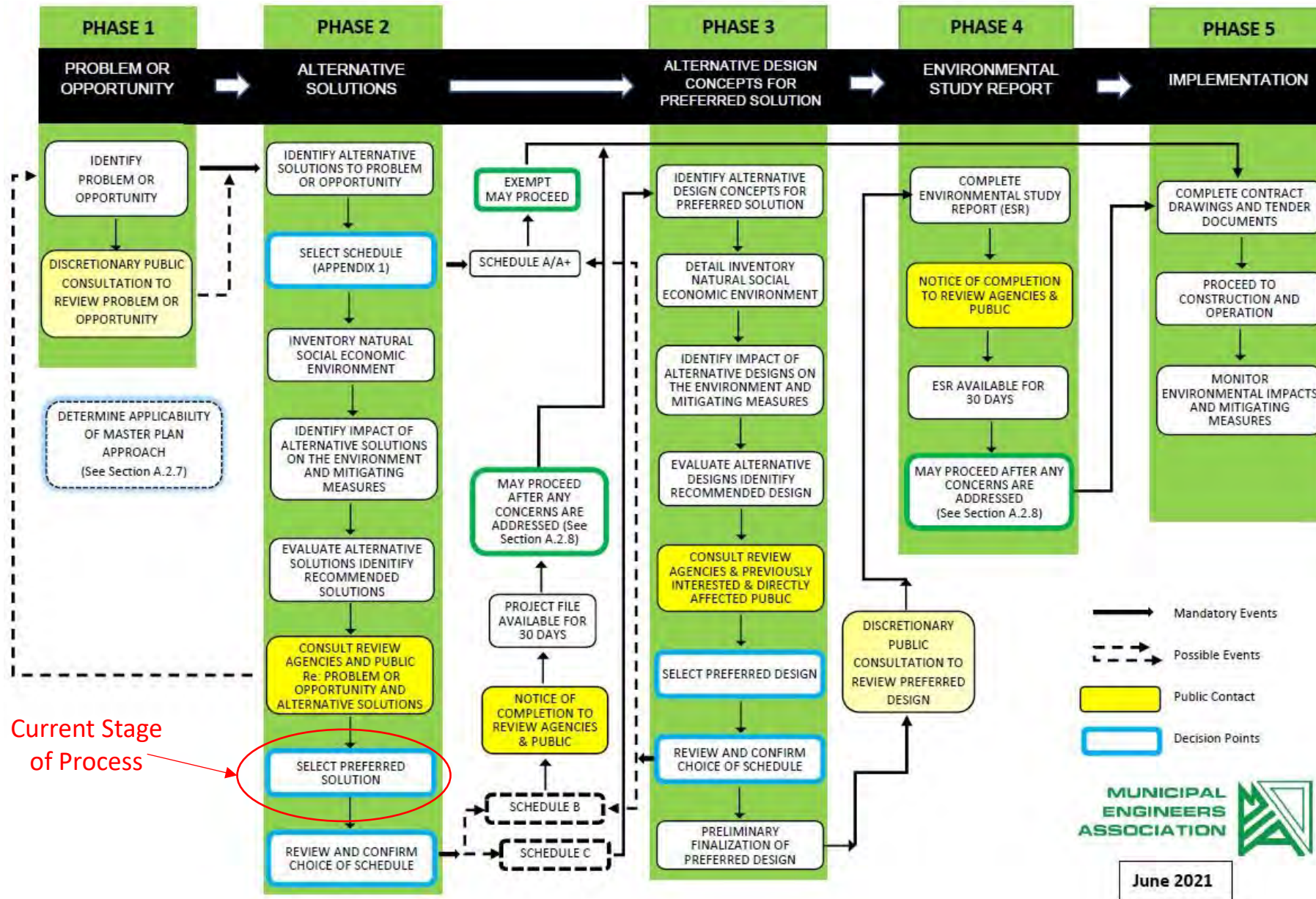
The Municipal Class Environmental Assessment (EA) is an approved process for planning and designing municipal projects, including roads and bridges.

The Class EA describes the process that the proponents must follow to reach requirements of the Provincial Environmental Assessment Act.

Based on the scope of this project, the Structure G-033 and G-044 Bridge is being undertaken as a Schedule B Class EA, which will follow Phase 1 & 2.

Municipal Class EA Planning Design Process





Current Stage of Process

MCEA Planning Design Process

Evaluation Criteria

Structure G-044 & G-033

These projects are being planned to follow the Schedule 'B' process in the Municipal Class Environmental Assessment (Municipal Engineers Association, March 2023) to identify, evaluate and make recommendations to address components related to the environment with the replacement or closure of the structures. Consultation with affected or interested stakeholders and Indigenous Communities is a key element in the planning process.

Environmental Evaluation Criteria

Structure G-044 & G-033

When performing an environmental analysis of each design alternative, the term “environment” refers to the following:

- **Social Environment** – Disruptions to quality of life from construction activities and finished product
- **Built Environment** – Traffic volume, engineering design and land uses at and in proximity to the bridge sites
- **Economic Environment** – Overall cost of the alternative including periodic maintenance
- **Cultural Environment** – Heritage resources found at the bridge sites
- **Natural Environment** – Impacts to wildlife, water course flow (hydraulics), water, soil and air quality, erosion, and climate change

Structure G-044

G-044 is located on Northline Road approximately 0.35 km east of Glenelg Road 23 and 13.5 km northeast of the community of Durham over the Saugeen River



Existing Conditions G-044

General Overview



Northline is a narrow gravel road with typically steep side slopes down into the roadside ditches. The existing structure comprises a concrete arch structure with an approximate span of 15.0 m. It is also approximately 4.3 m from the gravel surface over the bridge deck to the river bottom. Frequent pieces of concrete slabs and stacked boulders were observed at the outside edges of the bridge approaches.

Existing Conditions G-044

Natural Environment

- As part of the Municipal Class EA, the Municipality requires the completion of a Natural Environmental Assessment (NEA) to characterize the natural environment and propose reasonable measures to mitigate any potential impacts that may arise through the EA process and determine any mitigation requirements based on the outcome of the EA.
- The study area includes the subject structure and staging areas, as well as adjacent lands up to 120 meters surrounding the subject area, where access to lands is permitted (right of way).
- 15 “Species at Risk” were identified as potentially residing at or within proximity to the project site, however; no “Species at Risk” were located during site visits by Aboud.

Existing Conditions G-044

Natural Environment

- The Structure G-044 site is within the Saugeen Valley Conservation Authority (SVCA) approximate screening area and is zoned as Natural Environment within the Municipality of West Grey Zoning By-Law 37-2006 (2017).
- The proposed alternatives could result in impacts to the existing natural features. If the structure is to be replaced, it is proposed to be replaced in the same location as the current structure. Subject to future detailed design, through the implementation of proposed mitigation measures, **the impacts will be minor to none.**
- The alternatives will result in no significant long-term negative impacts to natural heritage features identified in the study area. The natural features within the study area will be protected and enhanced through mitigation and restoration recommendations. This will result in long-term positive effects on the natural heritage features within the study area.

Existing Conditions G-044

Key Considerations - Archaeological

The Saugeen River flows underneath Structure G-044 on Northline Road. Guide rails, fencing, hydro and gravel are within or near this section of the Study Areas, indicating previously disturbed locations.

The Study Area meets the following criteria indicative of archaeological potential:

- Water sources: primary, secondary, or past water source (Saugeen River, Rocky Saugeen River)
- Proximity to early settlements (Saugeen Ojibway Nation's traditional territory - Treaty 45 $\frac{1}{2}$ Saugeen Tract Purchase 1836)
- Early historic transportation routes (Northline Road, Saugeen River)

Existing Conditions G-044

Key Considerations - Archaeological

Stage 1 background research determined there are no previously registered archaeological sites located within one (1) kilometer of the Study Area. The property inspection determined that parts of the Study Areas could exhibit archaeological potential and may require further archaeological assessment.

The following recommendations are made:

1. Parts of the Study Areas exhibit archaeological potential. These lands could require Stage 2 archaeological assessment by test pit survey at five metre intervals, where appropriate. The alternatives presented **will not** encroach onto land that exhibits archaeological potential.
2. The remainder of the Study Areas do not retain archaeological potential on account of deep and extensive land disturbance. These lands do not require further archaeological assessment.
3. Should the proposed work extend beyond the current Study Area, further archaeological assessment should be conducted to determine the archaeological potential of the surrounding lands.

Existing Conditions G-044

Key Considerations - Archaeological

Structure G-044



Yellow – Previously disturbed locations

Blue – Water course

Green – Undisturbed locations (archaeological potential)

Existing Conditions G-044

Key Considerations – Cultural Heritage

Archaeological Services Incorporated (A.S.I.) completed a Cultural Heritage Evaluation Report (CHER) for Structure 44 to evaluate the cultural heritage value or interest of the structure as determined by criteria in Ontario Regulation 9/06 of the Ontario Heritage Act.

The following conclusions were made:

1. The Northline Road Structure is a single span concrete barrel arch culvert built in 1920. This is the only criterion met (age of structure), out of a total of 9, from Ontario Regulation 9/06 regarding the cultural heritage value of the structure.
2. Structure G-044 is not considered a community landmark as there are no significant views of the structure from nearby roadways and is plainly designed.
3. Rehabilitation of the existing structure is not feasible; the replacement should therefore be sympathetically-designed from a cultural heritage perspective. A commemoration strategy should be considered (ie; a plaque and submission of a Heritage Impact Assessment to the Ministry of Citizenship and Multiculturalism).

The logo for West Grey, featuring the words "West Grey" in a stylized, cursive font.

Need & Justification G-044

- The purpose of this Class EA undertaking is to determine and evaluate options to address deficiencies identified with Existing Structure G-044.
- In addition to the severe spalling and deterioration of the structure, there are concerns regarding the load carrying capacity as well as scouring at the waterline resulting in an undermined structure.
- Given the extent and significance of the identified deficiencies, the bridge should be subject to complete replacement, per the recent 2023 OSIM Bridge Inspection Report

Need & Justification G-044



View of Structure from West Approach



View of Structure Elevation



2022 Sep 15



Delamination Along Parapet Wall and Vegetation and Debris on Curb



Deterioration of Parapet Wall



Potholes and Wheel Path Rutting on Structure Wearing Surface

*West
Grey*

Need & Justification G-044



Score in Wingwall



View of Watercourse Upstream



View of Watercourse Downstream



View of Exterior and Interior Soffit with Spalling and Exposed Rebar



2022 Sep 15

Barrel: Severe scouring and disintegration at waterline



2022 Sep 15

Barrel: Severe scouring and disintegration at waterline

Problem / Opportunity Statement

Structure G-044

Structure G-044 is in a state of disrepair and recent 2023 OSIM inspection report indicates there is severe concrete spalling and disintegration to multiple bridge components and therefore, recommended for replacement to reduce the risk to bridge users and maintain public access through Northline Road.

West Grey is initiating a Schedule B - Class EA to identify alternative solutions and evaluate the alternative under the outlined list of “Evaluation Criteria”, to address the Problem Statement.



Alternative Solutions G-044

Reasonable alternatives being considered are:

1. Do nothing
2. Replacement with a single or narrow 2-lane concrete span structure
3. Replacement with a single or narrow 2-lane wood or steel bridge structure

Analysis & Evaluation

Environment Component	Alternative 1: Do Nothing
Built	Results in significant detours and increased traffic volume on other roads, especially given the use of farm equipment on this road. Structure could become unsafe and inevitably closed from structural deficiencies.
Natural	Minimal impacts as the structure would be left as-is. If the bridge were to fail and need to be removed, some disruptions to wildlife would be encountered for a short period of time.
Economic	Eventual Capital Cost to remove structure= \$250,000 Life Cycle Cost =Typical annual maintenance and ongoing OSIM inspection
Social	No construction disruptions to quality of life. However, could cause a high level of impact to local residents given increased emergency response times and impacts to municipal services such as winter and general road maintenance, school bus routes and waste collection, if the structure were to fail.
Cultural	Structure G-044 is one of the few remaining examples of early twentieth century concrete barrel arch structures in the area. The continued deterioration of the current structure will impact the cultural heritage value of the bridge.

Analysis & Evaluation

Environment Component	Alternative 2: Replacement with a single or narrow two-lane concrete span structure
Built	Allows for the continued use of the structure and a concrete box shape would be best suited for common weather problems known to occur in the area, such as ice jams. Hydraulic assessment satisfies MTO/SVCA design criteria for all aspects; freeboard, regular flow, relief flow and soffit clearance.
Natural	The site is located within a wooded area; therefore, noise and air quality effects would be minimal. Some impacts to terrestrial and aquatic habitat would be anticipated as a result of construction, however, would be restored after completion. Erosion and sediment controls would be in place to mitigate impacts of excavation and regrading.
Economic	Capital Cost = \$1.65 - \$1.85 million Life Cycle Cost = Typical Annual Maintenance
Social	Continued access to Structure G-044 will maintain emergency response times and municipal services to residents. Standard construction mitigation measures ie; temporary detour, would be implemented to maintain access to all properties, during construction.
Cultural	The structure meets 1 of 9 criteria contained in Ontario Regulation 9/06 of the <i>Ontario Heritage Act</i> . Development of a suitable commemoration strategy will be implemented (ie; Plaque and Heritage Impact Assessment Report submitted to the Ministry of Citizenship and Multiculturalism).

Analysis & Evaluation

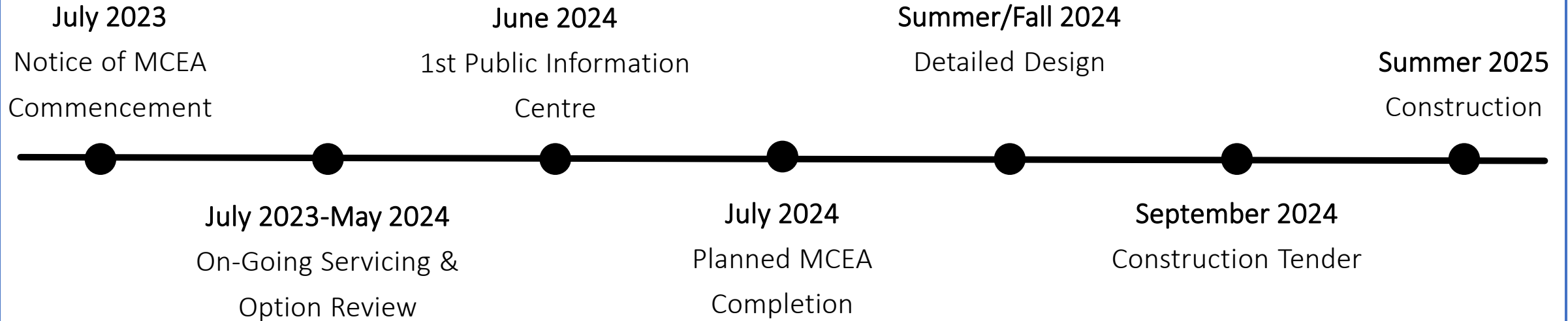
Environment Component	Alternative 3: Replacement with a single or narrow two-lane modular steel or wood span structure
Built	Not Viable - As this location along the Saugeen River experiences significant ice jams, wood or steel material are not suitable due to potential for impact damage to the face and barrel of structure.
Natural	The site is located within a wooded area; therefore, noise and air quality effects would be minimal. Some impacts to terrestrial and aquatic habitat would be anticipated as a result of construction, however, would be restored after completion. Erosion and sediment controls would be in place to mitigate impacts of excavation and regrading.
Economic	Not Viable - As this location along the Saugeen River experiences significant ice jams, wood or steel material are not suitable due to potential for impact damage to the face and barrel of structure resulting in higher Life Cycle costs.
Social	Continued access to Structure G-044 will maintain emergency response times and municipal services to residents. Standard construction mitigation measures ie; temporary detour, would be implemented to maintain access to all properties, during construction.
Cultural	The structure meets 1 of 9 criteria contained in Ontario Regulation 9/06 of the <i>Ontario Heritage Act</i> . Development of a suitable commemoration strategy will be implemented (ie; Plaque and Heritage Impact Assessment Report submitted to the Ministry of Citizenship and Multiculturalism).

Preferred Alternative G-044

Alternative 2: Replacement with a single or narrow 2-lane concrete span structure

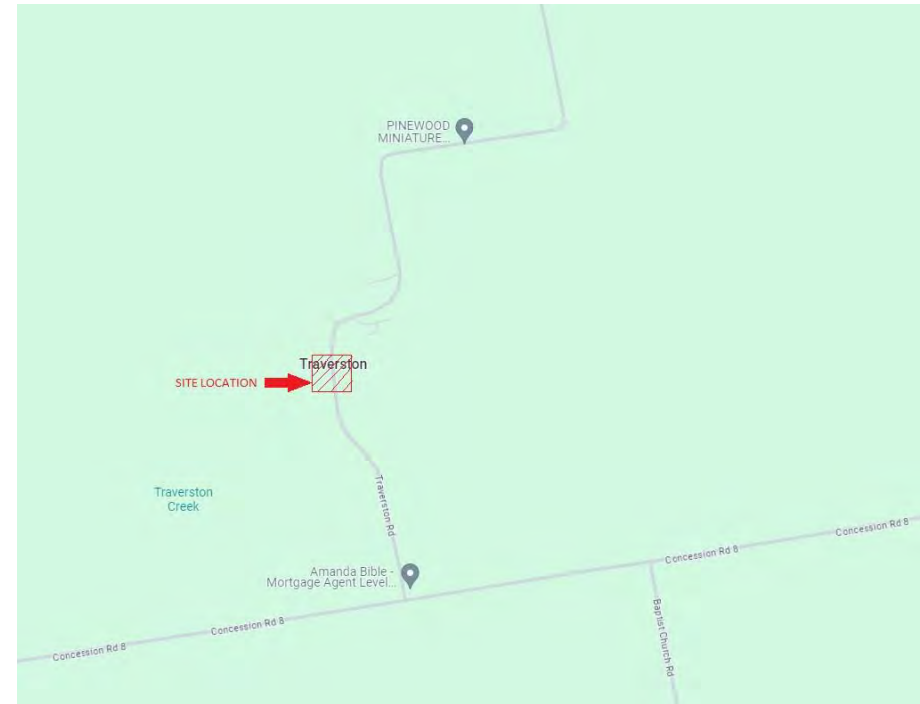
- Addresses the Problem Statement and allows for the continued use of Northline Road
- Less susceptible to damages/impacts caused by ice jams, a common occurrence at this location
- Design satisfies MTO/SVCA hydraulic design criteria

Project Timeline G-044



Structure G-033

G-033 is located on Traverston Road approximately 0.55 km north of Concession Road 8 and 18 km northeast of the community of Durham over Traverston Creek



Existing Conditions G-033

General Overview



Traverston is a narrow asphalt road with typically deep side slopes down into the roadside ditches. It is considered a local road, allowing traffic from arterial roads, Concession Road 8 and Grey Road 12, to access the few residential properties situated on Traverston Road. In the winter of 2023, Structure G-033 was removed due to structural deficiencies.

Existing Conditions G-033

Natural Environment

- The Structure G-033 site is within the Saugeen Valley Conservation Authority (SVCA) approximate screening area and is zoned as Natural Environment within the Municipality of West Grey Zoning By-Law 37-2006 (2017).
- The proposed alternatives could result in impacts to the existing natural features. If the structure is to be replaced, it is proposed to be replaced in the same location as the previous structure. Subject to future detailed design, through the implementation of proposed mitigation measures, **the impacts will be minor to none.**
- The alternatives will result in no significant long-term negative impacts to natural heritage features identified in the study area. The natural features within the study area will be protected and enhanced through mitigation and restoration recommendations. This will result in long-term positive effects on the natural heritage features within the study area.

Existing Conditions G-033

Key Considerations - Archaeological

Traverston Creek flows underneath Structure G-033, fencing, hydro and gravel are within or near this section of the Study Areas, indicating previously disturbed locations.

The Study Area meets the following criteria indicative of archaeological potential:

- Water sources: primary, secondary, or past water source (Saugeen River, Rocky Saugeen River, Traverston Creek)
- Proximity to early settlements (Saugeen Ojibway Nation's traditional territory - Treaty 45 $\frac{1}{2}$ Saugeen Tract Purchase 1836)
- Early historic transportation routes (Traverston Road, Saugeen River)

Existing Conditions G-033

Key Considerations - Archaeological

Stage 1 background research determined there are no previously registered archaeological sites located within one (1) kilometer of the Study Area. The property inspection determined that parts of the Study Areas could exhibit archaeological potential and may require further archaeological assessment.

The following recommendations are made:

1. Parts of the Study Areas exhibit archaeological potential. These lands could require Stage 2 archaeological assessment by test pit survey at five metre intervals, where appropriate. The alternatives presented **will not** encroach onto land that exhibits archaeological potential.
2. The remainder of the Study Areas do not retain archaeological potential on account of deep and extensive land disturbance. These lands do not require further archaeological assessment.
3. Should the proposed work extend beyond the current Study Area, further archaeological assessment should be conducted to determine the archaeological potential of the surrounding lands.

Existing Conditions G-033

Key Considerations - Archaeological

Structure G-033



Yellow – Previously disturbed locations

Blue – Water course

Green – Undisturbed locations (archaeological potential)

Existing Conditions G-033

Key Considerations – Cultural Heritage

Archaeological Services Incorporated (A.S.I.) completed a Cultural Heritage Evaluation Report (CHER) for Structure 33 to evaluate the cultural heritage value or interest of the structure as determined by criteria in Ontario Regulation 9/06 of the Ontario Heritage Act.

The following conclusions were made:

1. The Traverston Road Structure is a single span Warren truss bridge built in 1919. This structure has contextual value as well, bridging access for residents to the Traverston Mill in the nineteenth century. Therefore, 2 criterion are satisfied, out of a total of 9, from Ontario Regulation 9/06 regarding the cultural heritage value of the structure.
2. Structure G-033 is not considered a community landmark and does not serve as a significant gateway feature, orienting device or location marker to those on the Rocky Saugeen River.
3. Rehabilitation of the existing structure was not feasible; A commemoration strategy should be considered (ie; a plaque and submission of a Heritage Impact Assessment to the Ministry of Citizenship and Multiculturalism).

Need & Justification G-033

- The purpose of this Schedule B - Class EA undertaking is to determine and evaluate alternatives to address the need for through access on Traverston Road.
- Severe corrosion, section loss and concrete spalling, coupled with impact damage throughout the structure led to the recommendation and decision to demolish and remove the bridge.
- With no structure in place to allow for through access, this Class EA will evaluate the need for replacement or permanent closure.

Need & Justification G-033



Medium to Wide Transverse Cracks
Throughout Approach



Severe Corrosion and 100%
Section Loss



Impact Damage on Diagonals



Severe Scouring and Disintegration
Along Bottom of Abutment



Severe Spall with Exposed
Reinforcement



Partial Foundation Exposed and
Disintegrated, Undermined.

Need & Justification G-033



Corrosion and Impact Damage to Diagonals



Severed Member



View of Watercourse Downstream



Severe Corrosion at Ends on Floor Beam



Medium to Severe Corrosion Throughout Bearings



Severe corrosion and Severed Bottom Chord

Problem / Opportunity Statement

Structure G-033

Structure G-033 was removed due to concerns with its structural integrity as identified in a recent 2023 OSIM inspection report, leaving no through access on Traverston Road between Grey Road 12 and Concession Road 8.

West Grey is initiating a Schedule B - Class EA to identify alternative solutions and evaluate the alternative under the outlined list of “Evaluation Criteria”, to address the Problem Statement.



Alternative Solutions G-033

Reasonable alternatives being considered are:

1. Do nothing
2. Permanent closure
3. Replacement with a single lane bridge structure

Analysis & Evaluation

Environment Component	Alternative 1: Do Nothing
Built	Continued closure to through traffic on Traverston Road. Detour impacts to the local transportation network are minimal given the low volume of vehicles on Traverston Road.
Natural	Minimal impacts as the area of the former structure would be left as-is.
Economic	No cost associated with this alternative.
Social	No construction disruptions to quality of life. Minimal impacts to residents regarding emergency and municipal services and routes to the hospital.
Cultural	Structure G-033 had to be removed due to structural deficiencies. No other assets of cultural heritage significance were noted in the project area.

Analysis & Evaluation

Environment Component	Alternative 2: Permanent Closure
Built	Continued closure to through traffic on Traverston Road. Detour impacts are minimal to the local transportation network given the low volume of vehicles on Traverston Road.
Natural	Minimal impacts to vegetation, wildlife and air quality as the area of the former structure would be left as-is. Construction activities could potentially disturb some terrestrial habitats, however, would be restored after construction.
Economic	Capital Cost to accommodate municipal services (ie; Winter maintenance, grading, waste management) = \$150,000 - \$200,000. Life Cycle Cost = Typical Annual Maintenance
Social	Short construction period resulting in minimal disruptions to quality of life. Minimal impacts to residents regarding emergency response times and overall municipal services (ie; winter maintenance, grading, waste management).
Cultural	Structure G-033 had to be removed due to structural deficiencies. Development of a suitable commemoration strategy will be implemented (ie; Plaque and Heritage Impact Assessment report submitted to the Ministry of Citizenship and Multiculturalism).

Analysis & Evaluation

Environment Component	Alternative 3: Replacement with a Single Lane Bridge Structure
Built	Allows for the use of the structure and the opening of Traverston Road for through traffic.
Natural	The site is located within a wooded area; therefore, noise and air quality effects would be minimal. Some impacts to terrestrial and aquatic habitat are anticipated as a result of construction, however, would be restored after completion. Erosion and sediment controls would be in place to mitigate impacts of excavation and regrading.
Economic	Capital Cost = \$4.6 - \$4.8 million Life Cycle Cost = Typical Annual Maintenance
Social	Regained access to Structure G-033 could marginally increase emergency response times and efficiency of municipal services. Standard construction mitigation measures would be implemented to minimize disturbances to residents.
Cultural	Structure G-033 had to be removed due to structural deficiencies. Development of a suitable commemoration strategy will be implemented (ie; Plaque and Heritage Impact Assessment report submitted to the Ministry of Citizenship and Multiculturalism).

Preferred Alternative G-033

Alternative 2: Permanent Closure

- Structure G-033 was deemed to be an asset with insignificant value to the Municipality in a study completed by WSP in 2018, and therefore there is no need for through access on Traverston (Problem Statement). This study factored in emergency services response time, traffic volume, overall municipal services, detour impact, bridge condition and historical significance.
- Given the narrow road width, a possibility is to implement a turn-around, which could be beneficial to larger vehicles as well as emergency vehicles.
- This alternative has a low capital cost and short construction period.

Project Timeline G-033



Current Status & Next Steps

Following this PIC period, we will:

- Collect and respond to public comments
- Compile the Project File
- 30-day review period of the Project File
- Publish a Notice of Study Completion to be made available to review agencies and the public
- Commence Detailed Design

How you can remain involved in the study:

- Request that your name/email be added to the mailing list
- Provide a completed comment sheet
- Contact the Municipality or the Consultant at any time

Thank You!



**TRITON
ENGINEERING
SERVICES
LIMITED**
Consulting Engineers

We welcome your comments and questions.

Please provide your comments and questions by July 6th, 2024



Chris Clark, P. Eng.,

Consultant Project Manager

Triton Engineering Services Limited

39 Elora Street S, (PO Box 159)

Harriston, ON, N0G 1Z0

Phone: 519-843-3920 x250

Fax: 519-843-1943

Email: cclark@tritoneng.on.ca

Geoff Aitken, CET

Director of Infrastructure Public
Works

Municipality of West Grey

402813 Grey Road 4

RR 2 Durham, ON, N0G 1R0

Phone: 519-369-2200 x227

Email: publicworks@westgrey.com

E.2.3 PIC#1 Comments & Responses

From: [Chris Clark](#)
To: [Shari Page](#)
Subject: FW: County comments for Municipal Class Environmental Assessment Structure G-044 Bridge
Date: Tuesday, June 4, 2024 10:06:50 AM

For file

From: planning@grey.ca <planning@grey.ca>
Sent: Tuesday, June 4, 2024 9:18 AM
To: Chris Clark <cclark@tritoneng.on.ca>
Subject: County comments for Municipal Class Environmental Assessment Structure G-044 Bridge

County comments for Municipal Class Environmental Assessment Structure G-044 Bridge



Hello Chris Clark,

County Planning Ecology staff have reviewed the Municipal Class EA and have a comment stating,

Natural Heritage

The property contains and/or is adjacent to significant woodlands, significant wildlife habitat, potential habitat for threatened and/or endangered species, other wetlands, significant valleylands, natural heritage core area, and fish habitat. It is Grey County staffs understanding that the proposed development will be located within and/or adjacent to the features. Staff further understand that a Natural Environment Report/Environmental Impact Study will be required through the MCEA process. This evaluation will include a description of the preferred design, additional studies, general mitigations to develop at detailed design, and outline the expected permitting requirements. Staff recommend a NER/EIS be submitted as part of the MCEA process. An approval letter and/or permit may be required from the department of Fisheries and Oceans Canada (DFO) and the Ministry of Environment, Conservation, and Parks (MECP) for any in-water works as this section of the Saugeen River is considered critical habitat for SAR fish.

Stormwater Management

It is Grey County Staffs understanding stormwater management infrastructure is not needed for the proposal. A sediment and erosion control plan and an impact assessment of the thermal regime of the cool-cold water fishery is required.

County Planning staff have reviewed the Municipal Class EA.
Provided County Planning Ecology staffs' comments are addressed;
County Planning staff have no concerns.

Please note, a paper copy will not be provided unless requested.

Let us know if you have any questions.

Best regards,

Derek McMurdie

Shari Page

From: TALES Lisa <lisa.tales@hydroone.com> on behalf of FBC WOODSTOCK <FBCWoodstock@hydroone.com>
Sent: Tuesday, June 4, 2024 9:01 AM
To: Shari Page; FBC WOODSTOCK
Subject: RE: NOTICE OF PUBLIC INFORMATION CENTRE, Schedule B, Municipal Class EA, Municipality of West Grey Structure G-044 Bridge, Northline Road
Attachments: (B5306A) West Grey Structure 44 Northline Road Class EA NOTICE OF PIC NO. 1.pdf

Good Morning Shari,

Our design team has reviewed the attached and confirmed that Hydro One has not issues regarding Structure G-044 Bridge, Northline Road.

Thank you,
Lisa Tales
Lines Customer Support Clerk
Hydro One Networks Inc.
Woodstock Field Business Centre
1.800.957.7756
HydroOne.com

From: Shari Page <spage@tritoneng.on.ca>
Sent: Tuesday, May 28, 2024 10:24 AM
To: FBC WOODSTOCK <FBCWoodstock@hydroone.com>
Cc: GALLAUGHER Kelly <kelly.gallaugh@HydroOne.com>
Subject: RE: NOTICE OF PUBLIC INFORMATION CENTRE, Schedule B, Municipal Class EA, Municipality of West Grey Structure G-044 Bridge, Northline Road

Some people who received this message don't often get email from spage@tritoneng.on.ca. [Learn why this is important](#)

*** Exercise caution. This is an EXTERNAL email. DO NOT open attachments or click links from unknown senders or unexpected email. ***

Good morning,

On behalf of the Municipality of West Grey, please find attached, *Notice of Public Information Centre No. 1, Schedule 'B', Municipal Class Environmental Assessment (Class EA) for Structure G-044 Bridge, Northline Road.*

Formal Notice has been posted on the Municipality's website as will any Project updates and PIC details.

Should you have any questions or require further clarification to the attached, please do not hesitate to contact our Project Team.

Kind regards,

Shari



Shari Page

Triton Engineering Services Limited

105 Queen Street West, Unit 14

Fergus, ON N1M 1S6

(519) 843-3920 Ext. 220 • www.tritoneng.on.ca

Celebrating 60 Years in 2024

This email message and any files transmitted with it are proprietary and confidential information of the sender and are intended only for the person(s) to whom this email is addressed. If you have received this email message in error, please notify the sender immediately by telephone or email and destroy the original message without making a copy.

From: Shari Page

Sent: Thursday, July 20, 2023 9:06 AM

To: 'GALLAUGHER Kelly' <kelly.gallaugh@HydroOne.com>

Cc: FBC WOODSTOCK <FBCWoodstock@hydroone.com>

Subject: RE: NOTICE OF COMMENCEMENT, Schedule B, Municipal Class EA, Municipality of West Grey Structure G-044 Bridge, Northline Road

Good morning Kelly and thank you for your direction regarding future correspondence.

Enjoy your day!

Shari

Shari Page



Triton Engineering Services Limited

105 Queen Street West, Unit 14, Fergus, ON N1M 1S6

(519) 843-3920 Ext 220 || www.tritoneng.on.ca

This email message and any files transmitted with it are proprietary and confidential information of the sender and are intended only for the person(s) to whom this email is addressed. If you have received this email message in error, please notify the sender immediately by telephone or email and destroy the original message without making a copy.

Thank you!

From: GALLAUGHER Kelly <kelly.gallaugh@HydroOne.com>

Sent: Wednesday, July 19, 2023 4:17 PM

To: Shari Page <spage@tritoneng.on.ca>

Cc: FBC WOODSTOCK <FBCWoodstock@hydroone.com>

Subject: RE: NOTICE OF COMMENCEMENT, Schedule B, Municipal Class EA, Municipality of West Grey Structure G-044 Bridge, Northline Road

Hi Shari

For Municipal Notifications, please have these sent to our Field Business Centre at fbcwoodstock@hydroone.com

Thank you

Kelly Gallagher

Supervising Distribution Technician

Walkerton Operations WA1

Cell 519.540.8063

Email kelly.gallagher@hydroone.com

From: Shari Page <spage@tritoneng.on.ca>

Sent: Wednesday, July 19, 2023 2:58 PM

To: GALLAUGHER Kelly <kelly.gallagher@HydroOne.com>

Subject: NOTICE OF COMMENCEMENT, Schedule B, Municipal Class EA, Municipality of West Grey Structure G-044 Bridge, Northline Road

You don't often get email from spage@tritoneng.on.ca. [Learn why this is important](#)

***** Exercise caution. This is an EXTERNAL email. DO NOT open attachments or click links from unknown senders or unexpected email. *****

Good afternoon,

On behalf of the Municipality of West Grey, please find attached, *Notice of Commencement, Schedule 'B', Municipal Class Environmental Assessment (Class EA) for Structure G-044 Bridge, Northline Road.*

This Notice will publicly appear in the next two (2) consecutive editions of *The Hanover Post*, July 20th and July 27th, 2023.

Should you have any questions or require further clarification to the attached, please do not hesitate to contact our Project Team.

Kind regards,
Shari

Shari Page



Triton Engineering Services Limited
105 Queen Street West, Unit 14, Fergus, ON N1M 1S6
(519) 843-3920 Ext 220 || www.tritoneng.on.ca

This email message and any files transmitted with it are proprietary and confidential information of the sender and are intended only for the person(s) to whom this email is addressed. If you have received this email message in error, please notify the sender immediately by telephone or email and destroy the original message without making a copy.

Thank you!

This email and any attached files are privileged and may contain confidential information intended only for the person or persons named above. Any other distribution, reproduction, copying, disclosure, or other dissemination is strictly

prohibited. If you have received this email in error, please notify the sender immediately by reply email and delete the transmission received by you. This statement applies to the initial email as well as any and all copies (replies and/or forwards) of the initial email

Shari Page

From: Chris Clark
Sent: Monday, June 10, 2024 3:58 PM
To: Shari Page
Cc: Michael Heath
Subject: FW: Emergency Services Comment

Hi Shari,

Please add to B5309 consultation file

From: Geoff Aitken <publicworks@westgrey.com>
Sent: Monday, June 10, 2024 2:01 PM
To: Chris Clark <cclark@tritoneng.on.ca>
Subject: FW: Emergency Services Comment

Hey Chris,

Comments below from both West Grey & Grey Highlands Fire Chiefs.

YT,

Geoff Aitken, CET
Director of Infrastructure & Public Works

Municipality of West Grey
402813 Grey Road 4
RR 2 Durham, ON N0G 1R0
519-369-2200 ext. 227
www.westgrey.com || @OurWestGrey

Confidentiality Notice: This e-mail message and attachments, if any, are sent by a Third Party Administrator for the sole use of the intended recipient(s). It may contain information that is privileged and/or confidential. If you are not the intended recipient, please notify the sender immediately by reply email and destroy this communication. Thank you.

From: Fire Chief <ChiefF@greyhighlands.ca>
Sent: Monday, June 10, 2024 1:54 PM
To: Geoff Aitken <publicworks@westgrey.com>
Subject: RE: Emergency Services Comment

Hi Geoff

I echo Chief Schwart's comments about fire response to that area. The closure of the bridge has had minimal affect on any our response to those properties. The change in response route would add about 3 minutes. The maps outlined in the attachment indicating our response routes are correct. We have a list of the fire numbers affected by the bridge closure, so the necessary steps have been taken at our end.

Let me know if you require any further information.

Thank you,

Marty Wellwood
Fire Chief



The Municipality of Grey Highlands
206 Toronto Street South, Unit One P.O.Box 409 Markdale, Ontario N0C 1H0
519-986-1216 x244 Fax 519-986-3643
fire@greyhighlands.ca www.greyhighlands.ca

Smoke Alarms, A Sound You Can Live With

In accordance with Ontario's Municipal Freedom of Information and Protection of Privacy Act (MFIPPA), the Corporation of the Municipality of Grey Highlands wishes to inform the public that all information, including opinions, presentations, reports and documentation received by this office MAY be posted on the Municipality's website, included on a public agenda and/or made available to the public upon request.

If you have received this communication in error, please notify the sender immediately by return e-mail and permanently delete the copy you have received so we may ensure the integrity of the principles of MFIPPA are maintained.

From: Geoff Aitken <publicworks@westgrey.com>
Sent: Monday, June 10, 2024 1:22 PM
To: Fire Chief <ChiefF@greyhighlands.ca>
Subject: FW: Emergency Services Comment

Good afternoon Marty,

Please review below and attached.

Thanks,

Geoff Aitken, CET
Director of Infrastructure & Public Works

Municipality of West Grey
402813 Grey Road 4
RR 2 Durham, ON N0G 1R0
519-369-2200 ext. 227
www.westgrey.com || @OurWestGrey

Confidentiality Notice: This e-mail message and attachments, if any, are sent by a Third Party Administrator for the sole use of the intended recipient(s). It may contain information that is privileged and/or confidential. If you are not the intended recipient, please notify the sender immediately by reply email and destroy this communication. Thank you.

From: Geoff Aitken
Sent: Monday, June 10, 2024 12:37 PM
To: Martin, Rob <rmartin@westgreyps.ca>; Phil Schwartz <pschwartz@westgrey.com>
Subject: FW: Emergency Services Comment

Good afternoon Rob & Phil,

We are in the process of completing and Environmental Assessment for the permanent closure of the Traverston Bridge. At a recent open house, residents voiced concerns about response times even though the bridge has been closed for 6 years.

See attached. Your feed back would be appreciated.

YT,

Geoff Aitken, CET
Director of Infrastructure & Public Works

Municipality of West Grey
402813 Grey Road 4
RR 2 Durham, ON N0G 1R0
519-369-2200 ext. 227
www.westgrey.com || @OurWestGrey

Confidentiality Notice: This e-mail message and attachments, if any, are sent by a Third Party Administrator for the sole use of the intended recipient(s). It may contain information that is privileged and/or confidential. If you are not the intended recipient, please notify the sender immediately by reply email and destroy this communication. Thank you.

From: Chris Clark <cclark@tritoneng.on.ca>
Sent: Monday, June 10, 2024 11:54 AM
To: Geoff Aitken <publicworks@westgrey.com>
Cc: Michael Heath <mheath@tritoneng.on.ca>
Subject: FW: Emergency Services Comment

Hi Geoff,

Please see attached for your information. In light of the public meeting turn-out, the attached should take care of the EMS response time to local residence. We should confirm these routes with EMS.

Are you able to connect us with Markdale EMS contacts?

Thanks,
Chris



Chris Clark, M.A.Sc., P.Eng.

Triton Engineering Services Limited
The Old Post - 39 Elora Street South, Units 7, 8 & 9
P.O. Box 159, Harriston, ON N0G 1Z0
(519) 993-7918 • www.tritoneng.on.ca

Celebrating 60 Years in 2024

This email message and any files transmitted with it are proprietary and confidential information of the sender and are intended only for the person(s) to whom this email is addressed. If you have received this email message in error, please notify the sender immediately by telephone or email and destroy the original message without making a copy

Appendix F – Glenelg Structure Rating and Rationale Report

THE MUNICIPALITY OF WEST GREY

GLENELG STRUCTURE RATING AND RATIONALE REPORT

DECEMBER 11, 2019

FINAL





GLENELG STRUCTURE RATING AND RATIONALE REPORT

THE MUNICIPALITY OF WEST GREY

PROJECT NO.: 171-04854-00
DATE: DECEMBER 11, 2019

WSP
SUITE 101
1450, 1ST AVENUE WEST
OWEN SOUND, ON, CANADA N4K 6W2

T: +1 519 376-7612
F: +1 519 376-8008
WSP.COM

SIGNATURES

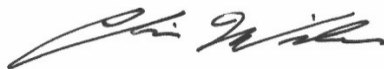
PREPARED BY



Katherine Hemstock, EIT
Designer

December 11, 2019

APPROVED BY



Chris Wilson, P.Eng.
Team Lead – Municipal Infrastructure

December 11, 2019

WSP Canada Inc. prepared this report solely for the use of the intended recipient, THE MUNICIPALITY OF WEST GREY, in accordance with the professional services agreement. The intended recipient is solely responsible for the disclosure of any information contained in this report. The content and opinions contained in the present report are based on the observations and/or information available to WSP Canada Inc. at the time of preparation. If a third party makes use of, relies on, or makes decisions in accordance with this report, said third party is solely responsible for such use, reliance or decisions. WSP Canada Inc. does not accept responsibility for damages, if any, suffered by any third party as a result of decisions made or actions taken by said third party based on this report. This limitations statement is considered an integral part of this report.

The original of this digital file will be conserved by WSP Canada Inc. for a period of not less than 10 years. As the digital file transmitted to the intended recipient is no longer under the control of WSP Canada Inc., its integrity cannot be assured. As such, WSP Canada Inc. does not guarantee any modifications made to this digital file subsequent to its transmission to the intended recipient.

CONTRIBUTORS

THE MUNICIPALITY OF WEST GREY

Director of Infrastructure and Public Works Brent Glasier, C.E.T.

WSP

Reviewer/ Approver Chris Wilson, P. Eng.

Report Preparation Katherine Hemstock, EIT



TABLE OF CONTENTS

1	INTRODUCTION.....	1
2	BACKGROUND INFORMATION.....	2
2.1	MUNICIPALITY OF WEST GREY STRUCTURES	2
2.2	GLENELG AREA STRUCTURES	3
2.2.1	Bridge Condition Index (BCI).....	3
2.2.2	Structure Asset Summary	4
3	EVALUATION OF STRUCTURES	5
3.1	METHODOLOGY	5
3.2	PRIMARY CRITERIA.....	6
3.2.1	Bridge Condition Index (BCI).....	6
3.2.2	Asset Value.....	7
3.2.3	Emergency Services – EMS and Fire	8
3.3	SECONDARY CRITERIA	9
3.3.1	Traffic	9
3.3.2	Transportation Network.....	10
3.3.3	Municipal Services – School Board and Waste Management.....	11
3.4	TERTIARY CRITERIA	12
3.4.1	Historic Significance.....	12
3.4.2	Detour Impact.....	13
3.5	OVERALL STRUCTURE RATING MATRIX	14
4	INDIVIDUAL STRUCTURE ASSESSMENT AND RATIONAL.....	15
4.1	STRUCTURE REVIEW	15
4.1.1	Structure G-033.....	16
4.1.2	Structure G-037.....	18
4.1.3	Structure G-038.....	20
4.1.4	Structure G-040.....	22
4.1.5	Structure G-041.....	24
4.1.6	Structure G-126.....	26
4.1.7	Structure P-101	28



5	RECOMMENDATIONS	29
---	-----------------------	----

TABLES

TABLE 1	STRUCTURE RATING AND RATIONALE REPORT
TABLE 2	STRUCTURE RATING CRITERIA
TABLE 3	STRUCTURE BCI RATINGS
TABLE 4	ASSET VALUE RATINGS
TABLE 5	EMERGENCY SERVICE RATINGS
TABLE 6	TRAFFIC RATINGS
TABLE 7	TRANSPORTATION NETWORK RATINGS
TABLE 8	MUNICIPAL SERVICES RATING
TABLE 9	HISTORIC SIGNIFICANCE RATINGS
TABLE 10	DETOUR IMPACT RATINGS
TABLE 11	OVERALL STRUCTURE RATINGS

CHARTS

CHART 1	AGE DISTRIBUTION OF STRUCTURES
CHART 2	AGE DISTRIBUTION OF STRUCTURES
CHART 3	STRUCTURE BCI DISTRIBUTION

IMAGES

IMAGE 1	G-033 VIEW FROM SOUTH APPROACH
IMAGE 2	G-033 VIEW FROM SOUTH APPROACH
IMAGE 3	G-037 ELEVATION VIEW
IMAGE 4	G-037 VIEW FROM WEST APPROACH
IMAGE 5	G-038 ELEVATION VIEW
IMAGE 6	G-038 VIEW FROM EAST APPROACH
IMAGE 7	G-040 ELEVATION VIEW
IMAGE 8	G-040 VIEW FROM EAST APPROACH
IMAGE 9	G-041 ELEVATION VIEW
IMAGE 10	G-041 EAST APPROACHING PERSPECTIVE
IMAGE 11	G-126 ELEVATION VIEW
IMAGE 12	P-101 ELEVATION VIEW

APPENDICES

A	TABLES AND FIGURES
---	--------------------

1 INTRODUCTION

WSP has been retained by the Municipality of West Grey and tasked with the completion of a comprehensive evaluation of the current condition of the bridges under the Municipality's jurisdiction. The Municipality has a large number of structures under its jurisdiction, many of which are in the advanced stages of their lifecycle, and will require significant rehabilitation or replacement if they are to remain in use. It is understood that due to the available tax base for funding the maintenance and rehabilitation of its structures going forward, it is in the best interest of the Municipality to undergo strategic closures of a selection of its lowest value and importance structures, so that the remaining structures may be maintained and replaced to provide a functional, safe, and economically sustainable transportation network.

Each of the three (3) former townships of Bentinck, Glenelg, and Normanby within the Municipality of West Grey have their own specific and important histories and overall networks for transportation. Based on the unique attributes of each, it is recommended that each be analyzed and considered individually, as well as considered as part of the overall municipal transportation network. This report will focus on the evaluation and reporting related to the structure assets within the former Township of Glenelg.

The evaluations and reporting are based on all available information regarding the Municipality's roadway network and structure inventory. The condition and current and future needs of each structure are assessed on an ongoing basis during the biennial Ontario Structure Inspection Manual (OSIM) inspections.

It is the objective of this report to summarize the findings of the evaluation and assign an individual rating to each structure based on a number of criteria which will consider the condition, viability, and importance of each, identify those structures which are best suited for closure, and provide overall recommendations for the Municipality's consideration in moving forward with their structure asset management.

2 BACKGROUND INFORMATION

2.1 MUNICIPALITY OF WEST GREY STRUCTURES

The assets to be reviewed within this report include bridges and culverts greater than three (3) meters in span, as per the criteria for a structure defined by the Ontario Structure Inspection Manual (OSIM). The OSIM defines a bridge as; “A structure which provides a roadway or walkway for the passage of vehicles, pedestrians or cyclists across an obstruction, gap or facility and is greater than or equal to 3 m in span.”

The feasibility of maintaining each structure asset meeting the aforementioned criteria is assessed based on various criteria which consider the scale, value, condition, economy, importance in the community, and historical significance of each.

The Municipality of West Grey has a considerably large number of structure assets. There are a total of one-hundred and six (106) structures, including the Neustadt and Ayton Dams, as well as the Durham and Neustadt pedestrian bridges. *Figure 1* shows a location map of each structure, and can be found in **Appendix A**. The typical lifespan of a structure is between 75 and 100 years, depending on various factors. Many of the bridges within the Municipality were constructed prior to 1950, with thirty-six (36) of those structures at or approaching the end of their useful life span. The below chart depicts the age distribution of the structure (bridge and culvert) assets within the municipality.

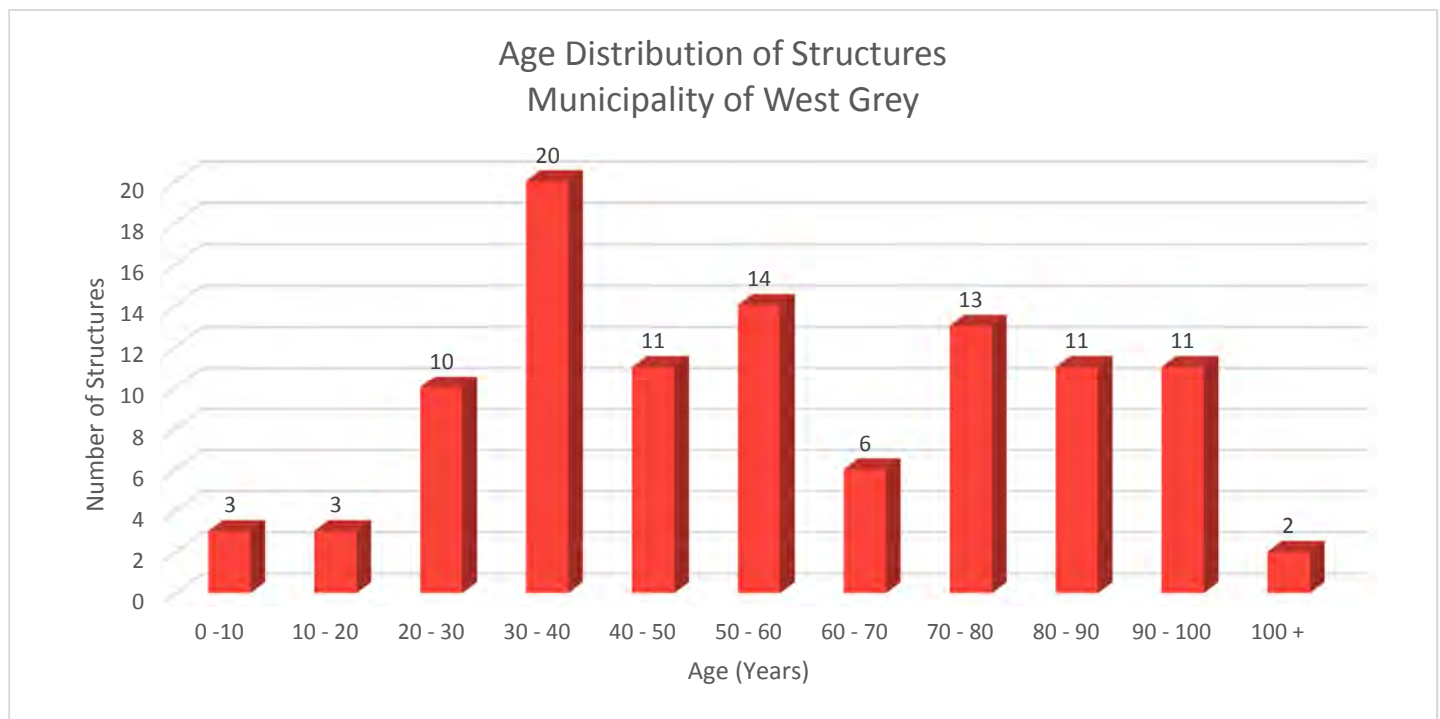


Chart 1 - Age Distribution of Structures - Municipality of West Grey

The current construction cost to replace a structure which has reached the end of its life spans and is no longer a viable candidate for rehabilitation ranges from \$300,000 (smaller structures and culverts) to \$1,750,000 (larger span structures). Given the current tax base and funding available to the Municipality, it is recommended that a strategic plan be developed going forward identifying which structures are best suited for closure. The development of a strategic plan for closures will assist the Municipality in allocating funding and scheduling projects such that it can maximize its investment in a sustainable transportation network which best suits the needs of its residents.

2.2 GLENELG AREA STRUCTURES

The former Township of Glenelg has twenty-five (25) structure assets; eighteen (18) bridges, and seven (7) culverts. **Figure 2** shows a location map of each structure, and can be found in **Appendix A**. The structures range in age from one (1) to ninety-eight (98) years. The age distribution of the Township of Glenelg's structures is displayed in **Chart 2** below. The distribution highlights eight (8) structures, which are approaching the end of their useful life span, which without replacement or significant rehabilitation, will face necessary closure in the near future.

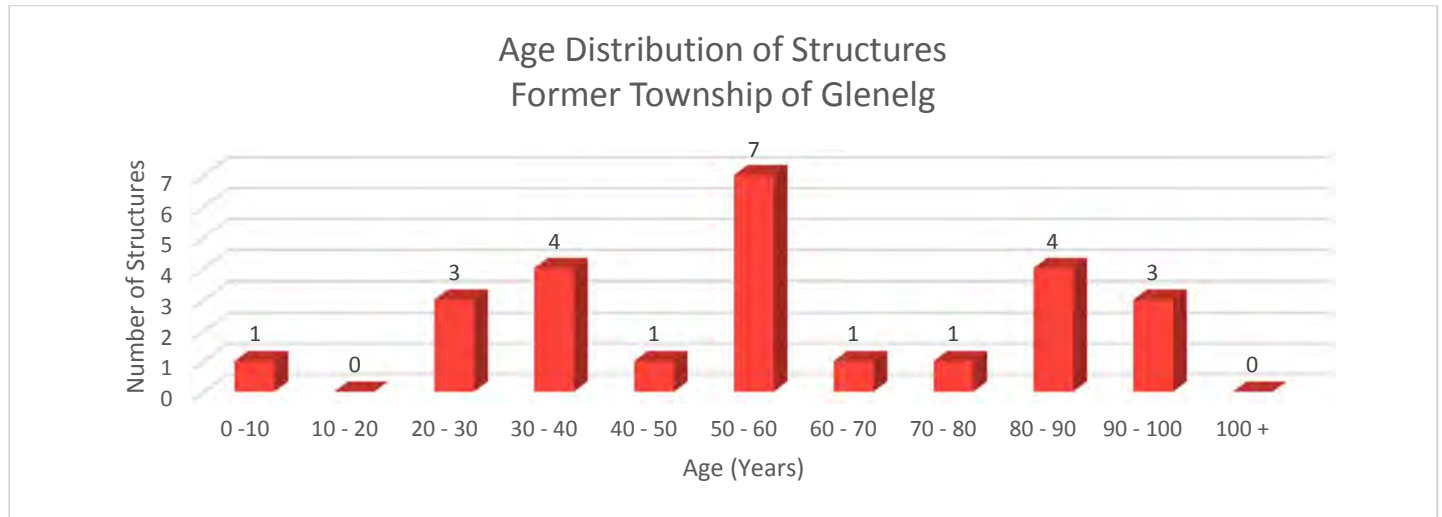


Chart 2 - Age Distribution of Structures - Township of Glenelg

2.2.1 BRIDGE CONDITION INDEX (BCI)

A mandatory biennial inspection and report based on the Ontario Structure Inspection Manual (OSIM) is undertaken for each structure (as defined within the OSIM) within the province of Ontario. One component generated during these inspections and reporting is the Bridge Condition Index (BCI), which weights the condition of each of the various elements of a structure and provides a numeric rating of its overall condition. This value is often one of the measures used in determining allocation of provincial funding. The BCI value ranges from 0 (poor condition) to 100 (excellent condition). As a general rule, structures with a BCI of less than 40 should be considered for immediate repair, rehabilitation, replacement, or closure. It is also recommended that planning for future rehabilitation and repairs be initiated for structures with a BCI between 40 and 60. **Chart 3** below illustrates the BCI distribution of the structures in the former Township of Glenelg.

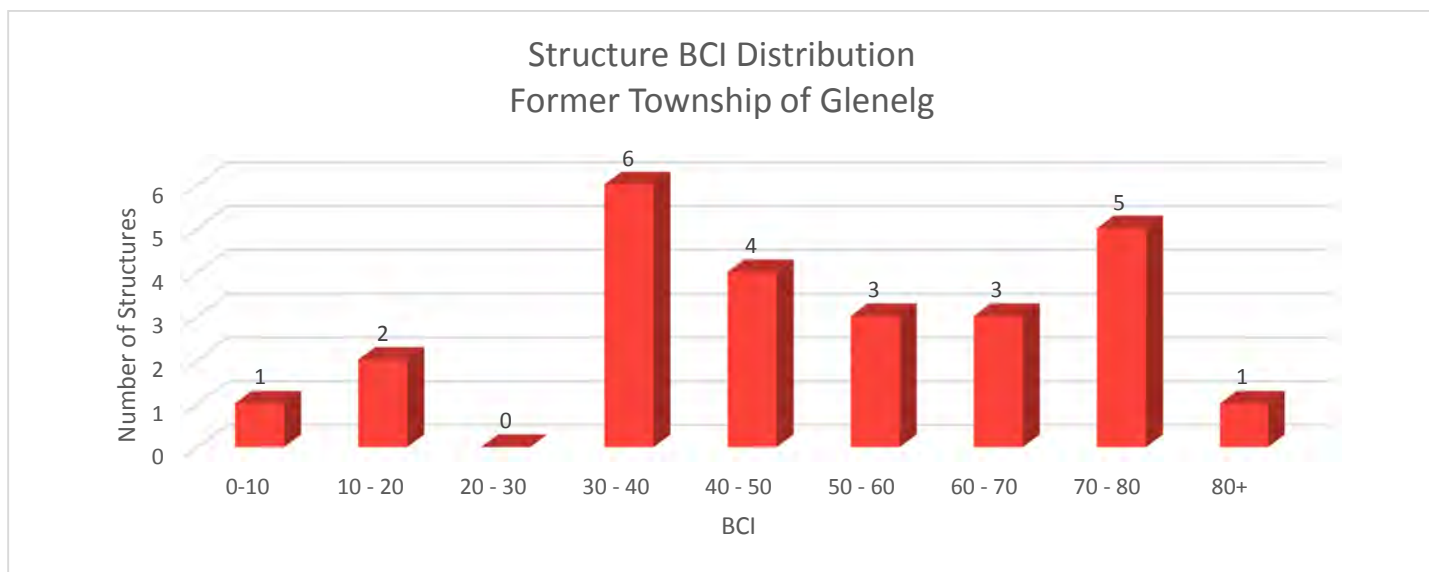


Chart 3 - Structure BCI Distribution - Township of Glenelg

In analyzing this distribution, it is noted that nine (9) structures in Glenelg have BCI values lower than 40, indicating that rehabilitation or replacement of the structure should be scheduled immediately if they are to remain in safe and useful operating condition. This distribution also highlights that seven (7) structures fall within the BCI range of 40 to 60, and future planning for rehabilitation should be initiated.

2.2.2 STRUCTURE ASSET SUMMARY

The condition criteria of the structures within the former Township of Glenelg area have been analyzed to provide a baseline for the overall rating of the structures. To better understand the needs of each structure moving forward, the timing, type and an approximate value of rehabilitation or replacement works have been established. Rehabilitation costs are provided for all structures where the structural condition is such that rehabilitation can restore the structure to a safe and useful condition. Replacement has been specified only where rehabilitation is no longer a structurally viable or economic option for a structure. Rehabilitation is not considered to be an economically viable option where the cost to rehabilitate equals or exceeds the cost of replacement. The approximate replacement value of each structure has also been provided to give an overall indication of the value of the asset.

These established values and information for each structure, along with the age and Bridge Condition Index (BCI), have been summarized in **Table 1** in **Appendix A**.

3 EVALUATION OF STRUCTURES

3.1 METHODOLOGY

In order to achieve a rating system which would clearly demonstrate the condition and value (as an asset to the Municipality) of each individual structure, as well as provide a platform for comparing the structures to one another in future decision-making processes, a universal procedure was developed and applied to each of the structures within the former Township of Glenelg. The procedure considers several criteria, each yielding its own numeric value ranging from 1 to 10 (1 being poor and 10 being excellent). Due to the varying overall impact of each criteria, each has then been classified as primary, secondary, or tertiary, and weighted accordingly in the development of each Overall Structure Rating. The overall structure rating is provided on a scale of 1 to 100, with 1 being poor and 100 being excellent.

Table 2 below summarizes the considered criterion, and indicates their classification and weight within the Overall Structure Rating matrix.

Table 2 – Structure Rating Criteria

RATING CRITERIA	CLASSIFICATION	RATING RANGE	OVERALL RATING WEIGHT
Bridge Condition index (BCI)	Primary	1 to 10	20
Asset Value	Primary	1 to 10	20
Emergency Services – EMS and Fire	Primary	1 to 10	20
Traffic	Secondary	1 to 10	10
Transportation Network	Secondary	1 to 10	10
Municipal Services – School Board and Waste Management	Secondary	1 to 10	10
Historical Significance	Tertiary	1 to 10	5
Detour Impact	Tertiary	1 to 10	5
TOTAL			100

3.2 PRIMARY CRITERIA

3.2.1 BRIDGE CONDITION INDEX (BCI)

To develop the rating for the Bridge Condition Index (BCI) criteria, the BCI determined in the 2017 or 2018 OSIM inspection was directly converted to a 1 to 10 scale (1 being poor and 10 being excellent structural condition). The weight of this primary criterion within the Overall Structure Rating matrix is 20 out of 100 points. **Table 3** below defines each structures rating for this criterion.

Table 3 Structure BCI Ratings

STRUCTURE ID	BCI VALUE	BCI RATING (1-10)	OVERALL RATING (MAX. 20 POINTS)	STRUCTURE ID	BCI VALUE	BCI RATING (1-10)	OVERALL RATING (MAX. 20 POINTS)
G-030	74.02	7.4	15	G-046	34.83	3.5	7
G-031	46.82	4.7	9	G-047	75.34	7.5	15
G-032	69.00	6.9	14	G-048	70.98	7.1	14
G-033	39.70	4.0	8	G-126	32.82	3.3	7
G-035	67.39	6.7	13	G-132	74.68	7.5	15
G-037	9.98	1.0	2	G-133	34.41	3.4	7
G-038	17.29	1.7	3	G-148	75.00	7.5	15
G-039	60.70	6.1	12	G-154	41.52	4.2	8
G-040	34.08	3.4	7	G-197	57.87	5.8	12
G-041	47.08	4.7	9	D-001	47.49	4.7	9
G-043	82.49	8.2	10	D-101	35.31	3.5	7
G-044	14.47	1.4	3	P-101	55.58	5.6	11
G-045	58.63	5.9	12				

3.2.2 ASSET VALUE

The asset value is assessed as a rating ranging from 1 (low overall value as an asset to the Municipality) to 10 (high overall value as an asset to the Municipality). The rating of this criterion is made up of two considerations, the replacement value of the structure, and its current stage within its estimated life cycle. A structure which has a high replacement value would be a large span or multi-span bridge, an intermediate replacement value would be a bridge or ridge frame concrete culvert with an average span, and low replacement value a small rigid frame or pipe culvert. This criterion's rating is intended to measure the structure's value (in its current condition) as either an asset to or burden on the Municipality's asset management. The following table illustrates the rating scale for the Asset Value rating:

		Replacement Value		
		High	Intermediate	Low
Lifecycle Stage (Years)	75 +	Poorest (1/10)	Poor (2/10)	Poor (3/10)
	50 to 75	Poor (2/10)	Poor (3/10)	Fair (4/10)
	25 to 50	Good (7/10)	Good (6/10)	Fair (5/10)
	0 to 25	Best (10/10)	Excellent (9/10)	Excellent (8/10)

Each Asset Value Rating is then weighted as 20 out of 100 points within the Overall Structure Rating matrix. **Table 4** below defines each structure's rating for this criterion.

Table 4 Asset Value Ratings

STRUCTURE ID	ASSET VALUE RATING (1-10)	OVERALL RATING (MAX. 20 POINTS)	STRUCTURE ID	ASSET VALUE RATING (1-10)	OVERALL RATING (MAX. 20 POINTS)
G-030	3	6	G-046	1	2
G-031	3	6	G-047	9	18
G-032	3	6	G-048	3	3
G-033	1	2	G-126	1	2
G-035	2	4	G-132	2	4
G-037	3	6	G-133	6	12
G-038	2	4	G-148	6	12
G-039	1	2	G-154	6	12

STRUCTURE ID	ASSET VALUE RATING (1-10)	OVERALL RATING (MAX. 20 POINTS)	STRUCTURE ID	ASSET VALUE RATING (1-10)	OVERALL RATING (MAX. 20 POINTS)
G-040	1	2	G-197	7	14
G-041	6	12	D-001	6	12
G-043	7	14	D-101	5	10
G-044	2	4	P-101	10	20
G-045	9	18			

3.2.3 EMERGENCY SERVICES – EMS AND FIRE

One of the critical considerations when assessing the importance of a structure within the context of the Municipality’s transportation network is its use as a response route for emergency services. To measure this importance and provide a numeric rating (from 1 to 10) for each structure, a number of factors are taken into consideration. If a structure is part of a primary route used by the Fire Service and EMS, it is given the highest rating of 10 points. If the closure of a structure would result in a significant increase in the length of an emergency route or response time, it is assessed at a high rating of 8 to 10, depending on the scale of the increase. A structure which is not considered to be used as a primary route for emergency services, but is on a paved (asphalt or surface treatment) road is given a rating of 6 to 8 as it would be prioritized for use as a response route ahead of an unpaved road whenever possible. Structures which receive the lowest rating in all the aforementioned categories are rated from 1 to 5 for importance as a part of the overall municipal emergency service routes.

Table 5 below displays each structures rating from 1 to 10 (10 being of high and 1 being low) as a measure of its importance with regards to emergency services routes.

Table 5 Emergency Service Ratings

STRUCTURE ID	RATING (1-10)	OVERALL RATING (MAX. 20 POINTS)	STRUCTURE ID	RATING (1-10)	OVERALL RATING (MAX. 20 POINTS)
G-030	9	18	G-046	8	16
G-031	10	20	G-047	8	16
G-032	7	14	G-048	7	14
G-033	5	10	G-126	3	6
G-035	9	18	G-132	10	20
G-037	3	6	G-133	5	10
G-038	3	6	G-148	4	8
G-039	7	14	G-154	9	18
G-040	6	12	G-197	5	10
G-041	6	12	D-001	10	20
G-043	7	14	D-101	10	20
G-044	9	18	P-101	1	1
G-045	9	18			

3.3 SECONDARY CRITERIA

3.3.1 TRAFFIC

The measured traffic volumes for a section of road can provide insight into many aspects of the decision-making process for the operation of a transportation network. They establish the number of users with respect to adjoining and adjacent road sections, give an overview of the traffic flow within a given area, and are a key indicator of the significance of a specific section of road within the overall network.

During the month of September 2016, the Municipality of West Grey's Public Works Department conducted traffic volumes counts for each roadway within the Municipality. The traffic volumes obtained are a key component utilized in ranking (from 1 to 10) the importance of each structure with regards to traffic within the Municipality.

Figure 3 illustrates the traffic volume data collected in the Glenelg area by the Public Works Department, and can be found in **Appendix A**. Each section of road has been colour coded and categorized by volume, and given a rating range which can be applied to each structure as follows:

Colour	Average Daily Traffic	Rating Range
	>1,000	8-10
	200 - 999	6-8
	100-199	4-6
	50 -99	2-4
	0 - 49	0-2

When rating each individual structure within the Glenelg area, the structure is bound by the rating range of its road (above), and is assessed within that range based on its proximity to higher ranked road sections, potential for seasonal volume fluctuation, and proximity to points of significant trip generation. It should be noted that as the Durham pedestrian structure does not convey vehicle traffic, it has been given a lower importance value of 2 with respect to traffic pattern importance. The individual rating of each structure (from 1 to 10) as a measure of its importance with regards to traffic considerations is defined below in **Table 6**.

Table 6 Traffic Ratings

STRUCTURE ID	RATING RANGE	OVERALL RATING (MAX. 10 POINTS)	STRUCTURE ID	RATING RANGE	OVERALL RATING (MAX. 10 POINTS)
G-030	2 - 4	4	G-046	4 - 6	6
G-031	6 - 8	8	G-047	4 - 6	6
G-032	2 - 4	2	G-048	4 - 6	5
G-033	2 - 4	3	G-126	0 - 2	2
G-035	6 - 8	8	G-132	0 - 2	2
G-037	2 - 4	3	G-133	2 - 4	4
G-038	2 - 4	3	G-148	2 - 4	4

STRUCTURE ID	RATING RANGE	OVERALL RATING (MAX. 10 POINTS)	STRUCTURE ID	RATING RANGE	OVERALL RATING (MAX. 10 POINTS)
G-039	4 - 6	5	G-154	4 - 6	6
G-040	2 - 4	4	G-197	2 - 4	3
G-041	2 - 4	4	D-001	8 - 10	10
G-043	4 - 6	6	D-101	8 - 10	10
G-044	4 - 6	6	P-101	NA	2
G-045	4 - 6	6			

3.3.2 TRANSPORTATION NETWORK

Within any transportation network, there are primary, secondary, and tertiary roadways, which provide varying levels of service to road users. The level of service of an individual section depends on the traffic volumes and quality of the roadway. The assessment of the quality of roadway should consider road and corridor width, the surface type (gravel, surface treatment, asphalt, concrete), condition, potential for congestion, and design and posted speeds. Based on these factors, each structure within the former Glenelg Township area has been assigned a level of service category of 'A' (primary road), 'B' (secondary road), or 'C' (tertiary road), and subsequently rated from 1 to 10 based on its overall importance within the overall transportation networks of the former Glenelg Township and the Municipality of West Grey. The level of service and individual rating of each structure (from 1 to 10) as a measure of its importance with regards to overall transportation network is defined below in *Table 7*.

Table 7 Transportation Network Ratings

STRUCTURE ID	LEVEL OF SERVICE	OVERALL RATING (MAX. 10 POINTS)	STRUCTURE ID	LEVEL OF SERVICE	OVERALL RATING (MAX. 10 POINTS)
G-030	B	6	G-046	B	7
G-031	A	9	G-047	B	7
G-032	B	5	G-048	B	6
G-033	B	5	G-126	C	2
G-035	A	8	G-132	C	2
G-037	C	3	G-133	C	3
G-038	C	3	G-148	C	3
G-039	B	6	G-154	B	5
G-040	B	5	G-197	C	4
G-041	B	5	D-001	A	10
G-043	B	7	D-101	A	10
G-044	C	4	P-101	C	4
G-045	C	4			

3.3.3 MUNICIPAL SERVICES – SCHOOL BOARD AND WASTE MANAGEMENT

This criterion is intended to assess and measure the importance of each individual structure for facilitating the municipal services such as school bus routes and waste pick up. Each structure has been individually assessed as to the impact its closure on the provision of these services. Each structure is rated from 1 to 10 (10 being a great impact on the provision of municipal services, and 1 being a very low impact) and that rating is then applied within the Overall Structure Rating matrix. When rating each structure, consideration was given to whether a structure’s closure would impede the provision of services for any resident, if a detour route is available, the additional distance and time of the ideal detour route, as well as to any site-specific concerns received from the School Board following their review.

Table 8 below displays each structure’s rating as a measure of its importance with regards to the provision of municipal services to the residents of West Grey.

Table 8 Municipal Services Rating

STRUCTURE ID	OVERALL RATING (MAX. 10 POINTS)	STRUCTURE ID	OVERALL RATING (MAX. 10 POINTS)
G-030	7	G-046	7
G-031	8	G-047	7
G-032	8	G-048	8
G-033	6	G-126	5
G-035	10	G-132	10
G-037	5	G-133	8
G-038	5	G-148	4
G-039	8	G-154	8
G-040	6	G-197	6
G-041	6	D-001	10
G-043	7	D-101	10
G-044	8	P-101	1
G-045	8		

3.4 TERTIARY CRITERIA

3.4.1 HISTORIC SIGNIFICANCE

The Ontario Heritage Act, introduced in 1975, is intended to give municipalities and provincial government agencies the power to preserve elements of their jurisdictions with established historic significance. Subsequently, the Ontario Heritage Bridge Guidelines (OHBG) were developed and published by the Ministry of Transportation (MTO) to provide direction regarding the conservation of bridges considered historically significant, or, “Heritage” bridges. Bridges are identified, evaluated, and, if they are determined to have “heritage value”, are listed on the Ontario Heritage Bridge List (OHBL). For the purpose of determining a numeric rating within the Overall Structure Rating matrix, each structure was assessed based on the following guideline:

Criteria	Rating
Listed on OHBL with significance of 8 or higher	5
Listed on OHBL with significance of 5 to 7	4
Listed on OHBL with significance of less than 5	3
Structure is more than 40 years old and has unique characteristics	2
Structure is more than 40 years old but has no unique characteristics	1
Structure is less than 40 years old	0

The historic significance rating of each structure (from 0 to 5) are shown below in *Table 9*.

Table 9 Historic Significance Ratings

STRUCTURE ID	OVERALL RATING (MAX. 5 POINTS)	STRUCTURE ID	OVERALL RATING (MAX. 5 POINTS)
G-030	1	G-046	4
G-031	1	G-047	0
G-032	1	G-048	1
G-033	2	G-126	0
G-035	2	G-132	0
G-037	1	G-133	1
G-038	2	G-148	0
G-039	4	G-154	0
G-040	4	G-197	0
G-041	1	D-001	2
G-043	1	D-101	2
G-044	4	P-101	2
G-045	0		

3.4.2 DETOUR IMPACT

The final criterion to be considered is the availability of a detour route at each structure, were it to be closed and decommissioned, and a temporary closure of a neighbouring structure be required. Each structure is considered individually and given a rating from 1 to 10 (1 being minimal detour impact, 10 being high detour impact), taking into account the availability of a detour route, suitability of the proposed detour to accept the re-routed traffic, and the additional distance and time required to travel the available route. **Table 10** below defines the individual rating of each structure (from 1 to 10) and weight within the Overall Structure Rating matrix.

Table 10 Detour Impact Ratings

STRUCTURE ID	RATING (1-10)	OVERALL RATING (MAX. 5 POINTS)	STRUCTURE ID	RATING (1-10)	OVERALL RATING (MAX. 5 POINTS)
G-030	3	2	G-046	8	4
G-031	5	3	G-047	8	4
G-032	5	3	G-048	9	5
G-033	3	2	G-126	3	2
G-035	8	4	G-132	10	5
G-037	5	3	G-133	7	4
G-038	5	3	G-148	9	5
G-039	9	5	G-154	4	2
G-040	7	4	G-197	3	2
G-041	7	4	D-001	10	5
G-043	6	3	D-101	10	5
G-044	8	4	P-101	3	2
G-045	8	4			

3.5 OVERALL STRUCTURE RATING MATRIX

To establish an Overall Structure Rating for each structure within the Glenelg Township area, each of the primary, secondary, and tertiary rating criteria have been given weight based on importance within the overall rating matrix. The results of the application of the Overall Structure Rating matrix for each structure are presented in *Table 11* below.

Table 11 Overall Structure Ratings

STRUCTURE ID	BCI (MAX 20)	ASSET VALUE (MAX 20)	EMS (MAX 20)	TRAFFIC (MAX 10)	TRANS-PORTATION NETWORK (MAX 10)	MUNICIPAL SERVICES (MAX 10)	HISTORIC SIG. (MAX 5)	DETOUR IMPACT (MAX 5)	OVERALL STRUCTURE RATING (MAX 100)
G-030	15	3	18	4	9	7	1	2	59
G-031	9	3	20	8	9	8	1	3	61
G-032	14	3	14	2	9	8	1	3	54
G-033	8	1	10	3	6	6	2	2	38
G-035	13	2	18	8	6	10	2	4	63
G-037	2	3	6	3	7	5	1	3	30
G-038	3	2	6	3	1	5	2	3	25
G-039	12	1	14	5	6	8	4	5	55
G-040	7	1	12	4	7	6	4	4	45
G-041	9	6	12	4	5	6	1	4	47
G-043	10	7	14	6	5	7	1	3	53
G-044	3	2	18	6	7	8	4	4	52
G-045	12	9	18	6	6	8	0	4	63
G-046	7	2	16	6	8	7	4	4	54
G-047	15	18	16	6	7	7	0	4	73
G-048	14	3	14	5	7	8	1	5	57
G-126	7	2	6	2	8	5	0	2	32
G-132	15	4	20	2	9	10	0	5	65
G-133	7	12	10	4	7	8	1	4	53
G-148	15	12	8	4	6	4	0	5	54
G-154	8	12	18	6	6	8	0	2	60
G-197	12	14	10	3	7	6	0	2	54
D-001	9	12	20	10	8	10	2	5	76
D-101	7	10	20	10	3	10	2	5	67
P-101	11	20	1	2	4	1	2	2	43

As highlighted in Table 11 above, there are seven (7) structures, including five (5) bridges and two (2) culverts, with a rating below 50 out of a possible 100 points. Each of these seven (7) structures are considered viable candidates for closure based on their low overall value to the municipality and a minimal impact of closure and are reviewed and presented in depth in the following section, *Individual Structure Assessment and Rationale*.

4 INDIVIDUAL STRUCTURE ASSESSMENT AND RATIONAL

4.1 STRUCTURE REVIEW

Each structure within the Glenelg area has been given a numeric rating to indicate its overall significance as an asset within the Municipality of West Grey. The below noted structures fall into the lowest rating class (less than 50 of a possible 100-point rating) have been identified as potential candidate for closure.

Structure	Bridge/Culvert	Rating
G-033	Bridge	38
G-037	Bridge	30
G-038	Bridge	25
G-040	Bridge	45
G-041	Bridge	47
G-126	Culvert	32
P-101	Bridge	43

Within this section, the site specific current conditions and future potential of each of the above noted structures will be summarized.

4.1.1 STRUCTURE G-033

Structure G-033, known as the Traverston Bridge is located on Traverston Road between Grey Road 12 and Concession 8 in the north-central portion of the former Township of Glenelg (see *Figure 2 – Structure location map* in **Appendix A**). The structure received an overall rating of 38 out of a possible 100 points, primarily attributable to its current poor condition and very high cost of replacement due to its scale and large span. The structure was originally constructed in 1930, having some rehabilitation work and maintenance completed since. The structure spans approximately thirty-five (35) metres and is a steel pony truss structure with one concrete abutment, one abutment founded on native bedrock, and a timber deck overlain by an asphalt wearing surface. A view of the structure from the south approaching perspective are shown in *Images 1 and 2* below.



Image 1 – G-033 View from South Approach



Image 2 - G-033 View from South Approach

Prior to its closure in 2018, structure G-033 (Traverston Bridge) served a relatively low number of road users with respect to other structures in the Municipality and is located on Traverston Road, which has a moderate level of service. The structure is in very poor overall condition and bearing instability was observed by municipal employees resulting in the interim closure of the structure, necessary for the preservation of public safety. Recent inspections have noted the overall poor condition of both the superstructure and substructure and indicated the need for additional indepth investigations to determine the safe load carrying capacity and material conditions. If further investigation determines the substructure has adequate load carrying capacity and the structure is to be re-opened, it will require significant rehabilitation including the replacement of the majority of the superstructure. Should detailed investigations indicate the substructure does not have adequate load carrying capacity, the structure will require full replacement, and holds one of the highest replacement costs of all structures within the Municipality of West Grey. In addition to the structural concerns, steel bridges constructed during this era were typically designed for a load of 15 imperial tons, which is the equivalent of 13.6 metric tonnes, and therefore, a full rehabilitation of the structure would still require an imposed load limit posting of 13 tonnes. Due to its necessary closure, provisions have already been made in establishing alternate detour routing of traffic and emergency and municipal services in the area, which will lessen the burden of a permanent closure. The current estimated replacement value of this structure is \$1,500,000 due to its long span and level of service.

In the case of this structure, replacement or permanent closure are the two feasible options. Due the high cost of replacement and low overall importance within the municipal transportation network, structure G-033 warrants consideration for closure by the Municipality in its future strategic planning.

4.1.2 STRUCTURE G-037

Structure G-037 is located on the North Line Road between Concession 2 and Camp Oliver Road in the central portion of the former Township of Glenelg (see **Figure 2 – Structure location map** in **Appendix A**). The structure received a rating of 30 points out of a possible 100 points, primarily attributable location and current condition. The structure was originally constructed in 1954, having few, if any, repairs completed since. The structure spans just over nine (9) metres and is a rigid frame concrete structure with concrete barrier railing and a concrete deck overlain by a granular wearing surface. A view of the structure in elevation and from the west approaching perspective are shown in **Images 3 and 4** below.



Image 3 - G-037 Elevation View



Image 4 - G-037 View from West Approach

Structure G-037 serves a relatively low number of road users with respect to other structures in the Municipality, as it is located on the North Line, which provides a low level of service and varies in condition throughout its east/west length. The structure is in poor overall condition, with recent inspections indicating that significant repairs are required if it is to remain open in a safe operating condition. The structure has an approximate replacement value of \$675,000, and the estimated cost to complete the immediate repairs required for the structure to remain open and in a safe condition is \$250,000. If the necessary repairs are completed, the structure could continue to serve road users for approximately 25 more years before requiring replacement. The structure has close proximity to Durham, Grey Road 4, and Concession 2, and may have future potential for serving an increased number of road users if the North Line is improved.

As structure G-037 is a viable candidate for rehabilitation and has the potential for future increase in importance of this asset within the Municipality of West Grey, the Municipality may consider the scheduling of repairs in order for it to remain open and in a safe operating condition. In the future, when rehabilitation is no longer a viable option, the structure may warrant consideration for closure by the Municipality in its future strategic planning.

4.1.3 STRUCTURE G-038

Structure G-038 is located on North Line between Concession 2 and Camp Oliver Road in the central portion of the former Township of Glenelg (see *Figure 2 – Structure location map* in **Appendix A**). The structure received the lowest rating within the former Township of Glenelg of 25 out of a possible 100 points, primarily attributable to its current very poor structural condition, low level of service, and high cost of replacement. The structure was originally constructed in 1920, having only minor repairs completed since. The structure spans approximately fourteen (14) metres and is a concrete arch structure with concrete abutments and deck overlain by a granular wearing surface. A view of the structure elevation and from the approaching perspective are shown in *Images 5 and 6* below.



Image 5 - G-038 Elevation View



Image 6 – G-038 View from East Approach

Structure G-038 serves a relatively low number of road users with respect to other structures in the Municipality, as it is located on the North Line, which provides a low level of service and varies in condition throughout its east/west length. The structure is in poor overall condition, with recent inspections indicating that rehabilitation is no longer an economically viable option. Replacement of the structure is required if it is to remain open in a safe operating condition. The structure has an approximate replacement value of \$800,000. The structure has close proximity to Durham, Grey Road 4, and Concession 2, and may have future potential for serving an increased number of road users if the North Line is improved.

In the case of structure G-038, replacement or permanent closure are the two feasible options. Due the high cost of replacement and low overall importance within the municipal transportation network, the structure warrants consideration for closure by the Municipality in its future strategic planning.

4.1.4 STRUCTURE G-040

Structure G-040 is located on Concession 4 between Baptist Church Road and the Glenelg Road 23 in the central portion of the former Township of Glenelg (see *Figure 2 – Structure location map* in **Appendix A**). The structure received a rating of 45 out of a possible 100 points, primarily attributable to poor condition of its main structural elements, its high cost of replacement, and importance within the overall transportation network. The structure was originally constructed in 1930, having only minor repairs completed since. The structure spans approximately thirty (30) metres and is a steel pony truss structure with concrete abutments and timber deck overlain by an asphalt wearing surface. A view of the structure elevation and from the approaching perspective is shown in *Images 7 and 8* below.



Image 7 – G-040 Elevation View



Image 8 – G-040 View from East Approach

Structure G-040 serves a relatively low number of road users with respect to other structures in the Municipality, as it is located on Concession 4, which has a moderate level of service throughout its length. The structure is in poor condition, and is approaching the end of its lifecycle, with necessary closure or replacement required in the immediate future. Recent inspections of structure G-040 indicate that rehabilitation of the structure is no longer an economically viable option due to the high cost of the repairs compared to the poor condition of its abutments, which will ultimately limit the lifespan of the structure once rehabilitated. In addition to the foundation concerns, steel bridges constructed during this era were typically designed for a load of 15 imperial tons, which is the equivalent of 13.6 metric tonnes, and therefore, a full rehabilitation of the structure would still require an imposed load limit posting of 13 tonnes. The current estimated replacement value of this structure is \$1,000,000 due to its large span.

In the case of this structure, replacement or closure are the two feasible options. Due to the high cost of replacement and low overall importance within the municipal transportation network, structure G-040 warrants consideration for closure by the Municipality in its future strategic planning.

4.1.5 STRUCTURE G-041

Structure G-041 is located on Concession 4 between Baptist Church Road and the Glenelg Road 23 in the central portion of the former Township of Glenelg (see *Figure 2 – Structure location map* in **Appendix A**). The structure received a rating of 47 points out of a possible 100 points, primarily attributable to its current condition, asset value, and overall importance within the West Grey transportation network. The structure was originally constructed in 1960, having few, if any, repairs completed since. The structure spans six and a half (6.5) metres and is an open footing rigid frame concrete structure and deck overlain by an asphalt wearing surface. View of the structure elevation and from the east approaching perspective are shown in *Image 9* and *Image 10* below.



Image 9 – G-041 Elevation View



Image 10 – G-041 East Approaching Perspective

Structure G-041 serves a relatively low number of road users with respect to other structures in the Municipality, as it is located on the Concession 4, which has a moderate level of service throughout its length. The structure is in fair overall condition, with recent inspections indicating that repairs and barrier protection upgrades are required if it is to remain open in a safe operating condition. The structure has an approximate replacement value of \$600,000 and the estimated cost to complete the immediate repairs required for the structure to remain open and in a safe condition is \$45,000. If the necessary repairs are completed, the structure could continue to serve road users for approximately 30 more years before requiring replacement.

As structure G-041 is a viable candidate for rehabilitation and has the potential to continue to serve the Municipality for many more years, the Municipality may consider the scheduling of repairs in order for it to remain open and in a safe operating condition. In the future, when rehabilitation is no longer a viable option, the structure may warrant consideration for closure by the Municipality in its future strategic planning.

4.1.6 STRUCTURE G-126

Structure G-126 is located on Baptist Church Road just south of Concession 8 in the central portion of the former Township of Glenelg (see *Figure 2 – Structure location map* in **Appendix A**). The structure received a rating of 32 points out of a possible 100 points, primarily attributable to its current condition, location, and overall importance within the West Grey transportation network. The structure was originally constructed in 1980, having only minor maintenance tasks completed since. The structure consists of two twin corrugated steel pipe culverts with a combined span of just over three (3) metres and is overlain by granular fill and wearing surface. A view of the structure elevation is shown in *Image 11* below.



Image 11 – G-126 Elevation View

Structure G-126 serves a relatively low number of road users with respect to other structures in the Municipality, as it is located on Baptist Church Road between Concessions 8 and 6. Recent inspections indicate that the north culvert is in fair overall condition, and the south culvert has an observed mid-span failure (depression) and will require replacement in the near future if the structure is to remain open and in a safe operating condition. The structure has an approximate replacement value of \$250,000, and the estimated cost to complete the necessary replacement of the south pipe is \$150,000. Due to constructibility and to achieve the optimum

economy, it is advisable to consider the simultaneous replacement of both pipes, which could then go on to serve the Municipality of West Grey for 75 years.

As structure G-126 has a relatively low cost of replacement, the Municipality may wish to consider the scheduling of the replacement in the near future in order for the structure to remain open and in a safe operating condition.

4.1.7 STRUCTURE P-101

Structure P-101, known as the Durham Pedestrian Bridge, is located in Durham just east of Provincial Highway 6 in the southwest portion of the former Township of Glenelg (see *Figure 2 – Structure location map* in **Appendix A**). Although the structure received a rating of 43 points out of a possible 100 points, below the 50 points flagging it as warranting further investigation for closure, the structure is not a candidate for closure. The low overall rating for this structure is primarily attributable to its type. As a pedestrian structure, it receives low ratings in several categories including vehicle traffic, emergency and municipal service provision, and overall asset importance and value within the municipality. The structure is in excellent condition having had its superstructure fully replaced in 2017, and has an important historical and recreational significance within the Municipality. The timber structure conveys pedestrian traffic across the scenic Upper Durham Dam to the downtown area. A view of the structure elevation is shown in *Image 12* below.



Image 12 – P-101, Durham Pedestrian Bridge Elevation View

The Durham Pedestrian Bridge (P-101) is in excellent overall condition and it is recommended that the Municipality continue the maintenance schedule in order to maintain its current condition.

5 RECOMMENDATIONS

Through the development of the Overall Structure Rating matrix, a universal classification and rating system, WSP has completed an in-depth review and evaluation of each of the Municipality of West Grey's structures within the former Township of Glenelg area. This review has identified seven (7) structures within the municipality which are of the lowest value and importance within the context of the overall transportation network. Each of these seven (7) structures were evaluated individually for their suitability for potential future closure, with considerations and general recommendations outlined hitherto.

It is understood that considering the available tax base for funding the maintenance and rehabilitation of its structures going forward, it is in the best interest of the Municipality to undergo strategic closures of a selection of the poorest condition structures, so that the remaining structures may be maintained and replaced to provide an adequate, safe, and economically sustainable road network. To that end, it is recommended that the Municipality consider the below action at each of the seven (7) structures:

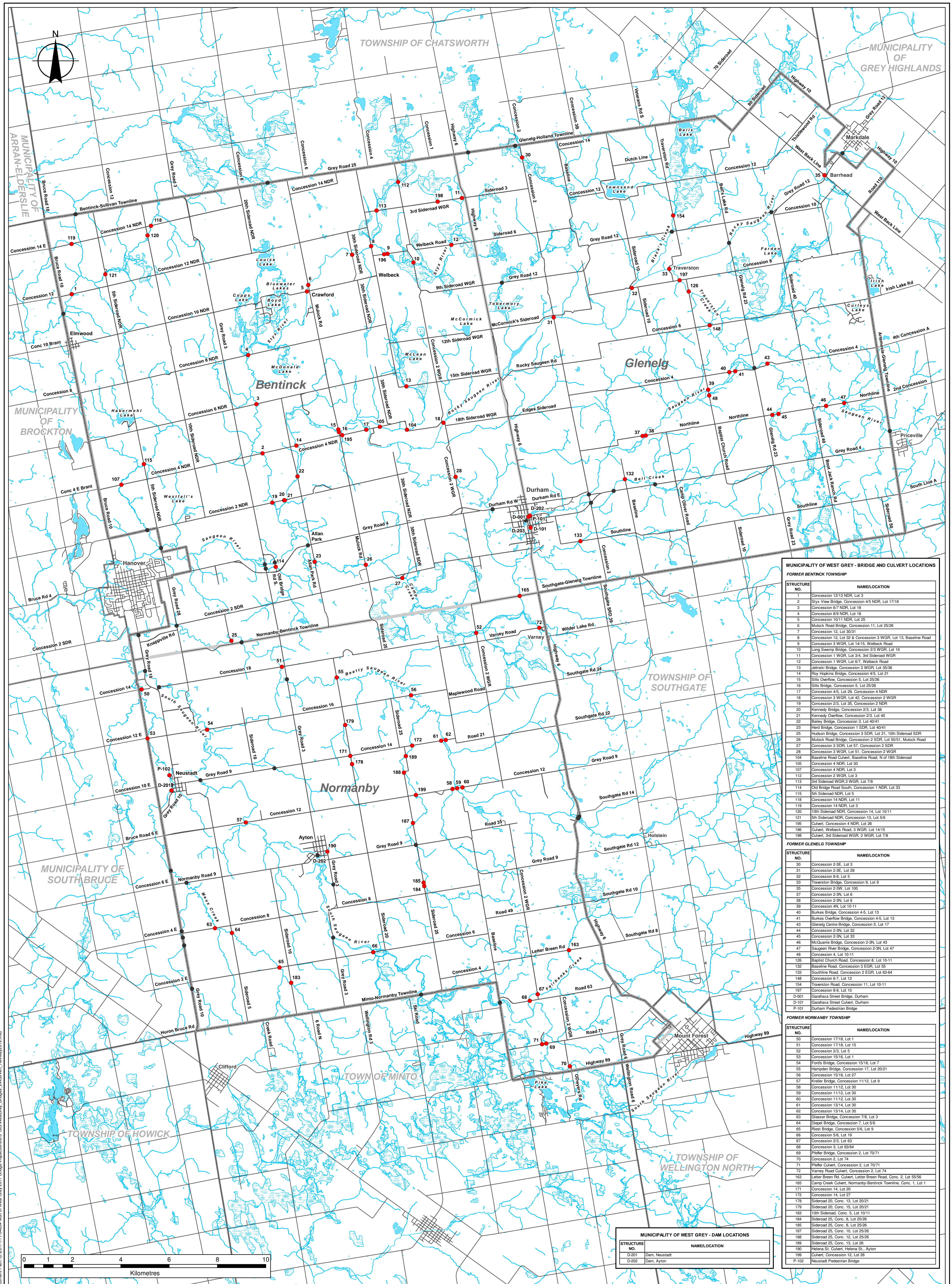
Structure	Recommended Action
G-033	Permanent Closure
G-037	Completion of Rehabilitation Work, Potential Closure at end of Lifecycle
G-038	Permanent Closure
G-040	Permanent Closure
G-041	Completion of Rehabilitation Work, Potential Closure at end of Lifecycle
G-126	Replacement of Structure
P-101	Continue Maintenance

The rating, assessments, and recommendations within are based on all available information regarding the Municipality's roadway network and structure inventory, and are intended to assist in the development of a strategic structure asset management plan to support and promote a functional, safe, and economically sustainable transportation network in the Municipality of West Grey.

A TABLES AND FIGURES

TABLE 1
Structure Rating and Rational Report
Former Township of Glenelg
The Municipality of West Grey

Structure	Location	Bridge or Culvert	Year Built	Year Replaced	Age (2018)	BCI Value	Work Required in Immediate Future	Work Required in Near Future	Ideal Candidate for Rehabilitation	Estimated Cost of Rehabilitation	Estimated Cost of Replacement	Asset Replacement Value (Present Day)
G-030	Concession 2 & 3E, Lot 3	Bridge	1965	-	53	74.02	No	No	Yes	\$ 15,000.00		\$ 650,000.00
G-031	Concession 2 & 3E, Lot 28	Bridge	1960	-	58	46.82	No	Yes	Yes	\$ 55,000.00		\$ 800,000.00
G-032	Concession 8 & 9, Lot 5	Bridge	1960	-	58	69.00	No	No	Yes	\$ 35,000.00		\$ 775,000.00
G-033	Traverston Bridge, Concession 9, Lot 9	Bridge	1930	-	88	39.70	Yes	Yes	No		\$ 1,500,000.00	\$ 1,500,000.00
G-035	Concession 2 & 3W, Lot 100	Bridge	1940	-	78	67.39	No	No	Yes	\$ 40,000.00		\$ 775,000.00
G-037	Concession 2 & 3N, Lot 6	Bridge	1954	-	64	9.98	Yes	Yes	Yes	\$ 250,000.00		\$ 675,000.00
G-038	Concession 2 & 3N, Lot 6	Bridge	1920	-	98	17.29	Yes	Yes	No		\$ 800,000.00	\$ 800,000.00
G-039	Concession 4, Lot 13	Bridge	1930	-	88	60.70	No	No	Yes	\$ 225,000.00		\$ 1,100,000.00
G-040	Burkes Bridge, Concession 4, Lot 12 & 13	Bridge	1930	-	88	34.08	Yes	Yes	No		\$ 1,000,000.00	\$ 1,000,000.00
G-041	Concession 4, Lot 12 & 13	Bridge	1960	-	58	47.08	No	Yes	Yes	\$ 25,000.00		\$ 600,000.00
G-043	Glenelg Centre Bridge, Concession 5, Lot 17	Bridge	1972	-	46	82.49	No	No	Yes	\$ 70,000.00		\$ 1,500,000.00
G-044	Concession 2 & 3N, Lot 32	Bridge	1920	-	98	14.47	Yes	Yes	No		\$ 800,000.00	\$ 800,000.00
G-045	Black's Bridge, Concession 2 & 3N, Lot 33	Bridge	1920	1993	25	58.63	No	Yes	Yes	\$ 65,000.00		\$ 800,000.00
G-046	McQuarrie Bridge, Concession 2 & 3N, Lot 43	Bridge	1928	-	90	34.83	Yes	Yes	Yes	\$ 275,000.00		\$ 1,000,000.00
G-047	Concession 2 & 3N, Lot 47	Bridge	1930	1995	23	75.34	No	No	Yes	\$ 30,000.00		\$ 900,000.00
G-048	Concession 4, Lot 10/11	Bridge	1967	-	51	70.98	No	No	Yes	\$ 60,000.00		\$ 625,000.00
G-126	Concession 8, Lot 10/11	Culvert	1980	-	38	32.82	Yes	Yes	No		\$ 250,000.00	\$ 250,000.00
G-132	Concession 3 EGR, Lot 55	Culvert	1990	-	28	74.68	No	No	Yes	\$ 40,000.00		\$ 275,000.00
G-133	Concession 2	Culvert	1965	-	53	34.41	Yes	Yes	Yes	\$ 110,000.00		\$ 350,000.00
G-148	Concession 6/7, Lot 12	Culvert	1980	-	38	75.00	No	No	Yes	\$ 50,000.00		\$ 625,000.00
G-154	Concession 11, Lot 10/11	Culvert	1981	-	37	41.52	No	Yes	Yes	\$ 55,000.00		\$ 350,000.00
G-197	Concession 8/9, Lot 10	Culvert	1980	-	38	57.87	No	Yes	No		\$ 350,000.00	\$ 350,000.00
D-001	Durham Bridge - Highway 6	Bridge	1930	-	88	47.49	No	Yes	Yes	\$ 40,000.00		\$ 1,750,000.00
D-101	Durham Culvert - Highway 6	Culvert	1960	-	58	35.31	Yes	Yes	Yes	\$ 250,000.00		\$ 450,000.00
P-101	Durham Pedestrian Bridge	Bridge	1907	2017	1	55.58	No	Yes	Yes			\$ 1,150,000.00
TOTALS =										\$ 1,690,000.00	\$ 4,700,000.00	\$ 19,850,000.00



MUNICIPALITY OF WEST GREY - BRIDGE AND CULVERT LOCATIONS

FORMER BENTINCK TOWNSHIP

STRUCTURE NO.	NAME/LOCATION
1	Concession 12/13 NDR, Lot 3
2	Sty View Bridge, Concession 4/5 NDR, Lot 17/18
3	Concession 6/7 NDR, Lot 18
4	Concession 8/9 NDR, Lot 18
5	Concession 10/11 NDR, Lot 23
6	Mulock Road Bridge, Concession 11, Lot 25/26
7	Concession 12, Lot 30/31
8	Concession 12, Lot 32 & Concession 3 WGR, Lot 13, Baseline Road
9	Concession 3 WGR, Lot 14/15, Welbeck Road
10	Long Swamp Bridge, Concession 2/3 WGR, Lot 16
11	Concession 1 WGR, Lot 3/4, 3rd Sideroad WGR
12	Concession 1 WGR, Lot 6/7, Welbeck Road
13	Jenkins Bridge, Concession 3 WGR, Lot 35/36
14	Roy Hopkins Bridge, Concession 4/5, Lot 21
15	Silt Overflow, Concession 5, Lot 25/26
16	Silt Bridge, Concession 5, Lot 25/26
17	Concession 4/5, Lot 29, Concession 4 NDR
18	Concession 3 WGR, Lot 42, Concession 2 WGR
19	Concession 2/3, Lot 35, Concession 2 NDR
20	Kennedy Bridge, Concession 2/3, Lot 38
21	Kennedy Overflow, Concession 2/3, Lot 40
22	Bailey Bridge, Concession 3, Lot 40/41
23	Head Bridge, Concession 3 SDR, Lot 40/41
24	Hudson Bridge, Concession 3 SDR, Lot 21, 10th Sideroad SDR
25	Mulock Road Bridge, Concession 2 SDR, Lot 50/51, Mulock Road
26	Concession 3 SDR, Lot 57, Concession 2 SDR
27	Concession 2 WGR, Lot 51, Concession 2 SDR
28	Baseline Road Culvert, Baseline Road, 1/4 of 18th Sideroad
104	Concession 4 NDR, Lot 30
105	Concession 4 NDR, Lot 30
107	Concession 4 NDR, Lot 30
112	Concession 2 WGR, Lot 32
113	3rd Sideroad WGR 3 WGR, Lot 7/8
114	Old Bridge Road South, Concession 1 NDR, Lot 33
115	5th Sideroad NDR, Lot 5
118	Concession 14 NDR, Lot 11
119	Concession 14 NDR, Lot 3
120	10th Sideroad NDR, Concession 14, Lot 10/11
121	5th Sideroad NDR, Concession 13, Lot 5/6
195	Culvert, Concession 4 NDR, Lot 28
196	Culvert, Welbeck Road, 3 WGR, Lot 14/15
198	Culvert, 3rd Sideroad WGR, 2 WGR, Lot 7/8

FORMER GLENELG TOWNSHIP

STRUCTURE NO.	NAME/LOCATION
30	Concession 2/3E, Lot 9
31	Concession 2/3E, Lot 28
32	Concession 8/9, Lot 5
33	Traveston Bridge, Concession 9, Lot 9
35	Concession 2/3N, Lot 10/9
37	Concession 2/3N, Lot 6
38	Concession 2/3N, Lot 6
39	Concession 2/3N, Lot 6
40	Burkes Bridge, Concession 4/5, Lot 13
41	Burkes Overflow Bridge, Concession 4/5, Lot 13
43	Glenelg Centre Bridge, Concession 5, Lot 17
44	Concession 2/3N, Lot 10/11
45	Concession 2/3N, Lot 33
46	McQuane Bridge, Concession 2/3N, Lot 43
47	Saugen River Bridge, Concession 2/3N, Lot 47
49	Concession 4, Lot 10/11
126	Baptist Church Road, Concession 8, Lot 10/11
132	Baseline Road, Concession 3 EGR, Lot 55
133	Southline Road, Concession 2 EGR, Lot 63/64
148	Concession 8/7, Lot 12
154	Traveston Road, Concession 11, Lot 10/11
197	Concession 8/9, Lot 10
D-001	Gartrava Street Bridge, Durham
D-101	Gartrava Street Culvert, Durham
P-101	Durham Pedestrian Bridge

FORMER NORMANBY TOWNSHIP

STRUCTURE NO.	NAME/LOCATION
50	Concession 17/18, Lot 1
51	Concession 17/18, Lot 15
52	Concession 2/3, Lot 5
53	Concession 15/16, Lot 1
54	Ford's Bridge, Concession 15/16, Lot 7
55	Hampton Bridge, Concession 17, Lot 20/21
56	Concession 15/16, Lot 27
57	Kruller Bridge, Concession 11/12, Lot 8
58	Concession 11/12, Lot 30
59	Concession 11/12, Lot 30
60	Concession 11/12, Lot 30
61	Concession 13/14, Lot 30
62	Concession 13/14, Lot 30
63	Slaver Bridge, Concession 7/8, Lot 3
64	Drapel Bridge, Concession 7, Lot 5/6
65	Riest Bridge, Concession 5/6, Lot 9
66	Concession 5/6, Lot 19
67	Concession 2/3, Lot 12
68	Concession 3, Lot 63/64
69	Pfeffer Bridge, Concession 2, Lot 70/71
70	Concession 2, Lot 74
71	Pfeffer Culvert, Concession 2, Lot 70/71
72	Varney Road Culvert, Concession 2, Lot 74
163	Letter Breen Rd Culvert, Letter Breen Road, Conc. 2, Lot 55/56
165	Camp Creek Culvert, Normanby/Bentinck Townline, Conc. 1, Lot 1
171	Concession 14, Lot 30
172	Concession 14, Lot 27
178	Sideroad 20, Conc. 13, Lot 20/21
179	Sideroad 25, Conc. 13, Lot 20/21
183	10th Sideroad, Conc. 5, Lot 10/11
184	Sideroad 25, Conc. 8, Lot 25/26
185	Sideroad 25, Conc. 8, Lot 25/26
187	Sideroad 25, Conc. 10, Lot 25/26
188	Sideroad 25, Conc. 12, Lot 25/26
189	Sideroad 25, Conc. 13, Lot 25/26
190	Helena St. Culvert, Helena St., Aylon
199	Culvert, Concession 12, Lot 28
P-102	Neustadt Pedestrian Bridge

MUNICIPALITY OF WEST GREY - DAM LOCATIONS

STRUCTURE NO.	NAME/LOCATION
D-201	Dam, Neustadt
D-202	Dam, Aylon

LEGEND

- WEST GREY MUNICIPAL BOUNDARY
- MUNICIPAL BOUNDARY
- WEST GREY BRIDGE/CULVERT/DAM ASSET
- GREY COUNTY BRIDGE/CULVERT ASSET
- WATERBODY
- WETLAND - EVALUATED
- STREAM

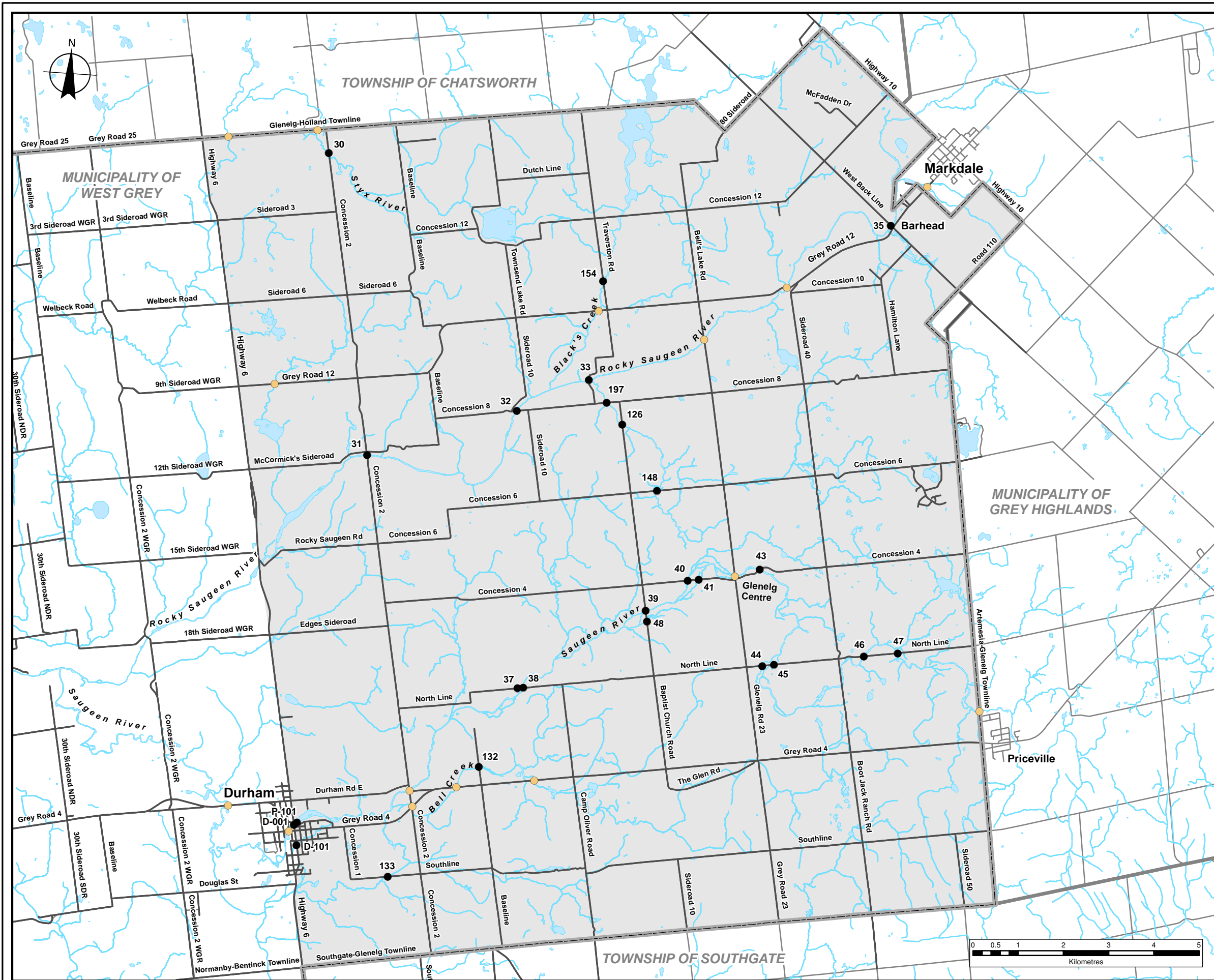
**BRIDGE, CULVERT & DAM LOCATIONS
MUNICIPALITY OF WEST GREY**

PROJECT:	171-04854-00	DATE:	MAY 2019
DRAWN/APPROVED:	JET/CW/KH	SCALE:	SEE SCALE BAR



FIGURE:

Document Path: G:\2017\171-04854_Mun of West Grey 2017 Bridge Inspection\8.0 GIS\171-04854-00_FIG2_StructureLocationMap_Glenelg_RevMay2019.mxd



STRUCTURE NO.	NAME/LOCATION
30	Concession 2-3E, Lot 3
31	Concession 2-3E, Lot 28
32	Concession 8-9, Lot 5
33	Traverston Bridge, Concession 9, Lot 9
35	Concession 2-3W, Lot 100
37	Concession 2-3N, Lot 6
38	Concession 2-3N, Lot 6
39	Concession 4N, Lot 10-11
40	Burkes Bridge, Concession 4-5, Lot 13
41	Burkes Overflow Bridge, Concession 4-5, Lot 13
43	Glenelg Centre Bridge, Concession 5, Lot 17
44	Concession 2-3N, Lot 32
45	Concession 2-3N, Lot 33
46	McQuarrie Bridge, Concession 2-3N, Lot 43
47	Saugeen River Bridge, Concession 2-3N, Lot 47
48	Concession 4, Lot 10-11
126	Baptist Church Road, Concession 8, Lot 10-11
132	Baseline Road, Concession 3 EGR, Lot 55
133	Southline Road, Concession 2 EGR, Lot 63-64
148	Concession 6-7, Lot 12
154	Traverston Road, Concession 11, Lot 10-11
197	Concession 8-9, Lot 10
D-001	Garafraxa Street Bridge, Durham
D-101	Garafraxa Street Culvert, Durham
P-101	Durham Pedestrian Bridge

LEGEND

- WEST GREY MUNICIPAL BOUNDARY
- FORMER GLENELG TOWNSHIP
- WATERBODY
- RIVER/STREAM
- ROAD MAINTAINED IN WINTER
- WEST GREY BRIDGE/CULVERT/DAM ASSET
- GREY COUNTY BRIDGE/CULVERT ASSET

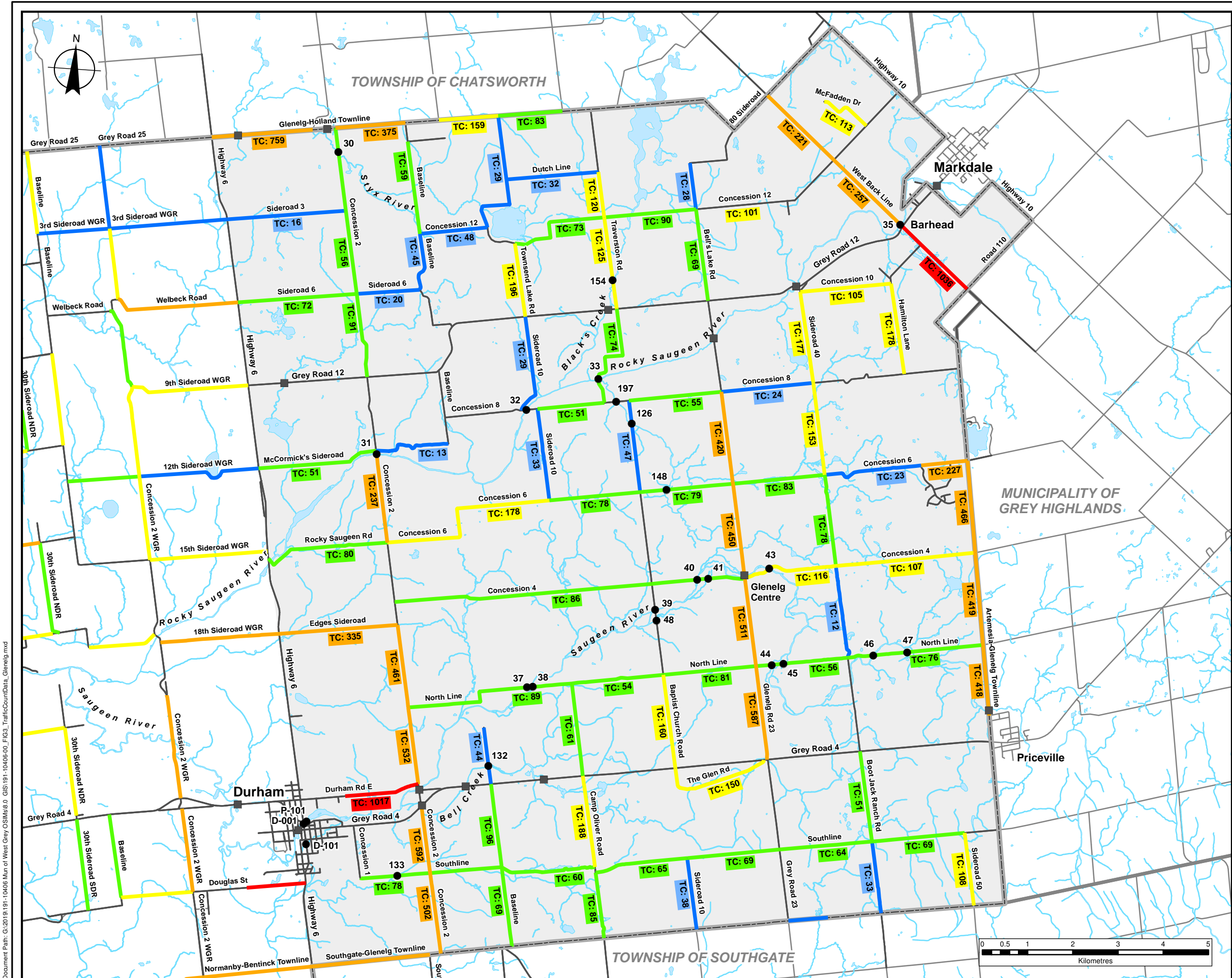
BASE MAP DATA PROVIDED BY THE COUNTY OF GREY AND THE MINISTRY OF NATURAL RESOURCES AND FORESTRY, LAND INFORMATION ONTARIO, RETRIEVED FROM <https://www.jvacoapp.lrc.gov.on.ca>



1450 1st AVENUE WEST, SUITE 101
OWEN SOUND, ONTARIO CANADA N4K 6W2
PHONE: 519 376-7612 - FAX: 519 376-8008 - WWW.WSP.COM

**STRUCTURE LOCATION MAP
STRUCTURE RATING AND RATIONAL REPORT
FORMER GLENELG TOWNSHIP
MUNICIPALITY OF WEST GREY**

SCALE:	1:85,000	DATE:	MAY 2019
DRAWN:	JET	PROJECT:	171-04854-00
APPROVED:	KH/CW	FIGURE:	2



STRUCTURE NO.	NAME/LOCATION
30	Concession 2-3E, Lot 3
31	Concession 2-3E, Lot 28
32	Concession 8-9, Lot 5
33	Traverston Bridge, Concession 9, Lot 9
35	Concession 2-3W, Lot 100
37	Concession 2-3N, Lot 6
38	Concession 2-3N, Lot 6
39	Concession 4N, Lot 10-11
40	Burkes Bridge, Concession 4-5, Lot 13
41	Burkes Overflow Bridge, Concession 4-5, Lot 13
43	Glenelg Centre Bridge, Concession 5, Lot 17
44	Concession 2-3N, Lot 32
45	Concession 2-3N, Lot 33
46	McQuarrie Bridge, Concession 2-3N, Lot 43
47	Saugeen River Bridge, Concession 2-3N, Lot 47
48	Concession 4, Lot 10-11
126	Baptist Church Road, Concession 8, Lot 10-11
132	Baseline Road, Concession 3 EGR, Lot 55
133	Southline Road, Concession 2 EGR, Lot 63-64
148	Concession 6-7, Lot 12
154	Traverston Road, Concession 11, Lot 10-11
197	Concession 8-9, Lot 10
D-001	Garafraxa Street Bridge, Durham
D-101	Garafraxa Street Culvert, Durham
P-101	Durham Pedestrian Bridge

LEGEND

- WEST GREY MUNICIPAL BOUNDARY
- WEST GREY STRUCTURE - BRIDGE/CULVERT/DAM
- GREY COUNTY BRIDGE/CULVERT ASSET

WEST GREY ROADS - AVERAGE DAILY TRAFFIC (ADT)

- 1,000 AND OVER ADT (2016 TRAFFIC COUNT)
- 200 - 999 ADT (2016 TRAFFIC COUNT)
- 100 - 199 ADT (2016 TRAFFIC COUNT)
- 50 - 99 ADT (2016 TRAFFIC COUNT)
- 0 - 49 ADT (2016 TRAFFIC COUNT)

BASE MAP DATA PROVIDED BY THE COUNTY OF GREY AND THE MINISTRY OF NATURAL RESOURCES AND FORESTRY, LAND INFORMATION ONTARIO, RETRIEVED FROM <https://www.javacoeapp.lrc.gov.on.ca>

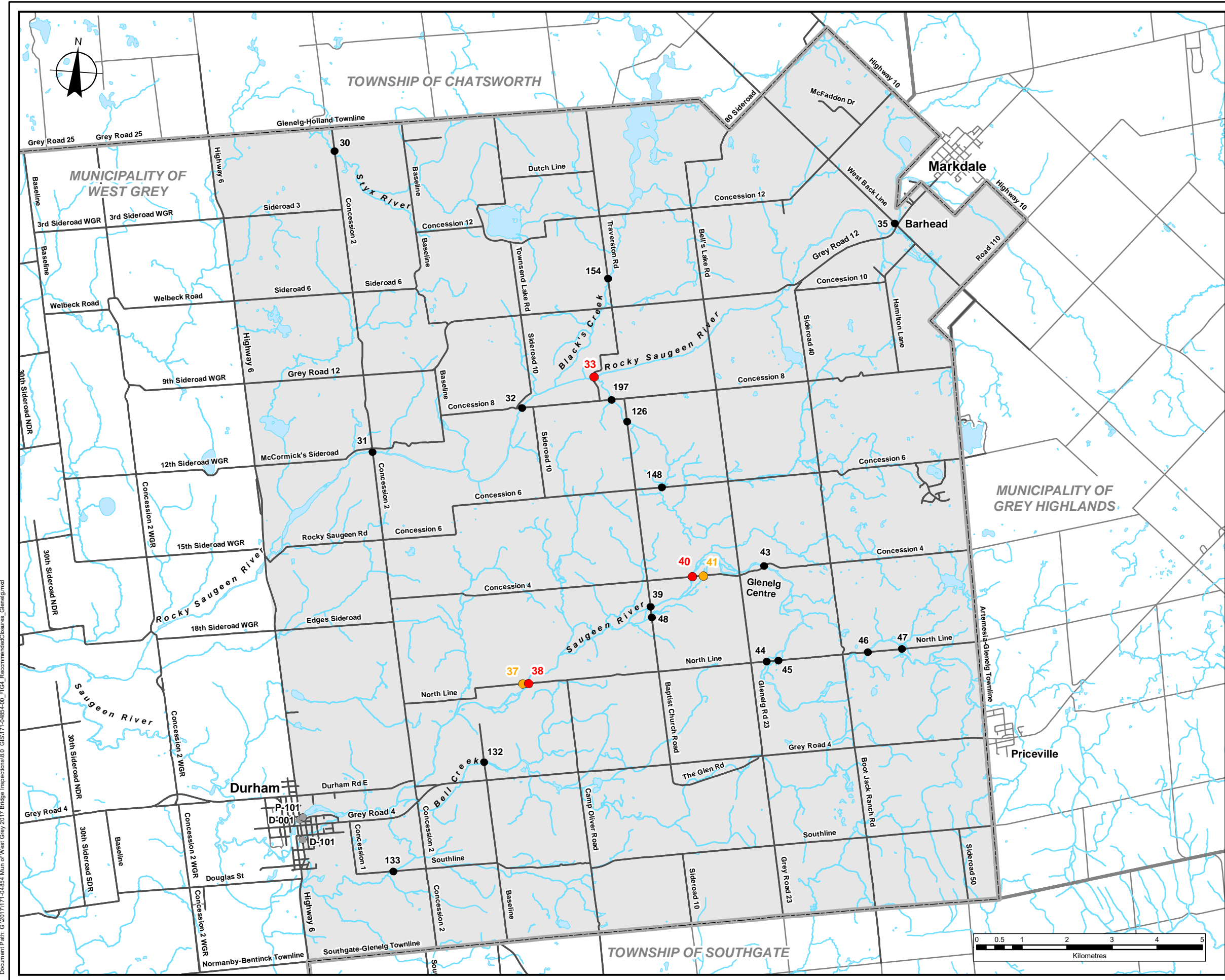
WSP

1450 1st AVENUE WEST, SUITE 101
 OWEN SOUND, ONTARIO CANADA N4K 6W2
 PHONE: 519 376-7612 - FAX: 519 376-8008 - WWW.WSP.COM

**TRAFFIC COUNT DATA
 STRUCTURE RATING AND RATIONAL REPORT
 FORMER GLENELG TOWNSHIP
 MUNICIPALITY OF WEST GREY**

SCALE:	1:85,000	DATE:	DEC 2019
DRAWN:	JET	PROJECT:	191-10406-00
APPROVED:	KH/CW	FIGURE:	3

Document Path: G:\2019\191-10406_Mun of West Grey\OSM\191-10406-00_FIG3_TrafficCountData_Glenelg.mxd



STRUCTURE NO.	NAME/LOCATION
30	Concession 2-3E, Lot 3
31	Concession 2-3E, Lot 28
32	Concession 8-9, Lot 5
33	Traverston Bridge, Concession 9, Lot 9
35	Concession 2-3W, Lot 100
37	Concession 2-3N, Lot 6
38	Concession 2-3N, Lot 6
39	Concession 4N, Lot 10-11
40	Burkes Bridge, Concession 4-5, Lot 13
41	Burkes Overflow Bridge, Concession 4-5, Lot 13
43	Glenelg Centre Bridge, Concession 5, Lot 17
44	Concession 2-3N, Lot 32
45	Concession 2-3N, Lot 33
46	McQuarrie Bridge, Concession 2-3N, Lot 43
47	Saugeen River Bridge, Concession 2-3N, Lot 47
48	Concession 4, Lot 10-11
126	Baptist Church Road, Concession 8, Lot 10-11
132	Baseline Road, Concession 3 EGR, Lot 55
133	Southline Road, Concession 2 EGR, Lot 63-64
148	Concession 6-7, Lot 12
154	Traverston Road, Concession 11, Lot 10-11
197	Concession 8-9, Lot 10
D-001	Garafraxa Street Bridge, Durham
D-101	Garafraxa Street Culvert, Durham
P-101	Durham Pedestrian Bridge

LEGEND

- WEST GREY MUNICIPAL BOUNDARY
- FORMER GLENELG TOWNSHIP
- RIVER/STREAM
- STRUCTURE - BRIDGE/CULVERT/DAM
- RECOMMENDED STRUCTURE CLOSURE
- RECOMMENDED STRUCTURE REHABILITATION AND/OR POTENTIAL FUTURE CLOSURE

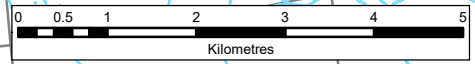
BASE MAP DATA PROVIDED BY THE COUNTY OF GREY AND THE MINISTRY OF NATURAL RESOURCES AND FORESTRY, LAND INFORMATION ONTARIO, RETRIEVED FROM <https://www.javacoeapp.lrc.gov.on.ca>



1450 1st AVENUE WEST, SUITE 101
OWEN SOUND, ONTARIO CANADA N4K 6W2
PHONE: 519 376-7612 - FAX: 519 376-8008 - WWW.WSP.COM

**STRUCTURE LOCATION MAP
RECOMMENDED CLOSURES
STRUCTURE RATING AND RATIONAL REPORT
FORMER GLENELG TOWNSHIP
MUNICIPALITY OF WEST GREY**

SCALE:	1:85,000	DATE:	OCT 2018
DRAWN:	JET	PROJECT:	171-04854-00
APPROVED:	KH/CW	FIGURE:	4



Document Path: G:\2017\171-04854_Mun of West Grey 2017 Bridge Inspections\8.0 GIS\171-04854-00_FIG4_RecommendedClosures_Glenelg.mxd