



BURNSIDE

**Grey Road 19, between Grey Road 21 /
Mountain Road / Simcoe Road 34 and
Grey Road 119 / Gord Canning Drive**

Environmental Study Report

**Grey County
595 9th Avenue East
Owen Sound ON N4K 3E3**



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Environmental Study Report

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595 9th Avenue East
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**R.J. Burnside & Associates Limited
128 Wellington Street West Suite 301
Barrie ON L4N 8J6 CANADA**

**December 2022
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Canning Drive
December 2022

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0	October 2022	Draft Environmental Study Report
1	November 2022	Environmental Study Report
2	December 2022	Final Environmental Study Report

R.J. Burnside & Associates Limited

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Executive Summary

R.J. Burnside & Associates Limited (Burnside) was retained by Grey County (County) to complete a Municipal Class Environmental Assessment (MCEA). The MCEA considered options for improvements to Grey Road 19 between Grey Road 21 / Mountain Road / Simcoe Road 34 and Grey Road 119 / Gord Canning Drive to meet the needs of increased traffic demand, with consideration for active transportation.

The planning of improvements was carried out in accordance with the Schedule 'C' requirements (Phases 1 to 4) of the Municipal Engineers Association Municipal Class Environmental Assessment document (October 2000, as amended in 2007, 2011 and 2015), which is approved under the Ontario *Environmental Assessment Act*.

Alternative Solutions considered were refined to include:

1. Do nothing.
2. Widen to four lanes with paved shoulders for maintenance.
3. Widen to four lanes with paved shoulders and active transportation (buffered paved shoulders 2.0 m wide).

The Alternative Solutions were evaluated against the natural, social-cultural, technical, and financial environment of the Study Area. It was determined that Alternative Solution No. 2 - Widen to four lanes with paved shoulders for maintenance, was the Preferred Solution with the alignment of the road widened to the north.

The Preferred Solution includes widening the road to a four-lane, two-way road with paved shoulders. The paved shoulder of Alternative 2 can accommodate a Share the Road facility which provides a space for stopped and emergency vehicles and other road users but does not offer the exclusivity, protection, or quality of a separated bikeway facility.

Active transportation through the Study Area is directed to the multi-use trail, located adjacent to the north of Grey Road 19. The Alternative also includes improving ditching, replacing culverts, and relocating utilities where required to ensure long term viability of the road.

A key component of the study included consultation with the public, Indigenous communities, and agencies that may have an interest in the project. Consultation with stakeholders included a Notice of Commencement, Notice of Public Information Centre, and Notice of Completion.

An online Public Information Centre was held to present information about the Project and obtain stakeholder input.

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A Notice of Completion will be published in local newspapers and mailed or emailed to residents, agencies, and Indigenous communities that have interest in the project.

As per the requirements of the MCEA, this Environmental Study Report (ESR) is available for public review and comment for a period of 30 calendar days following the publication of the Notice of Completion.

The Notice of Completion provides a link to an electronic copy of the ESR for review as well as names and addresses of people to whom comments can be sent.

Comments or concerns regarding the Project are to be directed to the County for a response.

In addition, if there are outstanding concerns regarding potential adverse impacts to constitutionally protected Aboriginal and Treaty rights, a request for an order requiring a higher level of study or conditions on those matters can be addressed in writing to the Minister of the Environment and Conservation Parks (Minister), and the Director of the Environmental Assessment Branch.

Requests on other grounds will not be considered. Requests must be received by the Minister within 30 calendar days of the publication of the Notice of Completion.

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1.0 Introduction

R.J. Burnside & Associates Limited (Burnside) was retained by Grey County (County) to complete a Municipal Class Environmental Assessment (MCEA). The MCEA considered options for improvements to Grey Road 19 between Grey Road 21 / Mountain Road / Simcoe Road 34 and Grey Road 119 / Gord Canning Drive to meet the needs of increased traffic demand, with consideration for active transportation.

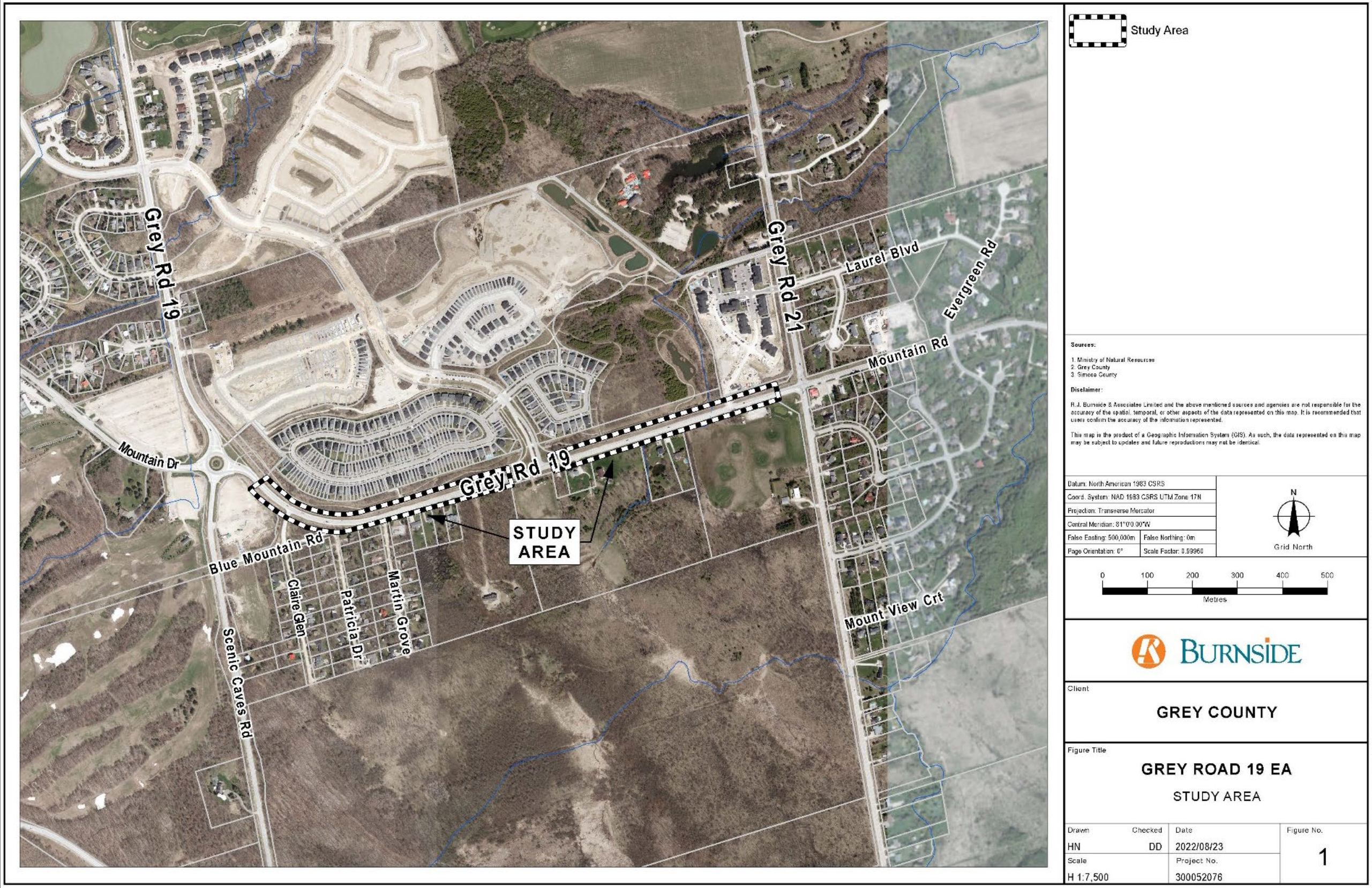
Grey Road 19 is currently a two-lane County Collector Road within the Study Area, approximately 1.36 km in length with a posted speed limit of 60 km/h.

This MCEA is guided by the Grey County Official Plan, Grey County Cycling and Trails Master Plan (Approved October 22, 2020) and the 2014 Transportation Master Plan.

The existing conditions, definition of the problem or opportunity, proposed alternatives, and the manner in which public notification was conducted, are summarized within this Environmental Study Report (ESR) for a Schedule 'C' MCEA.

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Figure 1: Study Area Location



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2.0 Problem Identification

The Problem / Opportunity Statement has been defined as follows:

Following a recent Traffic Study, Grey County (County) has identified the need to widen Grey Road 19 between the intersection of Grey Road 19 / Simcoe Road 34 / Grey Road 21 and Mountain Road and the roundabout at Grey Road 19 / Grey Road 119 / Gord Canning Drive to meet the needs of increased traffic demand with consideration for active transportation.

Under the MCEA process, widening of a road is considered a Schedule 'C' project in the Municipal Engineering Association (MEA) Guide for Municipal Class EAs (October 2000, as amended in 2007, 2011 and 2015) for municipal road reconstruction or widening project activities with an anticipated project cost of greater than \$2.4 million, updated in 2019 to a cost of greater than \$2.6 million.

As a Schedule 'C' project, the project planning proceeds under the planning and documentation procedures of Phases 1 through 4 of the MCEA process. Through this process, reasonable solutions identified are evaluated with input from regulatory agencies, Indigenous communities, and stakeholders toward a recommendation for a Preferred Solution.

As a minimum, public consultation is required at three stages under a Schedule 'C' project.

At the conclusion of Phase 2, the appropriate EA Planning Schedule is reviewed. For an EA completed as a Schedule 'C' Project, the completion of Phases 1 and 2 of the EA process form the basis for the more detailed assessment completed in Phase 3 for the evaluation of design concepts.

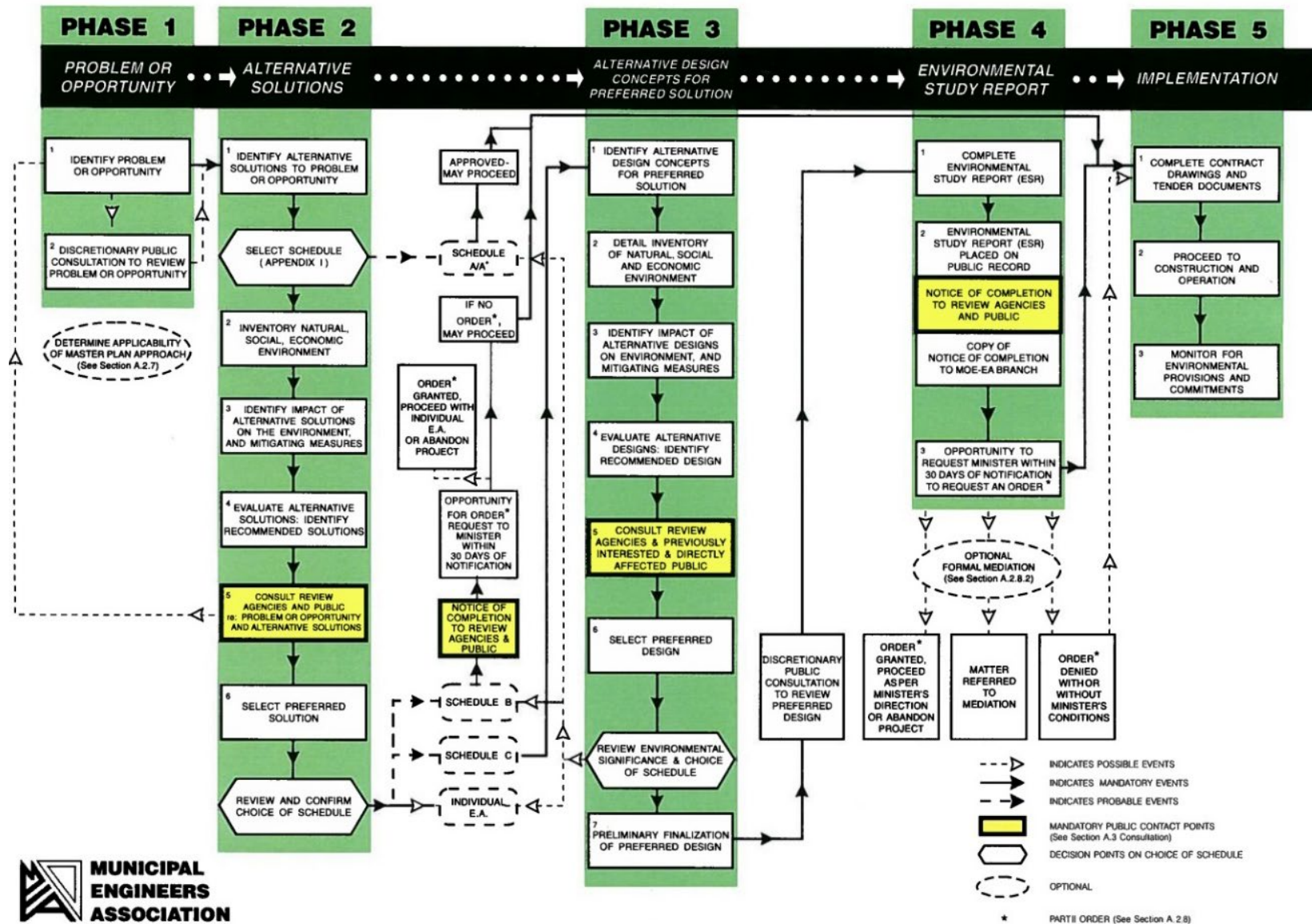
In Phase 4, an ESR outlining the EA decision-making and planning process is prepared for public review, prior to being approved by the municipality and proceeding to design and implementation of the project.

The MCEA process is illustrated on Figure 2.

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Figure 2: Municipal Class Environmental Assessment Process Flow Chart

NOTE: This flow chart is to be read in conjunction with Part A of the Municipal Class EA



3.0 Existing Conditions

3.1 Study Area

The Study Area includes the Grey Road 19 right-of-way (ROW) between the intersection of Grey Road 19 / Simcoe Road 34 / Grey Road 21 / Mountain Road and the roundabout at Grey Road 19 / Grey Road 119 / Gord Canning Drive, excluding the intersection of Grey Road 19 and Crosswinds Boulevard.

The Study Area corridor is approximately 1.36 km long and contains residential and commercial areas, treed and open areas, as well as roadside drainage ditches and a crossing of one watercourse, known as Silver Creek. A multi-use trail is located adjacent to the road along the north side, parallel to the ROW. The Town of Collingwood and Simcoe County are located immediately to the east of the Study Area. The Study Area corridor provides an alternate linkage for inter-municipal travel along the south side of Georgian Bay.

The Study Area corridor also serves as the main access route to the Blue Mountain Resort to the west and provides access to existing and proposed developments in the Town of the Blue Mountains and in the west part of Collingwood.

A map of the Study Area is provided in Figure 1 above.

3.2 Technical Environment

Prior to initiating the Grey Road 19 widening EA, a traffic study of the Study Area corridor was completed by Burnside. The traffic study was completed to assess the need for widening the Study Area corridor to address congestion and improve operations.

The Grey Road 19 Phase 1 Traffic Study (Burnside, March 2020) identified the traffic operations at intersections and between intersections and recommend a timeframe for road improvements that would ensure continued safe vehicular traffic operations. The study concluded that a four-lane cross-section, being two travel lanes in each direction, would be required by 2030 to accommodate projected increases in traffic within the area and to maintain effective traffic flow between the Town of The Blue Mountains and the west side of Collingwood.

The Traffic Needs Memorandum (Appendix A) is provided to summarize the results of this previous study and as supporting documentation for the current EA and future Detailed Design of the four lanes on Grey Road 19 in the Study Area.

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A review of the physical condition, traffic and drainage conditions of the Grey Road 19 Study Area was completed in support of the MCEA. Additional details are provided in the technical reports in Appendix A.

3.2.1 Existing Road Network

Grey Road 19 within the Study Area is a rural two-lane (one lane in each direction), east-west County collector road under the jurisdiction of Grey County. As a collector road, the purpose of the Grey Road 19 Study Area corridor is to connect communities and distribute traffic between provincial highways and arterial and local roads.

The Study Area corridor has gravel shoulders and a posted speed limit of 60 km/h. There are several driveways along the corridor that provide access to residential properties. There are six intersections along the Study Area corridor, including Grey Road 19 / Side Road 34 / Mountain Road, Beckwith Lane, Crosswinds Boulevard, Martin Grove, Claire Glen, Grey Road 19 / Gord Canning Drive.

The intersection of Grey Road 119 and Gord Canning Drive is equipped with an existing roundabout. The intersection of Grey Road 21 and Simcoe Road 34, as well as the Crosswinds Boulevard intersection are equipped with traffic signals.

The traffic signals at the Crosswinds Boulevard intersection are temporary and a future roundabout is planned for this intersection. A future roundabout is also planned for the intersection of Grey Road 19 / Grey Road 21 / Simcoe Road 34. The remaining intersections are stop-controlled intersections.

The Study Area corridor is utilized by approximately 10,000 vehicles each day on average.

In addition to the planned roundabout intersections, the following road network improvements are planned in the Study Area.

- Crosswinds Boulevard is proposed to extend northward and to a second connection with Grey Road 19, immediately across from Jozo Weider Boulevard. The road extension is expected to be open to public traffic by 2022.
- Beckwith Lane currently connects to Grey Road 21, immediately across from Laurel Boulevard. Beckwith Lane is proposed to extend to the south to a connection with Grey Road 19, as part of the completion of the Mountain House development.
- A roadway is proposed north of Laurel Boulevard on Grey Road 21, that will extend west and connect to Crosswinds Boulevard. The timing of this connection will be dependent on the Blue Vista (Nederland) development in this area.

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3.2.2 Transit Network and Active Transportation

The Collingwood / Blue Mountain link bus route travels along Grey Road 19 providing 30-minute service, seven days a week; however, there are currently no bus stops within the Study Area corridor.

A multi-use trail is located parallel to the north of Grey Road 19 in the Study Area corridor.

The Study Area corridor currently has gravel shoulders with the exception of the westerly end where a paved shoulder, approximately 2.2 m wide with a 0.2 m rumble strip, is present along the north side of Grey Road 19 from the intersection of Gord Canning Drive, Mountain Road and Grey Road 19 to Martin Grove.

3.2.3 Geometry – Road Profile and Alignment

The vertical alignment of Grey Road 19 is relatively flat in the Study Area and provides for adequate sight distances.

The horizontal alignment of Grey Road 19 is relatively straight between Grey Road 21 and Martin Grove, providing adequate sight distances in that area.

A horizontal curve exists on Grey Road 19 between Martin Grove and the Grey Road 19 / Grey Road 119 / Gord Canning Drive roundabout, which restricts sight distances to approximately 210 m to the east from Claire Glen and 210 m to the west from Martin Grove.

Based on a 60 km/h posted speed (70 km/h design speed), the available sight distances are adequate at all intersections along the corridor given the recommended stopping sight distance is 105 m, the recommended intersection sight distance for left turn egress is 150 m and the recommended intersection sight distance for right turn egress is 130 m (Geometric Design Guide for Canadian Roads, Transportation Association of Canada, June 2017).

3.2.4 Geotechnical

A Geotechnical Investigation completed in October 2020 (SAFFA, 2020) generally characterized the surface / subsurface conditions of the Study Area as asphalt over granular fill, consisting of sand and gravel, followed by common fill consisting of silty sand, sand, sand with gravel and sandy clay. The subgrade consisted of sandy clay. Groundwater was not encountered during the geotechnical investigation.

Asphalt thicknesses ranged from 127 mm to 165 mm, averaging 147 mm. The granular fill below the asphalt ranged from 64 mm to 521 mm thick, with an average thickness of 285 mm. The common fill unit was observed to be extended to 1.4 m to 1.5 m below

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grade in all boreholes. Below the fill, a grey to blackish sandy clay was encountered. All boreholes were terminated in this layer, with the exception of Borehole 01 which was terminated in the fill layer.

3.2.5 Existing Traffic

The Grey Road 19 Phase 1 Traffic Study (Burnside, March 2020) provided a preliminary assessment of key transportation related issues within the Study Area corridor, including a review of all relevant background reports / studies and existing traffic data.

Traffic count data was collected on Friday, January 17, 2020, during normal operation of the Blue Mountain ski resort and under favourable weather conditions. It is expected that similar conditions may be experienced during weekend periods in non-winter periods.

The Friday afternoon (PM) peak hour winter traffic was considered to be representative of the design condition for the Study Area corridor. The findings of the study indicate traffic volumes in the Study Area are highly impacted by the operations at the Blue Mountain Village and Ski Resort, as well as by weather conditions.

Weekend peak traffic periods were found to be similar to Friday PM peak periods and peak traffic in the Friday PM peak period in the winter was found to be higher than peak traffic in the non-winter seasons.

Generally, traffic volume during PM peak periods within the Study Area corridor was found to be higher than morning (AM) peak periods.

The Level of Service (LOS) standards for traffic capacity and design of streets is set out in the *Highway Capacity Manual (Transportation Research Board National Research Council)* and described using letters A through F, with A being the best and F being the worst. Most transportation facilities are typically designed for service flow rates at LOS C or D, to ensure an acceptable operating service for road users.

The traffic analysis of the existing traffic volumes in the Study Area corridor indicated that most intersections in the Study Area are operating with excess capacity, queue lengths within respective storage capacities and link distances resulting in a LOS of E or better.

The only exception was the Grey Road 19 / Crosswinds Boulevard intersection which currently operates with excess capacity under existing conditions (stop-control); however, the southbound movement experiences a delay of 51 seconds resulting in a LOS of F. The delay is due to high eastbound and westbound through traffic making it difficult for drivers to make a left or right turn out of Crosswinds Boulevard.

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Subsequent to the completion of the 2020 *Phase 1 Traffic Study*, the County has installed temporary signals at this intersection to improve traffic operations, pending the completion of the planned roundabout at this location.

The traffic analysis confirms the Crosswinds roundabout should be implemented in the short term to address the ongoing development in the Windfall Development.

3.2.6 Future Traffic

Two-lane roundabouts are planned to be constructed in the short term at the Grey Road 19 / Grey Road 21 / Side Road 34 and Grey Road 19 / Crosswinds Boulevard intersections. In addition, Crosswinds Boulevard is proposed to extend northward to a second connection with Grey Road 19, immediately across from Jozo Weider Boulevard. The road extension is expected to be open to public traffic by 2022.

Beckwith Lane currently connects to Grey Road 21, immediately across from Laurel Boulevard. Beckwith Lane is proposed to extend to the south to a connection with Grey Road 19, as part of the completion of the Mountain House development.

A roadway is proposed north of Laurel Boulevard on Grey Road 21, that will extend west and connect to Crosswinds Boulevard. The timing of this connection will be dependent on the Blue Vista (Nederland) development in this area.

Future traffic conditions were reviewed for the study horizon years of 2025, 2030, and 2040, including consideration of historical traffic growth on study roads, traffic from planned future developments, as well as any planned road network connections and improvements.

Traffic operations under year 2025 conditions provided in the Grey Road 19 Phase 1 Traffic Study (Burnside, March 2020) forecasted that the majority of the Study Area corridor will exceed desirable capacity or be at capacity for a single lane of traffic in each direction.

Traffic operations in the mid-term (2030) and long-term (2040) were forecasted to significantly exceed the desirable capacity of the Study Area corridor with projected increases in traffic.

Traffic operations at the roundabouts are forecasted to operate with excess capacity, a level of service E or better, minimal delays (i.e., less than one minute), and queue lengths within respective link and storage distances. However, the westbound and eastbound movements at the Grey Road 21 / Simcoe Road 34 intersection may approach capacity by 2040. Significant queues are also projected to extend upstream for both movements at this intersection. However, the long-term traffic forecasts for this intersection will be dependent on the Ministry of Transportation's (MTO) ongoing

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planning studies for increasing capacity along Highway 26 and for alternate travel routes to this highway.

3.2.7 Drainage and Surface Water Flow

Several large external drainage areas drain through Grey Road 19 from the south to the north. There are three culverts that cross south to north under the Study Area ROW that drain the external drainage areas. Roadside ditches are present on the north and south side of the ROW and generally drain from west to east. The surface water in the Study Area corridor is directed to open ditches and culverts and ultimately connects to the Silver Creek watercourse.

The Study Area falls within the Nottawasaga Valley Conservation Authority (NVCA) regulated area.

3.2.8 Stormwater

Existing stormwater features within the Study Area include roadside ditches, driveway culverts and road-crossing culverts. Three road-crossing culverts drain the external catchments' areas south to north across Grey Road 19.

The first road-crossing culvert is referred to as the Silver Creek Culvert and is located approximately 210 m west of the Grey Road 19 and Grey Road 21 intersection. This culvert is a 1200 mm diameter corrugated steel pipe (CSP) and drains a tributary of Silver Creek with a catchment area of approximately 46 ha across Grey Road 19. This catchment area consists of wetlands, forested areas, and a driving range. According to the County, the Silver Creek Culvert is planned for replacement as part of a separate project to support the future Grey Road 19/21 Simcoe Road 34 roundabout.

The second road-crossing culvert is referred to as the Grey Road 19 culvert and is a 900 mm diameter CSP culvert located in front of 796090 Grey Road 19. The Grey Road 19 culvert drains a catchment area of approximately 19 ha. The catchment area contains the Price's subdivision area, which consists of single-family homes serviced by rural ROWs that are drained by ditches. The Grey Road 19 culvert outlets into a 1.1 m rise corrugated steel pipe arch (CSPA) culvert that drains into the Windfall Channel to the north of the walking trail, beyond the Study Area.

The western most culvert crossing is referred to as the Price's Culvert and is a 1200 mm by 2400 mm concrete box culvert. This culvert was designed and installed as part of a project by Greenland Consulting Group Limited (Greenland) on behalf of the Town of Blue Mountains (TBM) for improvements to the Price's Subdivision Area. Price's culvert drains an external drainage area of approximately 104 ha under Grey Road 19. This drainage area consists of lands to the west of Scenic Caves Road, including some of Blue Mountain Ski Resort.

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Two culvert crossings under Scenic Caves Road were sealed off during the installation of Price's culvert to reduce flow directed towards Price's Subdivision Area (Claire Glen, Patricia Drive and Martin Grove), increasing the drainage area directed towards Price's Culvert on Grey Road 19. This is an important note for the analysis of Grey Road 19 as it reduced the drainage areas contributing to the other culverts along Grey Road 19.

For further details on the existing drainage conditions, refer to the Stormwater Technical Memorandum provided in Appendix A.

3.2.9 Utilities

The utilities and infrastructure in the Study Area consist of buried and aerial telecommunication, electrical and natural gas main lines and services.

3.3 Natural Environment

A review of existing terrestrial and aquatic habitat conditions and secondary source information was conducted to characterize vegetation communities and assess the potential for habitat of Species at Risk (SAR), including breeding bird, bat, and reptile habitat, and incidental wildlife observations.

A summary of findings is provided in the sections below. The Terrestrial Assessment Technical Memorandum and Aquatic Habitat Assessment is provided in Appendix A.

3.3.1 Physiography and Topography

The Study Area is located within the Clay Plains and Beaches of the Simcoe Lowlands Physiographic Region of Southern Ontario (Chapman and Putnam 1984). This Physiographic region consists of low-lying belts of sand plain, which cover an area of 280,000 ha, bordering Georgian Bay and Lake Simcoe.

The area was once inundated by the waters of glacial Lake Algonquin, inland of the present-day shorelines. Remnant shoreline features (beaches, shorecliffs, bars, etc.) mark the former water level of Lake Algonquin.

Topography is generally flat, and subsoil consists of variable sand, gravel, silt, and clay deposits as formed on the lake bottom (Chapman and Putnam 1984).

3.3.2 Geology

Surficial geology mapping illustrates the Study Area is underlain by stone - poor, sandy silt to silty sand-textured till on Paleozoic terrain.

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3.3.3 Climate

Local climate conditions were obtained from Canada's Environment and Climate Change Thornbury meteorological station (Station ID 611HBEC, Latitude 44°34'25.032"N, 80°29'07.068"W). The Thornbury climate station is located about 20 km northwest of the Study Area in Thornbury.

According to the Canadian Climate Normals (calendar years 1981 to 2010) for this station, the daily average annual temperature is 7°C. The warmest month of the year is July with an average temperature of 19.8°C and the coldest month is January with an average temperature of -6.3°C.

The Thornbury meteorological station recorded a total annual precipitation (snow and rain) of 991.9 mm, 725.3 mm of which was rain. The maximum mean monthly precipitation is 100 mm and occurs in January.

3.3.4 Terrestrial Habitat

The Grey Road 19 Study Area is comprised of recreation and residential lands, marsh, pasture, and treed vegetation communities, and riparian vegetation associated with roadside ditches and Silver Creek.

Vegetation communities in the Study Area were assessed and described using the Ecological Land Classification (ELC) System for Southern Ontario (Figure 3). A total of 17 vegetation communities were identified.

All the communities identified are considered to be relatively common in Ontario. Sensitive vegetation communities or provincially significant plant species were not observed within the Study Area during the field assessment.

Several mammals, amphibians, reptiles, insects, and bird species have the potential to be located within the Study Area based on appropriate habitat available in wooded areas and wetland features.

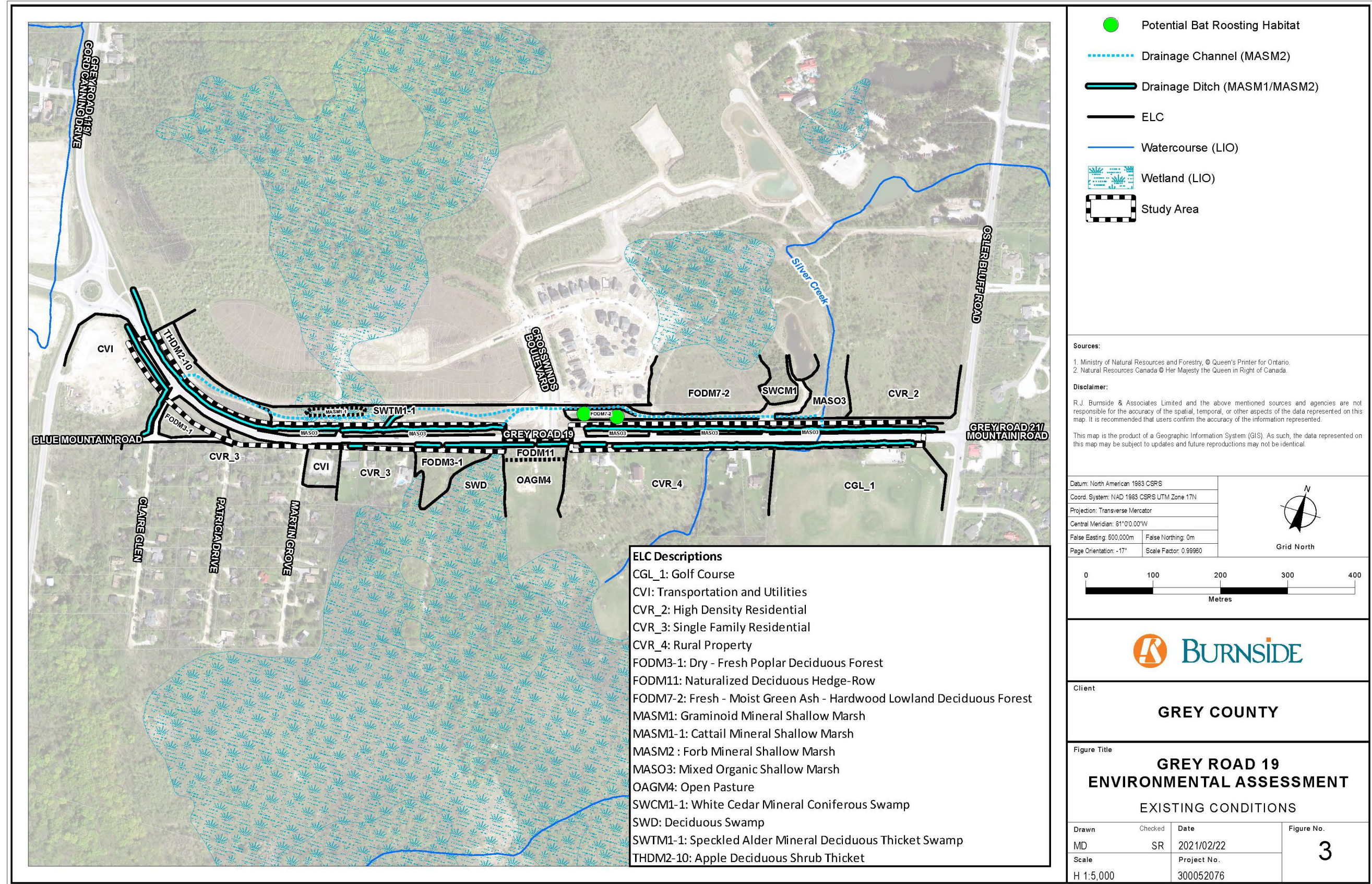
A Burnside ecologist completed field observations on October 13, 2020. A vegetation survey and ELC was completed by a wandering transect of general coverage of the Study Area, recording all species observations and signs (e.g., tracks / trails, scat, burrows, dens, browse, vocalizations).

Wildlife species observed include eastern grey squirrel (*Sciurus carolinensis*), American robin (*Turdus migratorius*) and American crow (*Corvus brachyrhynchos*).

Evidence of the presence of wildlife species including squirrel species' nests, pileated woodpecker holes and sapsucker species' holes.

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Figure 3: Ecological Land Classification



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3.3.5 Aquatic Habitat

The Study Area has a single watercourse crossing (Latitude: 44.497401, Longitude: -0.287935) present on Grey Road 19, approximately 210 m west of Grey Road 19. Burnside's Aquatic Ecologist visited the site to assess aquatic habitat conditions. The aquatic habitat assessment was performed following the MTO Environmental Guide for Fish and Fish Habitat (MTO, 2009).

The watercourse in the Study Area is known as Silver Creek, classified as having a warm-water thermal regime.

The species of fish that have historically been observed in the watercourse are presented below in Table 3.1.

Table 3.1: Fish Species Historically Observed in Silver Creek

Species Name	Scientific Name	Thermal Regime Preference
Blacknose dace	<i>Rhinichthys spp.</i>	Cool
Blacknose shiner	<i>Notropis heterolepis</i>	Cool
Bluntnose minnow	<i>Pimephales notatus</i>	Warm
Brook trout	<i>Salvelinus fontinalis</i>	Cold
Brown trout	<i>Salmo trutta</i>	Cold
Central Mudminnow	<i>Umbra limi</i>	Cool
Chinook salmon	<i>Oncorhynchus tshawytscha</i>	Cold
Common shiner	<i>Luxilus cornutus</i>	Cool
Creek chub	<i>Semotilus atromaculatus</i>	Cool
Fathead minnow	<i>Pimephales promelas</i>	Warm
Johnny darter	<i>Etheostoma nigrum</i>	Cool
Longnose dace	<i>Rhinichthys cataractae</i>	Cool
Mimic shiner	<i>Notropis volucellus</i>	Warm
Mottled sculpin	<i>Cottus bairdii</i>	Cold
Northern pearl dace	<i>Margariscus nachtriebi</i>	Cool
Northern redbelly dace	<i>Chrosomus eos</i>	Cool
Rainbow trout	<i>Oncorhynchus mykiss</i>	Cold
Rosyface shiner	<i>Notropis rubellus</i>	Warm
Silver lamprey	<i>Ichthyomyzon unicuspis</i>	Cool
White sucker	<i>Catostomus commersonii</i>	Cool

A combination of desktop and aerial imagery review, coupled with a field assessment was utilized to determine fish and fish habitat that may be impacted by the proposed works.

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The upstream and downstream reaches of the watercourse were observed for Brook trout presence and spawning habitat and activity in the watercourse in the ROW.

Upstream

The watercourse flows from west to east, bending at the culvert inlet to flow from south to north through the CSP beneath Grey Road 19. South of the watercourse a golf course is present. A roadside drain also flows to the inlet from the east. The watercourse flows in a channel that functions as a roadside ditch upstream of the culvert.

The right bank (north side of channel) of the upstream reach is very steep and serves as the roadside embankment and vegetation, along with the in-stream plants, overhangs, and provides shading and cover for aquatic life in the watercourse. Trees are present on the left bank (south side) approximately 80 m upstream of the culvert.

Numerous driveway culverts convey the flow of the watercourse upstream of the culvert. One of the culverts is located approximately 100 m upstream of Grey Road 19 was observed to be hanging (perched by 0.15 m). Fish were observed in a deeper scour pool at the outlet of this driveway culvert. The species could not be confirmed, although, based on body size and movement, were determined to be cyprinids.

Downstream

Downstream of the culvert, the watercourse flows from south to north. A pedestrian pathway is present approximately 3 m downstream from the outlet of the Grey Road 19 culvert. A second CSP culvert is present beneath the pathway conveying flows of the watercourse.

The downstream reach between the two culverts was observed to flow in a linear channel. Downstream of the pedestrian path, the watercourse flows within a ponded area for approximately 10 m and the watercourse then narrows to approximately 1.25 m and it flows through a forested channel.

Fish were not observed downstream of the culvert.

The watercourse is considered a fish habitat as defined under the Federal *Fisheries Act*. As such, the mitigation measures described in Section 4 of this memo should be implemented if in-water works are required for the Preferred Design Alternative to ensure that harmful alteration, disruption, and destruction (HADD), and the death of fish does not occur.

Brook trout and spawning habitat for fall spawning species was not observed upstream or downstream of Grey Road 19. Fish were observed upstream of Grey Road 19 and fish could inhabit the downstream reach of the watercourse, and as a result, it is considered a fish habitat as defined by the *Fisheries Act*.

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3.3.6 Species at Risk

Several SAR were identified through background review to have the potential to be present in the Study Area. SAR, threatened and endangered, are species listed as protected by law under the provincial Environmental Species Act (ESA) (2007) or the federal Species At Risk Act (SARA) (2002).

Special concern species do not have species or habitat protection under Ontario's ESA (2007) or the federal SARA (2002); however, they may receive protection by some agencies, such as provincial and national parks, or other Acts, such as the *Ontario Fish and Wildlife Conservation Act*, and the *Migratory Birds Convention Act* (MBCA), which prohibits the killing, capturing, injuring, harassment, and trapping of specially protected species.

Based on field observations, potential marginal habitat exists in the Study Area for the following special concern species:

- Eastern wood-pewee (*Contopus virens*); and
- Wood thrush (*Hylocichla mustelina*).

Special concern species were not observed within the Study Area during the field assessment completed in 2020:

Based on field observations, potential habitat exists in the Study Area for the following endangered species protected under the Provincial ESA (2007):

- Little brown myotis (*Myotis lucifugus*);
- Northern myotis (*Myotis septentrionalis*); and
- Tri-colored bat (*Pipistrellus subflavus*).

Endangered or threatened species were not observed within the Study Area during the field assessment completed in 2020:

Potential bat roosting habitat may be present in the forested area of Deciduous Forests (FOD), Deciduous Swamps (SWD), Coniferous Swamps (SWC) present within the Study Area. Of these communities, one (FODM3-1) had large diameter trees with cavities / loose bark noted within the Study Area.

Suitable habitat for SAR bats was also observed adjacent to the Study Area limits within the FODM7-2 wooded community, consisting of snag trees >25 cm DBH, with dying limbs and tree cavities / snags, and peeling bark.

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3.4 Cultural Environment

A review of existing planning and policy data was conducted to obtain secondary source information relating to the cultural environment within the Study Area and to provide an overview of existing policy framework in the Study Area. A review and summary of cultural and archaeological conditions is provided based on studies completed in support of the MCEA.

For additional information on the cultural environment, supporting studies are provided in Appendix A.

3.4.1 Population Growth

According to Statistics Canada 2021 census, the population of Grey County was estimated at approximately 100,905. From 2016 to 2021, the population of the County increased by 7.5%. The Statistics Canada 2021 population census of the TBM was estimated at 9,390. From 2016 to 2021, the population of TBM increased by 33.7%, a significant change in population. This compares to the provincial average population increase of 5.8% and the national average of 5.2%.

As identified in the County of Grey Official Plan (OP), the permanent population forecasted growth for the County is 109,190 by 2038. The growth estimate for the permanent population in TBM is forecasted to grow from approximately 3,500 in 2016 to 9,100 by 2038, with seasonal recreation units anticipated to grow to 4,300 units by 2036.

3.4.2 Federal Fisheries Act (August 28, 2019)

For projects near water, proponents are required to ensure that activities meet the criteria outlined on the Fish and Fish Habitat Protection Program website (<http://www.dfompo.gc.ca/indexeng.htm>) and are responsible for the implementation of best management practices (i.e., Codes of Practice) into the project design.

The Department of Fisheries and Oceans (DFO) has provided standardized Codes of Practice and Measures to Protect Fish and Fish Habitat to mitigate contraventions of the Fisheries Act.

If it is determined that impacts of the proposed works can be avoided and the HADD is unlikely to occur, then the project does not require a review by the DFO. If HADD is anticipated because of the project, even following the application of feasible avoidance and mitigation strategies, then DFO review is recommended, and authorization may be required.

3.4.3 Migratory Bird Convention Act

The Migratory Birds Convention Act, 1994 (MBCA) and the Migratory Bird Regulations (MBR) are federal legislative requirements that are binding on members of the public

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and all levels of government, including federal and provincial governments. The legislation protects certain species, controls the harvest of others, and prohibits commercial sale of all species.

One key responsibility under the MBCA is described in Section 6 of the associated MBR: *“Subject to subsection 5(9), no person shall disturb, destroy or take a nest, egg, nest shelter, eider duck shelter or duck box of a migratory bird, or have in his possession a live migratory bird, or a carcass, skin, nest or egg of a migratory bird except under authority of a permit therefor.”*

The “incidental take” of migratory bird nests or the disturbance, destruction or taking of the nest of a migratory bird are prohibited under Section 6 of the Migratory Bird Regulations under the authority of the MBCA. Nests’ contents (eggs and young) are protected by virtue of the MBCA which has implications on development and construction activities that might occur during the breeding season (Canadian Wildlife Service, July 2012).

3.4.4 Provincial Policy Statement

The Provincial Policy Statement (PPS) provides a vision for land use planning in Ontario that encourages the efficient use of land, resources, and public investment in infrastructure.

The 2020 PPS is the complimentary policy document to the *Planning Act*, 1990, issued under Section 3 of the *Planning Act*. The PPS provides for appropriate development while protecting resources of provincial interest, public health and safety, and the quality of the natural and built environment (MMAH, 2020). Relevant policies are to be applied to each situation.

Section 1.5 of the PPS provides specific direction for the planning and development of public spaces, recreation, parks, trails, and open space, including the following transportation related policies:

Healthy, Active Communities (1.5.1)

- Plan public streets, spaces, and facilities to be safe, meet the needs of pedestrians, foster social interaction, and facilitate active transportation and community connectivity.
- Plan and provide for a full range and equitable distribution of publicly accessible built and natural settings for recreation, including facilities, parklands, public spaces, open space areas, trails, and linkages, and, where practical, water-based resources.

Section 1.6 of the PPS provides specific direction for the planning and development of infrastructure and public service facilities, including the following transportation related policies:

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Transportation Systems (1.6.7)

- Provide for transportation systems which are safe, energy efficient, facilitate the movement of people and goods, and are appropriate to address projected needs.
- Make efficient use of existing and planned infrastructure, including the use of transportation demand management strategies, where feasible.
- Provide for a multimodal transportation system, which maintains connectivity within and among transportation systems and, where possible, improves connections which cross jurisdictional boundaries.
- Promote a land use pattern, density, and mix of uses that minimize the length and number of vehicle trips and support current and future use of transit and active transportation.

Transportation and Infrastructure Corridors (1.6.8)

- Plan for and protect corridors and rights-of-way for infrastructure, including transportation, transit and electricity generation facilities and transmission systems to meet current and projected needs.
- Protect major goods movement facilities and corridors for the long-term.
- Prevent development in planned corridors that could preclude or negatively affect the use of the corridor for the purpose for which it was identified.
- Encourage the preservation and reuse of abandoned corridors for purposes that maintain integrity and continuous linear characteristics of the corridor, wherever feasible.
- Co-locate linear infrastructure where appropriate.
- Consider the Wise Use and Management of Resources when planning for corridors and rights-of-way for significant transportation and infrastructure facilities.

Section 2.1 of the PPS provides guidance on the protection of natural heritage features.

Eight types of natural heritage features are identified in Sections 2.1.4 and 2.1.5 of the PPS where development and site alteration are not permitted unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions:

2.1.4 Development and site alteration shall not be permitted in:

- a) Significant Wetlands in Ecoregions 5E, 6E and 7E.
- b) Significant Coastal Wetlands.

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2.1.5 Development and site alteration shall not be permitted in:

- a) Significant wetlands in the Canadian Shield north of Ecoregions 5E, 6E and 7E.
- b) Significant woodlands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Mary's River).
- c) Significant valleylands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Marys River).
- d) Significant wildlife habitat.
- e) Significant areas of natural and scientific interest.
- f) Coastal wetlands in Ecoregions 5E, 6E and 7E1 that are not subject to Policy 2.1.4(b) unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions.

Sections 2.1.6, 2.1.7, and 2.1.8 identify three additional development and site alteration prohibitions and exemptions, as follows:

- Fish habitat except in accordance with provincial and federal requirements;
- Habitat of Endangered and Threatened species, except in accordance with provincial and federal requirements; and
- On adjacent lands to the natural heritage features and areas identified in Policies 2.1.4, 2.1.5 and 2.1.6 unless the ecological function of the adjacent lands has been evaluated and it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions.

The PPS defines development as the creation of a new lot, a change in land use, or the construction of buildings and structures requiring approval under *the Planning Act* but does not include activities that create or maintain infrastructure authorized under an environmental assessment process.

Provincial policies are implemented through municipal official plans and planning decisions. Land use planning decisions made by municipalities must be consistent with the PPS.

Municipal projects that demonstrate little to no impact on the natural environment and create stronger communities can be completed in accordance with municipal policies.

3.4.5 Niagara Escarpment Plan (2017)

The Niagara Escarpment Plan (NEP) is a provincial land use plan with policies intended to strike a balance between development, preservation, and the enjoyment of the

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Escarpment with its purpose to maintain the Escarpment as a continuous natural environment, allowing only development compatible with the natural environment.

This Plan derives its authority from the Niagara Escarpment Planning and Development Act (2017). A portion of the County of Grey is located within the Niagara Escarpment Plan (NEP) Area, which is recognized as a World Biosphere Reserve. The policies of the NEP apply only to lands within the NEP Plan area.

Part 1 – Land Use Policies

The NEP contains policies and assigns land use designations to properties that are located within the NEP Area. The Study Area is located within the Escarpment Recreation Area Land Use Designation. *Designated Recreation Areas are areas of existing or potential recreational development associated with the Escarpment. Such areas may include both seasonal and permanent residences.*

The range of permitted uses are those in Part 1.8.3 of the NEP and in an approved official plan not in conflict with the NEP and subject to the Development and Growth Objectives outlined in Section 1.8.5. Infrastructure is permitted in this land use designation.

Part 2 – Development Criteria

The NEP outlines the development criteria that should be applied to all development within the area of the NEP in conjunction with the other policies of the Plan.

Section 2.12 General Development Criteria, Infrastructure. *The objective is to design and locate infrastructure so that the least possible impact occurs on the Escarpment environment and to encourage green infrastructure and low impact development, where appropriate.*

The Study Area is not located within the Niagara Escarpment Commission's Area of Development Control. A permit is not required from the NEC for any proposed development, change of use, or site alteration in the Study Area.

3.4.6 Provincial Endangered Species Act, 2007

The Endangered Species Act, 2007 (ESA) provides protection for SAR (Section 9) and their habitat (Section 10).

The ESA is administered by the Ministry of the Environment, Conservation and Parks (MECP) and provides policies for the protection of Extirpated, Endangered and Threatened species.

Species listed as provincially rare or special concern do not receive legal protection under the provincial ESA; however, they may receive protection from some agencies,

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such as provincial and national parks, or other Acts, such as the *Ontario Fish and Wildlife Conservation Act*, which prohibits the killing, capturing, injuring, harassment, and trapping of specially protected species.

Under the Endangered Species Act, 2007, Section 9(1):

“No person shall, (a) kill, harm, harass, capture or take a living member of a species that is listed on the Species at Risk in Ontario list as an extirpated, endangered or threatened species.”

Furthermore, according to Section 10(1):

“No person shall damage or destroy the habitat of, (a) a species that is listed on the Species at Risk in Ontario List as an endangered or threatened species; or (b) a species that is listed on the Species at Risk in Ontario List as an extirpated species, if the species is prescribed by the regulations for the purpose of this clause.”

It is the proponent's responsibility to practice due diligence to ensure that the ESA and its regulations are observed. It is the proponent's responsibility to be apprised of any amendments to the Act that may come into force for the duration of the project.

3.4.7 Regulated Area

Ontario Regulation 172/06, Nottawasaga Valley Conservation Authority: Regulation of Development, Interference with Wetlands and Alterations to Shorelines and Watercourses prohibits development or alteration within the jurisdiction of the NVCA in regulated areas without the permission of the authority.

The Study Area is located within the Regulated Area of the NVCA, associated with Silver Creek. The NVCA regulated area generally includes the ROW of Grey Road 19.

3.4.8 Clean Water Act - Source Water Protection

As a result of the *Clean Water Act*, (O.Reg.287/07) communities in Ontario are required to develop Source Protection Plans to protect their municipal sources of drinking water. These plans identify risks to local drinking water sources and develop strategies to reduce or eliminate these risks.

Ontario's Source Water Protection initiative is focused on protecting municipal drinking water sources. Key areas include Wellhead Protection Areas (areas that drain down toward municipal wells), Highly Vulnerable Aquifers (where groundwater lies close to ground surface), and Significant Groundwater Recharge Areas (areas that feed aquifers).

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A review of the MECP Source Water Protection Information Atlas indicates the Study Area is located within the Nottawasaga Valley Source Protection Area. According to the Atlas, the Study Area is not located within a Wellhead Protection Area or Significant Groundwater Recharge Area.

The Study Area is, however, within a Highly Vulnerable Aquifer area. A Highly Vulnerable Aquifer is one that is particularly susceptible to contamination because of either its location near the ground surface or because of the type of overlying geological materials. The aquifer vulnerability increases as the amount of protection provided by the overlying geological materials decreases.

The *Clean Water Act* defines a “prescribed threat” as “an activity or condition that adversely affects or has the potential to adversely affect the quality or quantity of any water that is or may be used as a source of drinking water and includes an activity or condition that is prescribed by source protection regulation as a drinking water threat.”

The province has identified 21 activities that could pose a threat if they are present in vulnerable areas (listed in Section 1.1 of the *Clean Water Act, 2006* (Ontario Reg. 287/07)). The project activities associated with the road improvements are not identified as a prescribed drinking water threat. The application of road salt is identified as a prescribed drinking water threat.

As such, the improvements to Grey Road 19 may represent an indirect potential to impact the quality of water that is or may be used as a source of drinking water as it relates to the application of road salt with winter maintenance; however, the potential impact is not anticipated to be greater than under existing conditions. As such project activities are not anticipated to pose an increased risk to drinking water.

3.4.9 County of Grey Official Plan

The County of Grey OP is prepared under the *Planning Act* R.S.O 1990 c. P. 13, as amended, (*Planning Act*) of the province of Ontario.

The County of Grey OP provides a policy context for land use planning, taking into consideration the economic, social, and environmental impacts of land use and development decisions.

The land use within the Study Area is identified on Schedule A of the Grey County Official Plan as Recreational Resort Area, located within the Niagara Escarpment Plan boundary. The land use designation applies to areas within the TBM which have a mix of seasonal and permanent residential and recreational growth on full municipal services and are focused on a recreational component as the basis for development.

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These areas are intended to enhance recreational and tourism related activities that are not in conflict with the provisions of the Niagara Escarpment Plan. Detailed development policies are provided in local official plans.

Natural feature constraints within the Study Area as identified in Appendix A of the Grey County Official Plan include Significant Woodlands, located adjacent to the south of the Grey Road 19 ROW. These natural features were mapped with information provided by different ministries and agencies.

Development or site alteration is not permitted within or adjacent to significant woodlands 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.

Projects undertaken by a municipality for a public works project may be exempt from the environmental impact study requirements.

County roads have been divided into categories based on the current and anticipated function of the road. The categories are *County Arterial*, *County Collector*, and *County Local Roads*. Improvements and maintenance standards for the roads are based on the function of the road. Grey Road 19 within the Study Area is identified as a County Collector Road in Appendix D of the Grey County Official Plan.

According to the Official Plan, County Collector Roads connect communities and distribute traffic between the Provincial Highways and County Arterial Roads and the County Local Roads and Municipal Local Roads.

Section 8.2 of the County Official Plan outlines a number of general transportation policies, including consideration of additional passing lanes along County Collector Road when reconstructing the road.

Section 8.3.2 County Roads provides a number of policies which may be relevant to the project including consideration for accommodation of a variety of transportation modes along County road corridors, including pedestrian, cyclists, agricultural equipment, horse and buggies, transit and motorized vehicles (8.3.2(2)).

Paved shoulders on the edge of roadways will be considered for all County roads to support a variety of transportation modes and to extend the life of the paved surface (8.3.2(4)).

3.4.10 Grey County Transportation Master Plan

The County of Grey Transportation Master Plan (TMP) is a strategic plan to address short, medium, and long-term transportation needs of Grey County over the next 25 years. The TMP contains recommendations and options for transit, active transportation, community traffic, road rationalization, bridge rationalization, goods movement, connecting links, and other strategies.

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The TMP noted that Grey Road 19 between Grey Road 21 and Highway 26 has been identified as a potential candidate for transfer to the local municipality through the road rationalization assessment. If this road section remains as part of the County road network, it was recommended that Grey Road 19 be considered as a candidate for the connecting link program, recognized as a connection to an important economic region of the County but also serving a local purpose.

The TMP also identified capacity constraints for the Study Area based on increased demand on the segment of Grey Road 19 west of Grey Road 21, which could be expected to exceed the available capacity, given high peak period conditions in the area.

The TMP has recommended Grey Road 19 within the Study Area as a corridor for future shoulder widening. The TMP also identified the Study Area as a cycling route with a proposed paved shoulder (Figure 4.1 Existing Active Transportation Network).

3.4.11 Grey County Cycling and Trails Master Plan

The Cycling and Trails Master Plan is a long-term guiding document that provides the County of Grey and partners with tools and strategies to enhance infrastructure, policy and programming for cycling and trails, with a focus on on-road cycling and off-road multi-use trails where cycling is permitted.

The Study Area corridor currently has gravel shoulders with the exception of the west end where a paved shoulder, approximately 2.2 m wide with a 0.2 m rumble strip, is present on the north side of Grey Road 19 from the intersection of Gord Canning Drive, Mountain Road, and Grey Road 19 to Martin Grove.

The Grey County Cycling and Trails Master Plan proposes paved shoulders for active transportation within the Study Area corridor, having a preferred width of 1.2 m wide or greater. Paved shoulders less than 1.2 m wide are considered to be partially paved shoulders.

3.4.12 Town of The Blue Mountains Official Plan

Several single dwelling residential properties are located adjacent to the south of the Study Area corridor and to the north of the corridor. Schedule A5 of the Town of The Blue Mountains Official Plan identifies these areas as Residential Recreational Area land use.

Immediately adjacent to the north of Grey Road 19, land use is designated as Hazard land use, inferred to be associated with roadside ditches and the Silver Creek watercourse within the Study Area.

Land use adjacent to the southeast of Grey Road 19 is identified as Future Secondary Plan Area in Schedule A4 of the Town of The Blue Mountains Official Plan. Public uses are permitted in all land uses with the exception of the Hazard Land use. The permitted

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uses of the Residential Recreational Area land designations include residential dwellings, daycare, bed and breakfasts home occupations or recreational lands or facilities. Hazard area permitted uses include public utilities and essential municipal infrastructure.

Future Secondary Plan Area land use identifies lands intended to be developed in the future when additional lands are required for development. Existing uses are permitted provided the use would not adversely affect the long-term development of the lands.

3.4.13 Cultural Heritage and Archeological Assessment

A Cultural Heritage Resource Assessment (CHRA) was completed for the Study Area in January 2021 and updated in September 2022. The CHRA determined that the Study Area has a rural land use history dating back to the early nineteenth century with one cultural heritage resource, a remnant agricultural landscape with a barn, was located adjacent to the Study Area. This identified cultural heritage resource has the potential to retain historical and contextual associations with land use patterns in TBM and more specifically representative of the early rural settlement along Grey Road 19, a nineteenth century rural roadway.

A Stage 1 and Stage 2 Archaeological Assessment of the Study Area was completed in January 2021 and July 2021, respectively. The Archaeological Assessment concluded that the Study Area had no archaeological potential. No further Archaeological Assessment was recommended.

3.4.14 Noise

A Noise Study was completed to identify whether the proposed Grey Road 19 improvements will significantly change noise levels within the Study Area and if any potential noise mitigation measures are required. The Noise Impact Assessment is provided in Appendix A.

The determination as to whether noise mitigation measures need to be considered is based on the difference in predicted sound levels between the Future Build and Future No Build scenarios of the proposed road widening.

The predicted sound levels are compared with the 65 dBA threshold established by the MTO as the acceptable noise threshold for Points of Reception (PORs) and Outdoor Living Areas (OLAs) impacted by road widenings. The PORs or OLAs are the most exposed receptor in a noise sensitive area consisting of noise sensitive land use. If the predicted sound levels are less than 65 dBA, and the difference in the predicted sound levels between the Future Build and Future No Build scenarios is less than 5 dBA, then mitigation measures do not need to be considered.

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Within the Study Area, there are three residential land uses that are considered to be noise sensitive land uses, selected as PORs with associated OLAs. There are no institutional or commercial purpose sensitive land uses within the Study Area. Figure 4 illustrates all noise-sensitive receptors within the Study Area.

For the PORs within the Study Area, the sound levels under the Future Build scenario are less than 65 dBA with the implementation of road widening. It was determined that no significant increases to traffic noise are expected as a result of the project and therefore no mitigation measures need to be considered.

The increase in sound levels expected throughout the Study Area will be less than 5 dBA and no receptor will be exposed to sound levels of 65 dBA or higher; therefore, mitigation measures are not recommended following the guidance in the MTO noise guide. Based on the MECP interpretation of the noise impact levels, the noise impact due to the proposed improvements to Grey Road 19 are considered to be insignificant.

Figure 4: Sensitive Receptors – Noise



3.4.15 Air Quality

An Air Quality Impact Assessment (AQIA) was completed in May 2021 to assess whether the proposed Grey Road 19 improvements will significantly change air quality in the Study Area. The Air Quality Impact Assessment report is provided in Appendix A.

The MECP and National Air Pollution Surveillance (NAPS) stations in close proximity to the Study Area were reviewed to ensure the most representative background concentration would be selected. Not all contaminant concentrations are available at every station; therefore, a total of four stations were selected to fully characterize the background concentrations in the vicinity of the Study Area.

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Two MECP stations were selected to represent PM_{2.5}, NO₂, and CO. MECP Barrie station was the nearest available station with the most recent data for PM_{2.5} and NO₂, while the nearest station with CO data was determined to be Toronto West.

Two NAPS stations were selected to represent background concentrations for 1,3-butadiene, benzene, acetaldehyde, acrolein, and formaldehyde. The most recent data for 1,3-butadiene and benzene was used from Newmarket station.

There was no recent or measured in closed proximity data for acetaldehyde, acrolein, nor formaldehyde; therefore, data for 2001-2005 collected at Junction Triangle station in Toronto was used in this assessment.

Typical contaminants from automobile exhaust were evaluated including Particulate Matter (PM_{2.5} and PM₁₀), Total Suspended Particulates (TSP), Nitrogen Dioxide (NO₂), Carbon Monoxide (CO), 1,3-butadiene, benzene, acrolein, acetaldehyde, and formaldehyde. Transportation related emissions are associated with fuel combustion, brake wear, tire wear, as well as road dust.

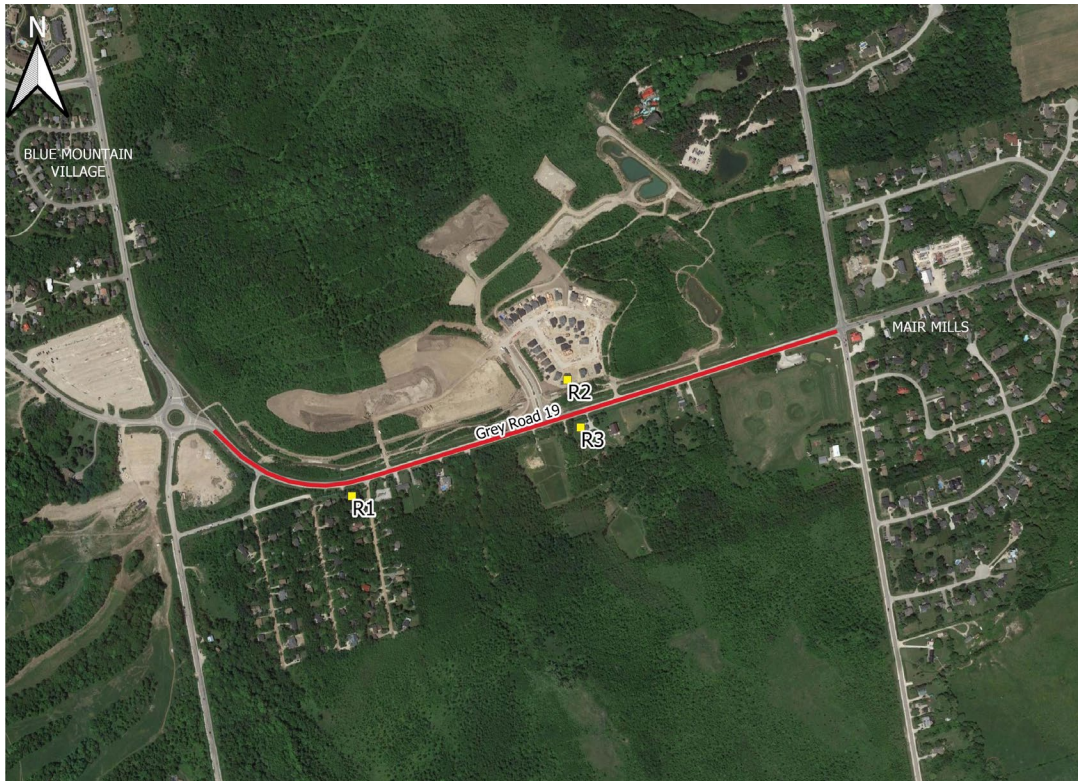
Ground level contaminant concentrations were predicted for three scenarios. Current (2021) Scenario, including existing traffic volumes and existing roads. Future No Build (to 2031) Scenario, the projected 10-year future traffic volumes on existing roads without Grey Road 19 road improvements, and Future Build (to 2031) Scenario, the projected 10-year future traffic volumes on roads in the Study Area with Grey Road 19 road improvements. Predicted values were added to the existing background ambient concentrations. The resulting cumulative concentrations were compared to the applicable MECP criteria.

Three residential properties were selected as representative sensitive receptors within the Study Area. Representative dwellings were selected at various locations along Grey Road 19 that were closest to the road. The impact at all other sensitive locations within the Study Area is expected to be similar or lower than at the selected one, as all other receptors are located further away from the road.

Figure 5 illustrates sensitive receptor locations as R1 to R3. There are no critical receptors in the Study Area.

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Figure 5: Sensitive Receptors – Air



The maximum impact of the current traffic including the amount contributed by the roads within the Study Area and background levels are below the applicable MECP criteria. Based on the comparison of predicted cumulative concentrations between Future Build and Future No Build scenarios, it was determined that the change is very small and the impact on local air quality due to Grey Road 19 widening is negligible.

4.0 Municipal Class Environmental Assessment Planning Process

The planning of public sector projects or activities that have the potential for environmental effect is subject to an MCEA as required by Ontario's *Environmental Assessment Act*, R.S.O. 1990.

The MCEA process was developed by the Municipal Engineers Association (MEA), in consultation with the Ministry of the Environment, Conservation and Parks (MECP), as an alternative method to Individual Environmental Assessments for recurring municipal projects that were similar in nature, usually limited in scale and with a predictable range of environmental impacts, which were responsive to mitigating measures.

The MCEA solicits input from regulatory agencies, the municipality, Indigenous communities, and the public at the local level. This process leads to an evaluation of the alternatives in view of the significance of the environmental effects, including the

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technical, natural, social / cultural, and economic impact of a project, and the choice of effective mitigation measures.

Based on the description provided in the Municipal Engineering Association (MEA) Guide for Municipal Class EAs (2000, as amended in 2004, 2007, 2011 and 2015) for municipal road and infrastructure project activities, it was determined that a Schedule 'C' MCEA with an ESR was appropriate for the undertaking of this investigation based on the alternatives being considered, the potential cost of the project and the potential for environmental effect.

As a Schedule 'C' project, project planning proceeds under the planning and documentation procedures of Phases 1 through 4 of the MCEA process (see Figure 2).

Through this process, reasonable solutions identified are evaluated with input from agencies, Indigenous communities, and stakeholders toward a recommendation for a Preferred Solution.

As a minimum, public consultation is required at three stages under a Schedule 'C' project.

At the conclusion of Phase 4, the appropriate MCEA Planning Schedule is confirmed and, if there are no outstanding concerns, the proponent may proceed to design and implementation.

4.1 Phase 1 – Problem Identification

In Phase 1 of the MCEA process, the objective is to identify the problem or opportunity that the MCEA process is meant to resolve or take advantage.

The Problem / Opportunity Statement for this project has been defined as follows:

"Following a recent traffic study, Grey County has identified a need to widen Grey Road 19 between the intersection of Grey Road 19 / Simcoe Road 34 / Grey Road 21 and Mountain Road and the roundabout at Grey Road 19 / Grey Road 119 / Gord Canning Drive to meet the needs of increased traffic demands, with consideration for active transportation."

4.2 Phase 2 – Identification and Evaluation of Alternative Solutions

Phase 2 of the MCEA process requires that a municipal proponent (the County) identify and evaluate alternative solutions to the Problem / Opportunity Statement, assessing the impact of the solutions on the general condition of the natural, social / cultural, and economic environment including possible mitigating measures.

For projects that are relatively straightforward, a preliminary recommended solution may be identified at this stage.

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At the conclusion of Phase 2, the appropriate MCEA Planning Schedule is confirmed. It is also in this phase that the first mandatory consultation with review agencies and the public is initiated. Details of the consultation activities for this project are provided in Section 5.0.

The alternative solutions have been developed to consider active transportation and to address the issue of increased traffic in the future which will affect the efficient operation of Grey Road 19 within the Study Area corridor.

To address the Problem / Opportunity Statement identified in Section 4.1, the following Alternative Solutions have been proposed.

Alternative Solutions considered include:

1. Do Nothing. This is a mandatory solution to be considered in the MCEA process.
2. Widen to four lanes with paved shoulders for maintenance.
3. Widen to four lanes with paved shoulders and active transportation (Buffered Paved Shoulders 2.0 m wide).

The evaluation of alternatives is a step-by-step process that compares alternatives that are feasible within the project environment and meet the project objectives outlined in the Problem/Opportunity Statement.

The impacts of the alternatives are evaluated relative to each other, against a set of equally weighted criteria, including possible mitigating measures. The criteria are developed based on the inventory of the natural, social/cultural, financial and technical environment of the Study Area, under each environment category following a review of the existing conditions in the Study Area and identification of key considerations, including:

- The potential impact to existing natural features
- Minimizing encroachment on private property and the potential for land acquisition,
- Maintaining access to property,
- Consideration of pedestrians and active transportation along the corridor
- Working within existing planning policy and regulations
- Maintaining traffic flow and connection in the County as well as providing capacity for future growth and traffic,
- Maintaining effective storm drainage
- The potential impact to utilities, and
- Consideration of community and agency input.

A Table showing the Evaluation of Alternatives for each of the criteria is presented in Appendix B.

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A description of the Alternative Solutions and the results of the evaluation are discussed below.

Do Nothing

In the Do Nothing Alternative, Grey Road 19 would remain a two-lane, two-way road with gravel shoulders. There would be no construction or widening of the road except for the interface with planned roundabouts within the Study Area. Regular maintenance of the road would be performed as required; however, no improvements or changes would be made to solve the identified problem or opportunity. This is a mandatory alternative for consideration under the MCEA and serves as a reference point for comparing other alternative solutions.

Increased traffic congestion, travel time and delays at intersections are anticipated as traffic volumes increase over time. A two-lane road does not operate well with the existing two-lane roundabout at Grey Road 119 and Grey Road 19 intersections and the planned two-lane roundabout at the intersection of Crosswinds Boulevard and Grey Road 19, with the potential for conflicts as vehicles merge into the roundabouts.

The Do Nothing option does not support connectivity of the overall road network and larger active transportation network. An existing off-road multi-use trail, maintained by TBM, provides some access for active transportation with shared use for pedestrians and cyclists. The need for additional winter maintenance of the multi-use trail would need to be considered to improve access.

The Do Nothing option does not require property for road widening and is not expected to impact potential archaeological resources or natural features in the Study Area corridor. This option does require ongoing costs for operation and maintenance, including the need for increased maintenance of gravel shoulders.

The Do Nothing option does not accommodate future traffic volumes in the medium to long-term and does not address the problem statement.

Widen to Four Lanes with Paved Shoulder

The roadway would be reconstructed as a four-lane, two-way road. Roadside ditches would be reconstructed, and culverts would be repaired or replaced as needed. Roadside utilities would be relocated as required to accommodate the reconstruction. Property acquisition is not anticipated for road widening, except for select areas at the interface with planned roundabouts.

A four-lane road will accommodate future traffic volumes up to the year 2040 with improved travel time and improved traffic flow as traffic volumes increase over time.

A paved shoulder provides some space along the edge of the road for stopped and emergency vehicles but would require shared use of the road travel lanes with vehicles

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and cyclists. The paved shoulder would not provide a designated space for active transportation.

The existing multi-use trail could be utilized to provide connectivity of the active transportation network through the Study Area. Winter maintenance of the multi-use trail would be required for year-round access. Safety for active transportation is improved by having the existing multi-use trail located off of the road; however, a wider road may increase the difficulty of crossing of the road to connect to the multi-use trail or other active transportation facilities.

Costs for this option are estimated at \$3.25 million.

Widen to Four Lanes with Paved Shoulder and Active Transportation

The roadway would be reconstructed as a four-lane, two-way road with paved shoulders that include active transportation as on-road bike lanes or bike accessible paved shoulders.

Given the anticipated volume of traffic along the corridor, a 2.0 m wide bike accessible paved shoulder facility, which includes a 0.5 m buffer, is recommended for this alternative.

Roadside ditches would be reconstructed and culverts would be replaced or repaired as needed. Roadside utilities would be relocated as required to accommodate the reconstruction.

A four-lane road will accommodate future traffic volumes up to the year 2040 with improved travel time and improved traffic flow as traffic volumes increase over time.

This option may require property acquisition in select locations for the road widening in addition to some property acquisition at select locations to accommodate the integration of the roundabouts.

The paved shoulder would be widened to provide a designated space along the edge of the road for cyclists and other road users and would provide connectivity of the active transportation network through the Study Area.

The existing multi-use trail would provide an alternative to active transportation along the edge of the road. Winter maintenance of the multi-use trail would be required for year-round access.

Costs for this are estimated to be \$4.25 million, including the increased costs for materials and relocating hydro utilities.

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4.2.1 Addresses the Problem / Opportunity Statement

Each Alternative Solution was also reviewed to determine whether it addressed the Problem / Opportunity Statement.

It was concluded that the Do Nothing Alternative did not address the Statement, while the remaining Alternatives fully addressed the Statement.

4.2.2 Preferred Alternative

Following Phase 1 and 2 of the MCEA process, Widen to Four Lanes with Paved Shoulders was selected as the Preferred Alternative based on the evaluation of the Alternative Solutions and feedback received during and following Public Open House in August 2021. Details of the consultation activities for this project are provided in Section 5.0.

4.2.3 Confirmation of the Class Environmental Assessment Project Schedule

At the conclusion of Phase 2, the appropriate MCEA Planning Schedule is confirmed. In consideration of potential environmental effects and the anticipated project costs of the Preferred Alternative and possible Design Alternatives, the County proceeded with the MCEA project as a Schedule 'C' undertaking.

4.3 Phase 3 – Identification and Evaluation of Design Alternatives for the Preferred Alternative

Phase 3 of the MCEA process is the identification and evaluation of Design Alternatives for the Preferred Alternative identified in Phase 2. The impacts of the design alternatives are evaluated relative to each other, against a set of equally weighted criteria, including possible mitigating measures, leading to a preliminary identification of a preferred design.

The criteria are developed based on the inventory of the natural, social/cultural, financial and technical environment of the Study Area, under each environment category following a review of the existing conditions in the Study Area and identification of key considerations, including:

- Existing right of way width
- The potential impact to existing natural features
- Potential to impact possible heritage resources
- Minimizing encroachment on private property and the potential for land acquisition,

It is also in this phase that the second mandatory consultation with review agencies and the public is initiated. Details of the consultation activities for this project are provided in Section 5.0.

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The first step in Phase 3 involves the identification of Design Alternatives for the Preferred Alternative. Alternative Designs are considered under Road Widening (alignment) and Road Cross-section.

4.3.1 Road Widening

The approach to road widening is based on road cross section and design options which include three basic Design Alternatives:

- Widen on the north side only, with paved shoulders;
- Widen on the south side only, with paved shoulders; and
- Widen on both sides, with paved shoulders.

Or a combination of these Design Alternatives.

4.3.2 Road Cross-Section

The road cross-section for the design options for widening include:

- Road Rehabilitation – pulverize existing asphalt surface, place new Granular A (gravel) and repave asphalt layers; or
- Road Reconstruction – excavate existing road structure and replace with new Granular B and A (gravel) and repave asphalt layers.

Or a combination of these options.

4.3.3 Preferred Design Alternative

Design Alternatives were evaluated for the Study Area based on existing road design features and the Preferred Alternative to widen the road identified in Phase 2 of the MCEA. Widening to the north is preferred based on the existing ROW width and potential to minimize impact to adjacent property and natural features.

The property boundary of the existing road ROW is wider on the north side of the existing paved roadway. Widening to the north is considered practical to avoid or minimize impact to several features located on south side of the Grey Road 19 Study Area corridor including the Silver Creek, areas of archaeological potential and cultural heritage, and impacts to private property.

A Noise Impact Assessment completed during the EA has determined significant increases in traffic noise are not expected as a result of the road widening.

The County's Cycling and Trails Master Plan proposes paved shoulder in the Study Area. The preferred minimum width of a paved shoulder identified in the Grey County Cycling and Trails Master Plan is 1.5 m; however, a minimum of 1.2 m may be considered in constrained areas. Additionally, the County's *Transportation Master Plan* identifies Grey Road 19 Study Area corridor as a cycling route. Based on the specific

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conditions along the corridor, Bicycle Route Marker signs and Share the Road signs may be posted to indicate a change in the road configuration to motorists.

The preferred design cross section for the road is made up of a combination of full depth road base and surface reconstruction and rehabilitation methodologies. The majority of the existing road structure is already suitable to support the anticipated traffic volumes and vehicle loading but some very localized areas may require specialized full depth rehabilitation which will be determined during detailed design.

The widened areas will require full depth reconstruction to support new pavement structure. Implementing the combination of methodologies is considered a more cost-efficient approach, while minimizing impact to adjacent features and properties.

Implementing a combination of methodologies is considered to be a more cost-efficient approach, while minimizing impact to adjacent features and properties.

Road reconstruction includes excavating the existing road base structure and replacing it with a new base structure of compacted lifts of Granular B and A (gravel) and repaving the asphalt layers.

Road rehabilitation includes the pulverization of the existing asphalt surface and placing new Granular A (gravel) as required and repaving the asphalt layers.

The Evaluation of Design Alternatives for each of the criteria is presented in Appendix B.

5.0 Consultation Summary

Consultation is an important part of the MCEA process to ensure that anyone with an interest in the project has an opportunity to provide input into the County's decision-making process before a project is finalized.

The Schedule 'C' MCEA requirements include three mandatory public points of contact during the MCEA process. The mandatory points of contact for this project included a Notice of Commencement, Notice of Public Information Centre (PIC), and a Notice of Completion.

A project page on the County website at: <https://www.grey.ca/programs-initiatives/grey-road-19-and-21-improvements>, was established to provide project information, including project notices, throughout the MCEA process and engage residents and the public that may have an interest in the project. Project information was also posted through social media platforms including the County's Facebook page and Twitter.

A Project Contact List was developed as a mailing list to distribute project Notices. The Project Contact List consisted of technical and provincial agencies, local interest groups, businesses, and Indigenous communities that may have an interest in the project, as well as local residents within the vicinity of the Study Area. Throughout the MCEA

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process, the Project Contact List was used to maintain contact information for interested stakeholders, as well as to summarize comments received about the project and responses.

The comments received throughout the MCEA were considered in the evaluation of the alternatives.

A copy of the Project Contact List is provided in Appendix C.

Project Notices were published in the local newspapers, the Collingwood Connection, and the Blue Mountains Review, and were also posted on the project page of the County website and social media. Project notices were emailed or mailed to those on the Project Contact List.

The Notice of Commencement for the Project was advertised in the Collingwood Connection on February 11, 2022 and February 18, 2022.

The Notice for the Public Information Centre (PIC) inviting public input from September 16, 2021 to October 18, 2021 was advertised in the Collingwood Connection on September 16 and 23, 2021 and the Blue Mountains Review on September 20 and 27, 2021.

A copy of the Notice of Commencement and Notice of PIC is provided in Appendix C. A Notice of Completion will be published in the Collingwood Connection, and the Blue Mountains Review at the conclusion of the MCEA process for the project and mailed / emailed to all on the Project Contact List.

The Notice of Completion will provide members of the public with the dates and location where the ESR can be reviewed as well as names and addresses of people to whom they can send their comments.

5.1 Indigenous Communities

Following the Notice of Commencement, follow-up phone calls were made to Indigenous communities to confirm receipt of the notice, inquire about their level of interest in the project, and determine if the communities had any concerns or questions about the project.

The Huron Wendat First Nation expressed an interest in receiving a copy of the Stage 1 Archaeological Assessment report and formally requested to participate in the Stage 2 Archaeologic Assessment fieldwork.

Burnside provided a copy of the Stage 1 Archaeological Assessment report, which concluded that parts of the Study Area exhibit archaeological potential and recommended a Stage 2 Archaeological Assessment in select areas, if impacted by the Preferred Solution.

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Field representatives from the Huron Wendat were not able to join the Archaeologist during the Stage 2 field work. A copy of the Stage 2 Archaeological Assessment and field notes were provided to the Huron Wendat for their review. The Huron Wendat did not have any concerns or comments on the Stage 2 Archaeological Assessment.

Saugeen Ojibway Nation (SON) inquired if there will be any archaeological assessment and / or other environmental studies completed as part of the MCEA, noting their only concern at this time is Archaeology Assessments on undisturbed land. They requested that any archaeological reports be forwarded for peer review as the project moves forward. Burnside sent a copy of the Stage 1 Archaeological Assessment to SON for review.

It was noted that the Stage 2 Archaeological Assessment report will be forwarded to the community for peer review when available. However, subsequent correspondence from SON noted they did not have the resources to engage in consultation on this project and had no further comments on the project. Should anything of archaeological interest be revealed on-site, the SON Environment Office is to be contacted.

The Stage 2 Archaeological Assessment completed for the project did not identify archaeological resources within the Study Area.

A summary of comments received from Indigenous communities is provided in the Project Contact List in Appendix C.

5.2 Public Information Centre

The PIC was hosted in a virtual environment to limit social interactions to reduce community spread of the COVID-19 virus. The online PIC presentation had 422 unique views recorded over the PIC comment period from September 16, 2021, to October 18, 2021, with some viewing the presentation materials more than once.

Thirty-four members of the public provided comments within the PIC comment period. Of those comments, twenty-nine Comment Sheets and five email comments were received. One participant provided both a Comment Sheet and an email.

All comment sheets and emails are provided in Appendix C. Details of the PIC and a copy of the comments received are available in the PIC Summary Report available in Appendix C.

The comments received during the PIC and subsequent comment period included the following themes:

- Noise;
- Active transportation;
- Traffic speed;
- Turning lanes / roundabouts;

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- Traffic flow;
- Safety;
- Environmental impact;
- Property impact;
- Cost; and
- Other comments.

6.0 Preferred Solution

Based on the evaluation of the Alternative Solutions and Design Alternatives, the comments received from stakeholders, agencies and interested parties, the Preferred Solution is to widen the road to four lanes with paved shoulders, with a road alignment widened to the north.

The posted speed limit of 60 km/h is anticipated to remain in effect. Lane widths will be 3.3 m wide.

The width of the paved shoulders will vary between 1.2 m to 1.5 m and will be confirmed during the Detailed Design based on the area available within the existing ROW that can accommodate the paved shoulders.

This alternative addresses the Problem / Opportunity Statement and will accommodate future traffic volumes to the horizon year of 2040, facilitate the safety of turning movements to access driveways and intersections along the Study Area corridor.

The paved shoulder will not provide a designated space for active transportation; however, the existing multi-use trail could be utilized to provide connectivity to the active transportation network through the Study Area.

Based on the specific conditions along the corridor, “Bicycle Route” signs and “Share the Road” signs may be posted to indicate a change in the road configuration to the motorists.

The Preferred Solution is anticipated to have moderate costs, be completed within the existing road ROW, and have limited impact to the natural features of the Study Area. Property acquisition is not anticipated except where required to integrate with the planned roundabouts.

With this alternative, culverts and storm sewers will be installed and roadside utilities will be relocated as required to accommodate the reconstruction.

The preferred design cross section for the road is made up of a combination of road reconstruction and rehabilitation methodologies.

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Road reconstruction includes excavating the existing road base structure and replacing it with a new base structure of compacted lifts of Granular B and A (gravel) and repaving the asphalt layers.

Road rehabilitation includes the pulverization of the existing asphalt surface and placing new Granular A (gravel) as required and repaving the asphalt layers. The Preferred Solution is illustrated in Figure 6.

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7.0 Impacts

Project activities associated with the Preferred Solution are anticipated to include excavation, grading, and some vegetation and tree removal within the grading limits of construction associated with road widening and realignment as well as drainage improvements including replacement of culverts.

7.1 Technical Environment

The Preferred Solution will operate as a two-way road, providing access to existing and proposed developments and offering an alternate linkage for inter-municipal travel along the south side of Georgian Bay.

Traffic

Traffic growth in the Study Area was considered based on existing and future developments that may use the Study Area corridor for travel as well as minimal growth from traffic in the broader Study Area.

A conservative growth rate of 0.5% per year, compounded annually up to the study horizon years (2025, 2030, and 2040) was applied to all traffic movements, with some exceptions to account for the nominal growth from the broader Study Area. A slightly higher rate of 1% per year compounded growth was applied to the turning movements to / from Grey Road 19 from / to Grey Road 19 / Side Road 32 as a reflection of the anticipated role this corridor may take in accommodating by-pass traffic around the Town of Collingwood, dependent on the County of Simcoe continuing to improve connections in this area and the results of a future study by the MTO with respect to Highway 26 in this area.

Grey Road 19 is currently operating near its capacity as a “County Collector” road and intersections are currently operating with some reserve capacity. Additional roadway capacity will be required in the short term as there will not be enough capacity within the existing lanes or intersections to accommodate future demand given the development plans in the area.

The majority of the Study Area corridor will exceed desirable capacity or be at capacity for a single lane of traffic in each direction by 2025. It is recommended that the Study Area corridor be expanded to a four-lane cross-section (i.e., two travel lanes in each direction) in the short-term.

Implementation of the Preferred Solution of four lanes within the Study Area will provide capacity for projected increases in traffic and operational issues at the stop-controlled intersections and coordinate with the implementation of the planned roundabouts for improved operational safety.

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Paved shoulders are consistent with the County's current policy for rural arterial roads and is consistent with the paved shoulders present on both sides of Grey Road 19 to the north of the intersection of Grey Road 19 / Grey Road 119 / Gord Canning Drive and from this intersection to Martin Grove on the north side of Grey Road 19 within the Study Area.

Paved shoulders provide an opportunity to incorporate bicycle accessible shoulder facilities within the Study Area; however, paved shoulders within the Study Area are not designated bicycle lanes.

Pedestrians and cyclists are encouraged to use the adjacent multi-use path to the north of the Grey Road 19 ROW within the Study Area. Cyclists or pedestrians originating from Martin Grove or from Claire Glen may be required to travel along the Grey Road 19 shoulders or to cross Grey Road 19 at an uncontrolled location. The volume of these pedestrians and cyclists is anticipated to be low.

Sight Distances

The vertical alignment is relatively flat, and the horizontal alignment is relatively straight and provides for adequate sight distances which will be maintained or further improved with the planned improvements.

Drainage and Surface Water

The proposed centerline of the Grey Road 19 road is to be shifted to the north with the Preferred Solution. As such, the proposed catchment area sizes will differ slightly from the existing, based on the shift in the road centerline.

The Preferred Solution is not expected to result in a change to the regional flood plain as changes to centreline of the road and sizing of culverts would result in negligible changes in flood elevations. This will be confirmed during Detailed Design.

Culvert crossings under Grey Road 19 are required to convey the 10-year storm with 0.3 m of freeboard, based on MTO Highway Drainage Design Standards, WC-1 criteria.

Based on preliminary hydrologic and hydraulic calculations, the existing Silver Creek culvert appears to be of adequate size to provide a 0.3 m freeboard from the 10-year headwater elevation to the minimum edge of travelled lane.

The Grey Road 19 culvert should be replaced with a larger structure capable of conveying the 10-year peak flow event while maintaining 0.3 m of freeboard from the headwater to the minimum edge of the travelled lane. The sizing of the replacement culvert will be determined during Detailed Design when the road profile is confirmed.

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The replacement of the culvert structure with a larger-capacity culvert would allow for increased conveyance capacity below Grey Road 19 during periods of high flow, providing resilience under changing climatic conditions.

It is understood that the Silver Creek culvert is planned for replacement during the construction of the Grey Road 19 / Grey Road 21 / Simcoe Road 34 roundabout, as such, this culvert has not been analyzed at this time.

Stormwater

Preliminary calculations estimate a 32% increase in impervious area with the Preferred Solution to widen to four lanes with paved shoulders. The increase in impervious area will result in an increase in runoff, triggering the requirement for stormwater quantity control measures.

Stormwater quantity control is recommended through storage in the proposed ditches. To control the post development peak flow rates to the existing 100-year peak flow rate, approximately 715 m³ of storage is required. It is recommended that this storage be provided in the proposed ditches along the north side of Grey Road 19. An analysis of the typical ditch cross-section shows that sufficient storage volume is expected within the northern ditches. Ditches will be designed to allow stormwater to build up in the ditches during high runoff events which will be released slowly downstream during the 24 - 48 hours following the storm.

It is recommended that stormwater quality control be provided within the proposed roadside ditches. An enhanced grass swale concept can be applied to roadside ditches, to achieve stormwater quality control. Details of stormwater quantity and quality control are to be reviewed during Detail Design.

Utilities

The Preferred Alternative to widen the road is not expected to have significant impacts to the existing utilities located within the road corridor. The utilities located along the northerly side of the road corridor; however, are expected to be the most impacted as the general alignment of the road to accommodate the Preferred Solution will be moved northerly. The widening of the road to the north will result in the roadside ditch along the north side of the road to be located within or in close proximity to the Hydro One service corridor. This is expected to result in grading variances around the existing Hydro One poles.

The telecommunication utilities (telephone, cable, etc.) plant are a mixture of underground and aboveground. The underground plant is generally located along the northerly side of the road corridor. The buried plant appears to be north of the Hydro One corridor and the aerial plant shares the Hydro One poles along the north side of the road and are located on their own poles along the south side of the corridor. As a result,

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minor impacts to these utilities are expected but will need to be confirmed during Detailed Design.

The main natural gas pipeline is located along the northerly side of the road corridor north of the Hydro One corridor as well with some possible road crossings.

The location of the underground telecommunication and gas lines will be verified through more exact methods (locates and / or test hole) to determine if they conflict with the Preferred Solution during the Detailed Design. The need to relocate utilities will be reviewed and the scope of the utility relocation work will be further refined during Detailed Design. The location of the underground utilities should be verified through more exact methods (locates and / or test hole) to determine if they conflict with the Detailed Design.

The electrical, natural gas, and the various telecommunication utilities will be consulted during the Detailed Design and mitigation measures to address possible conflicts and impacts will be developed. Each utility will also be given the opportunity to upgrade their respective plant prior to construction.

7.2 Natural Environment

Impacts to natural features are anticipated with excavation, grading, and vegetation removal in select areas as a result of road reconstruction, improved ditches, and culvert replacement.

The improvements are anticipated to be located within the existing ROW, including potential impact to wildlife species, Species of Special Concern, SAR, and associated habitat.

It is anticipated that direct impact to wildlife species, species of special concern, and SAR can be avoided through minimizing the footprint of construction and the timing of certain project activities (i.e., outside of the active season).

Vegetation

The vegetation communities identified within the Study Area are considered to be common in Ontario. Impact as a result of grading activities is anticipated to include removal of vegetation, trees and shrubs that encroach into the Grey Road 19 ROW. Potential impacts are anticipated to be temporary and relatively short-term.

Tree removal and grading impacts are not anticipated within adjacent vegetation communities, including significant woodlands.

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Wildlife

There is potential for temporary displacement of and disturbance to wildlife and wildlife habitat during the construction phase (e.g., vegetation removals, siltation, noise, trespass, limited movement, etc.) as well as potential for increased road mortality and mortality during construction activities. Several bird species have the potential to be located within the general Study Area and many receive protection nationally under the Migratory Birds Convention Act. The widening and reconstruction of Grey Road 19 may result in disturbance and loss of generalist species, nesting SAR migratory breeding birds and bird habitat during the construction phase; however, disturbance is anticipated to be temporary.

Vegetation removal as a result of grading is not expected to significantly impact wildlife habitat given the ongoing disturbance within the Study Area due to the proximity to the road ROW and residential properties and the broader extent of suitable habitat in adjacent habitats beyond the ROW.

It is expected that direct impact to potential wildlife species can be avoided through minimizing the footprint of construction where possible, and the appropriate timing of vegetation removal, completed outside of the breeding bird active season.

Species of Special Concern

Although species provincially listed as rare or of Special Concern do not receive legal protection under the Provincial ESA or the Federal *Species at Risk Act*, they may receive protection from some agencies, such as Provincial and National Parks, or other Acts, such as the *Ontario Fish and Wildlife Conservation Act*, which prohibits the killing, capturing, injuring, harassment, and trapping of specially-protected species.

There is low potential for eastern ribbonsnake (Special Concern) habitat present within the Study Area. Marginal appropriate marsh habitat was found in MASO3 community in Study Area, but a preferred habitat is anticipated to be located within wetland beyond the Study Area. The proposed works would be subject to timing restrictions to avoid direct impact to species.

Monarch (Special Concern) habitat may be temporarily removed during the construction.

Vegetation clearing along the edge of the ROW, adjacent to the wooded area (FODM3-1) may impact marginal habitat for wood thrush (Special Concern). Large areas of appropriate habitat will still be available beyond the cleared areas in which potential wood thrush habitat will remain.

The Preferred Solution is not anticipated to directly impact species of special concern with the implementation of avoidance measures, including minimizing the footprint of

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construction, exclusion of the construction area and timing of construction for the removal of vegetation.

Species at Risk

Potential SAR bat (Endangered) roosting habitat may be present within the forested area (FODM3-1) adjacent to the south of the ROW, where large diameter trees with cavities / loose bark, and snag trees were observed.

Vegetation clearing within the ROW, adjacent to the wooded area (FODM3-1) may impact selected trees within roosting habitat for SAR bats. Limited vegetation removal is not expected to have a significant impact on the available overall potential habitat for these species within the greater area. Direct impact to species is expected to be avoided with appropriate timing of vegetation removal to be completed outside of the active season for bats.

The Preferred Solution is not anticipated to directly impact SAR wildlife with the implementation of avoidance measures, including minimizing the footprint of construction and timing of construction for the removal of vegetation.

Aquatic Habitat

The Silver Creek watercourse within the Study Area is considered to be fish habitat and is protected under the *Fisheries Act*. The Preferred Solution has the potential to impact adjacent fish habitat as a result of the modification to the road embankments and modified roadside ditches.

Temporary impacts resulting from culvert replacement activities also have the potential to impact fish and fish habitat through mobilized sediment during construction. These proposed works will be subject to design conditions, timing restrictions, and standard mitigation measures to avoid or minimize impacts.

Any work in-water is recommended to be submitted to the DFO under a Request for Project Review. For projects near water, proponents are required to ensure that activities meet the criteria outlined on the Fish and Fish Habitat Protection Program website (<http://www.dfompo.gc.ca/indexeng.htm>) and are responsible for the implementation of best management practices (i.e., Codes of Practice) into the project design.

The DFO has provided standardized Codes of Practice and Measures to Protect Fish and Fish Habitat to mitigate contraventions of the Fisheries Act.

If it is determined that impacts of the proposed works can be avoided and the “harmful alteration, disruption or destruction of fish habitat” (HADD) is unlikely to occur, then the project does not require a review by the DFO. If HADD is anticipated because of the

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project, even following the application of feasible avoidance and mitigation strategies, then DFO review is recommended, and authorization may be required.

The construction of the Preferred Solution will occur within the regulated area of the NVCA. Development or alterations within the jurisdiction of the NVCA in Regulated Areas will require a permit from NVCA under Ontario Regulation 172/06, Regulation of Development, Interference with Wetlands and Alterations to Shorelines and Watercourses.

Climate Change

The consumption of energy to operate motorized construction equipment to implement the Preferred Solution is anticipated to result in some greenhouse gas emissions and some impact to carbon storage as a result of vegetation removal.

The potential Greenhouse Gas emission effect from the Preferred Solution was determined to be insignificant on a regional and local scale. The total annual emissions are expected to be well below 0.01% of the provincial levels.

There is potential for localized groundwater quality impacts from spills during construction as well as potential for excess soil as a result of road reconstruction and replacement of underground utilities.

7.3 Social / Cultural Environment

The Preferred Solution will provide for a road that is safe, efficient and will be constructed in accordance with applicable planning policy including the County's TMP, and the County Cycling and Trails Master Plan.

Improvements will maintain a direct travel route within the area and two-way access to adjacent properties and intersections.

Improvements will support existing land uses in the Study Area while providing the opportunity for improved network connectivity and overall safety of road users.

Temporary impacts including access restrictions and nuisance noise are anticipated as a result of construction activities.

Noise

The Noise Impact Assessment was completed in accordance with the MTO Noise Guide. Future sound levels were predicted with and without the proposed road widening improvements to determine the potential noise impact, based on the Annual Average Daily Traffic (AADT) value forecasted 10 years into future as required by the MTO.

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The increase in sound levels expected throughout the Study Area as a result of the Preferred Solution will increase less than 5 dBA. Based on the MECP interpretation of the noise impact levels, the noise impact due to the widening of Grey Road 19 is considered to be negligible.

Air Quality

The results of the dispersion modelling show that the predicted ground level concentrations at all sensitive receptor locations are expected to be below the applicable MECP criteria.

Based on the comparison of predicted cumulative concentrations between Future Build and Future No Build scenarios, it was determined that the change is very small and the impact on local air quality due to the Grey Road 19 widening is negligible.

Potential air quality effects associated with the construction stage is expected to be temporary and localized to the surrounding area.

It is recommended that dust levels be monitored during the construction stage and mitigation measures be provided as necessary, such as water or solid / liquid calcium applications to reduce the effect on surrounding residences.

Source Water Protection

Improvements to Grey Road 19 may have an indirect potential to impact the quality of water that is, or may be used, as a source of drinking water.

For example, the application of road salt during winter maintenance; however, the potential impact is not anticipated to be greater than under existing conditions.

As such, project activities are not anticipated to pose an increased risk to drinking water.

Land Acquisition

The footprint of the Preferred Solution is located within the ROW, owned by the County of Grey (municipal ROW). Some land acquisition is anticipated to integrate with the planned roundabouts.

The extent of the property requirements will be confirmed as part of the Detailed Design.

Cultural Heritage

A review of the conceptual design for the Preferred Solution determined that there are no anticipated impacts to the one identified cultural heritage landscape feature, identified in the CHRA Report.

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The Stage 2 Study completed for the site did not identify any archaeological resources within the Study Area and as a result impacts to archaeological resources are not anticipated.

7.4 Financial Environment

The cost estimates for the alternative solutions were developed based on Burnside's experience with work of similar scope and complexity as follows:

- Alternative 1 – Do Nothing - Road and Shoulder Maintenance - \$500.00 / m.
- Alternative 2 – 1.2 m to 1.5 m Paved Shoulders and Four Lane Road - \$2,500.00 / m.
- Alternative 3 – 2.0 m dedicated Bicycle Lanes and Four Lane Road - \$3,200.00 / m.

The cost estimates were developed to provide an order of magnitude between each alternative only and were generally based on standard 2021 road maintenance, rehabilitation / reconstruction, and utility relocation costs.

The Preferred Solution will incur moderate capital costs for construction. More accurate cost estimates are expected to be developed during the Detailed Design stages when additional information is obtained through, but not limited to, the following:

- Geotechnical investigation;
- Subsurface utility investigation; and
- Surface water management analysis.

8.0 Mitigation

The following mitigation measures and design approach are expected to be implemented to mitigate negative impacts of the Preferred Solution on the environment of the Study Area.

Mitigation measures are intended to inform the future Detailed Design and be included in the mitigation and monitoring measures developed during the Detailed Design and reporting process. These mitigation measures will be enforced during construction within the Special Provisions section of the Tender Documents, as applicable.

All Design and Construction Reports and Plans are expected to be based on a best management approach that centers on the prevention of impacts, protection of the existing environment, and opportunities for rehabilitation and enhancement of the impacted areas.

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Surface Water / Hydrology Sedimentation

Potential Effect

1. Potential for sediments to enter a watercourse as a result of the following project activities:
 - a) Stockpiling
 - b) Excavation
 - c) Construction
2. Potential for localized water quality impacts as a result of spills.

Mitigation Measures

1. The footprint of disturbed area should be minimized as much as possible; for example, vegetated buffers and setbacks should remain untouched adjacent to the watercourse wherever possible.

An Erosion and Sediment Control (ESC) Plan should be developed during Detailed Design prior to construction.

Implementation of the erosion and sediment control measures should conform to recognized standard specifications, such as Ontario Provincial Standards Specification (OPSS), and the requirements of the NVCA.

Sediment and erosion control measures (e.g., silt curtains, silt fence, rock check dams, etc.) shall be installed and maintained during the work phase, until the site has been stabilized. Control measures shall be inspected daily to ensure they are functioning and shall be maintained as required. If control measures are not functioning properly, no further work shall occur until the problem is resolved.

Temporary mitigation measures shall be installed prior to the commencement of any clearing, grubbing, excavation, filling, or grading works, and must be maintained on a regular basis, prior to, and after precipitation events.

2. In-water operation of heavy equipment shall be avoided and operation on the banks, if required, minimized to the extent feasible.

Stockpiled material shall be stored and stabilized at least 30 m from the watercourse.

All materials and equipment shall be operated and stored in a manner that prevents any deleterious substance (e.g., petroleum products, silt, etc.) from entering adjacent natural heritage features.

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Impacts to water quality resulting from surface water run-off shall be appropriately mitigated with mobilized sediment contained to within the boundaries of the site.

All disturbed areas of the work site shall be stabilized immediately, and re-vegetated as soon as conditions allow.

All equipment fueling, and maintenance shall occur at least 30 m from the watercourse to ensure that no deleterious substances enter the waterway.

The Contractor shall be required to develop spill prevention and contingency plans for construction and operational phases of the project. Personnel shall be trained in how to apply the plans, and the plans will be reviewed to strengthen their effectiveness and ensure continuous improvement.

Spills shall be immediately contained and cleaned up in accordance with provincial regulatory requirements and the contingency plan.

A hydrocarbon spill response kit shall be on-site at all times during the work.

Spills shall be reported to the Ontario Spills Action Center at 1-800-268-6060.

All equipment and personal protective equipment must arrive on-site clean to prevent the potential transfer of invasive species (e.g., *Phragmites australis*) to the local environment.

Soil and Groundwater

Effect

1. Potential for localized groundwater quality impacts as a result of spills during construction.
2. Potential dewatering of the work area may be required.
3. Potential for excess soil as a result of road reconstruction and replacement of underground utilities.

Mitigation Measures

1. Refueling of equipment and fuel storage shall be conducted in designated areas, at least 30 m away from the watercourses and any existing wells.

The Contractor shall be required to develop Spill Prevention and Contingency Plans for construction and operational phases of the project.

2. Activities involving the management of excess soil should be completed in accordance with O. Reg. 406/19 and the MECP's current guidance document titled "Management of Excess Soil – A Guide for Best Management Practices" (2014). All

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waste generated during construction must be disposed of in accordance with ministry requirements.

3. Geotechnical conditions should be reviewed when Design Details are known, including final grading and when service inverts are available.

The geotechnical report shall fully assess groundwater conditions and dewatering requirements and the need for Site Specific Hydrogeological Site Assessment and application for a PTTW or EASR, additional investigation and / or analysis in order to finalize the geotechnical and hydrogeological recommendations.

Trees and Vegetation

Effect

1. Loss of trees and vegetation.
2. Grading impacts. Trees adjacent to the ROW may be subject to impacts within the rootzone as a result of grading and other construction activities.

Mitigation

1. Minimize disturbance to existing vegetation. Adjust grading prior to construction to reduce impacts to trees by increasing the steepness of slopes in isolated locations, where feasible.
2. Disturbed areas shall be stabilized and re-vegetated upon project completion and restored to a pre-disturbed state where practical. Disturbed areas shall be stabilized and re-vegetated with an appropriate seed mix, such as OSC Seed Simcoe County Mix (Product Code 6850) in upland areas and OSC Wet Meadow Marsh Mixture (Product Code 8195) in lowland / wetland areas, upon project completion and restored to a pre-disturbed state where practical. An appropriate seed mix will be selected based on consultation with the appropriate reviewing agency (NVCA).

A certified arborist is recommended to be consulted if additional removals or pruning are required once construction is underway.

A certified arborist should carry out or oversee the mitigation of any impacts to trees, including broken branches throughout the construction period and before contractor demobilization.

Protection measures (e.g., tree protection, erosion, and sediment control) are recommended where construction is proposed to protect trees from grading impacts and when adjacent construction is occurring to prevent access, stockpile, and storage within the adjacent vegetation communities.

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ESC measures shall be installed prior to commencement of any grading or vegetation disturbance.

An Environmental Inspector shall be engaged during the construction phase to review ESC measures that will also act as tree protection measures for deficiencies. The Environmental Inspector shall ensure that all deficiencies are resolved immediately.

Wildlife / Habitat

Effect

1. Temporary displacement of and disturbance to, wildlife and wildlife habitat during the construction phase (e.g., vegetation removals, noise disturbance), including SAR. Works associated with the road improvements may also temporarily limit wildlife movement and reduce useable habitat during the construction phase.

Potential for disturbance or destruction of migratory breeding birds, their nests, and their habitat during the construction phase. Vegetation clearing along the edge of the ROW, adjacent to the wooded area (FODM3-1) may impact marginal habitat for wood thrush (Special Concern) during the construction phase.

Vegetation clearing along edge of the ROW and adjacent to marsh communities (MASO3) may impact marginal habitat for eastern ribbonsnake (Special Concern) during the construction phase.

Vegetation clearing within the ROW, adjacent to the wooded area (FODM3-1) may impact selected trees within potential roosting habitat for SAR bats.

Habitat for monarch (Special Concern) may be temporarily removed during the construction.

Mitigation

1. The footprint of the proposed disturbed area shall be minimized as much as possible.

Avoid vegetation clearing during sensitive times of the year for local wildlife, such as spring and early summer (when many animals bear their young or migrate between wintering and summer habitats).

To reduce the risk of potential impact to wildlife, including SAR, vegetation clearing should not be completed between April 1 to October 31 to avoid the active period for the following:

- a) Breeding birds – Broadly from April 1 to August 31 for most species (regardless of the calendar year).

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- b) Reptile species –Special Concern – Generally considered to be from April to October (Environment Canada, 2014).
- c) Bat species – Considered to be between April 1 to October 31, of any calendar year.
- d) Monarch species – End of May through end of August. Removals of individual host plants (milkweed species) and their supporting habitat should be avoided during the active egg laying and larval stages of monarch species.

Temporary silt fence barriers are recommended to exclude wildlife (i.e., amphibians and reptiles) from the earthwork and construction activities in areas adjacent to low-lying areas. Temporary exclusion fencing shall be installed to allow wildlife to leave the fenced area during vegetation clearing. Once the work area has been cleared, it can be securely fenced to prevent wildlife from returning. The excluded area shall be searched immediately following fencing installation for any wildlife (including SAR) that may have become trapped. Any wildlife shall be permitted to escape, to a suitable habitat.

Active nests (nests with eggs or young birds) of protected migratory birds, including SAR protected under the ESA, cannot be destroyed at any time of the year.

If a nesting migratory bird or SAR protected under ESA is identified within or adjacent to the construction site and the activities are such that continuing works in that area would result in a contravention of the MBCA or ESA, all activities shall stop and the Contract Administrator (with assistance from an Avian Biologist) shall discuss mitigation measures / with the County.

Should SAR be identified, all activities shall stop and MECP, responsible for administering SAR under the ESA, shall be contacted immediately to ensure compliance with the ESA. The Contract Administrator shall instruct the Contractor on how to proceed based on the mitigation measures established through discussions with the County, the MECP and / or Environment Canada.

An Environmental Inspector shall be engaged during the construction phase to review ESC measures that protect adjacent natural features and prevent certain wildlife such as reptiles and amphibians from entering the work zone. The Environmental Inspector shall ensure that all deficiencies are resolved immediately.

Consideration should be given during Detailed Design to facilitate wildlife passage through sizing and design of culvert structures to reduce road mortality for reptiles and amphibians. Design Details should be coordinated with MECP and NVCA during Detailed Design.

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Fish and Fish Habitat

Effect

1. In-water works may be required which could result in “*serious harm to fish and fish habitat*”.
2. Potential to impact adjacent fish habitat as a result of the modification to the road embankments and improved roadside ditches. Temporary impacts to fish and fish habitat through sediment mobilization resulting from culvert replacement activities during construction.

Mitigation Measures

1. A request for project review should be submitted to the DFO.

The timing for in-water works (i.e., culvert replacement) is July 15th to September 30th, to be confirmed with the MNRF during the Detailed Design phase of the project.

Work zone isolation shall be performed for in-water works while maintaining flow downstream. Cofferdams constructed of clean, non-erodible materials shall be constructed upstream and downstream of the works area to isolate it. Downstream flows should be maintained through pumping, or a by-pass culvert and the isolated work area should be dewatered. All pump intakes must be screened to prevent the entrainment of impingement of fish. A fish salvage is required prior to commencement of in-water works and following any subsequent flow events that overtop the cofferdams to mitigate the death of fish. A license to collect fish must be obtained from the MNRF.

Erosion and sediment controls (ESC) shall be installed throughout the work area to prevent sedimentation of the watercourse or other sensitive features present. Inspection of the ESC measures is recommended during construction to ensure that they protect the watercourse. Implementation of the ESC measures shall conform to recognized standard specifications, such as OPSS, and the requirements of the NVCA.

Post construction of the disturbed area of the watercourse shall be restored with a mix of suitably sized round stone and native substrate placed through the culvert and at the inlet and outlet.

The embankments disturbed above the annual highwater mark shall be restored with erosion control blankets, topsoil and dressing, and plantings where appropriate. The slopes and disturbed area adjacent to the watercourse shall be restored with rip-rap above the annual high-water mark.

Angular stone is not to be placed below the annual high-water mark.

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Noise / Vibration / Air Quality / Greenhouse Gas Emissions

Effect

1. Temporary nuisance noise during construction activities. Temporary increased dust in air, emissions from construction activities.

Mitigation

1. Noise control measures, such as restricted hours of operation, the use of appropriate machinery / mufflers, shall be implemented where required. Vehicles / machinery and equipment shall be in good repair, equipped with emission controls, as applicable, and operated within regulatory requirements.

If required, dust control measures may include the wetting of surfaces using a non-chloride-based compound to protect water quality.

Cultural Heritage

Effect

1. Potential impact to archaeological resources beyond the limits of the Preferred Solution.
2. Potential impact to cultural heritage resources beyond the limits of the Preferred Solution.

Mitigation

1. The following mitigation is excerpted from the Stage 2 Archaeological Assessment Report completed by Archaeological Services Inc. (July 2022), and provided in Appendix A.

The Study Area does not require further archaeological assessment, and should the proposed work extend beyond the current Study Area or should changes to the project design or temporary workspace requirements result in the inclusion of previously un-surveyed lands, these lands should be subject to a Stage 2 Archaeological Assessment.

2. The following recommendations are excerpted from the Cultural Heritage Report (January 2021, revised July and September 2022).

Construction activities and staging should be suitably planned and undertaken to avoid impacts to the identified cultural heritage landscape (CHL1). Suitable mitigation including establishing no-go zones with fencing and issuing instructions to

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construction crews to avoid the cultural heritage landscape should be considered to mitigate any unintended impacts.

To ensure the frame barn directly east of the resident at 796054 Grey Road 19 (CHL1 is not adversely impacted during construction, baseline vibration monitoring should be undertaken during Detailed Design. Should this advanced monitoring assessment conclude that any structures will be subject to vibrations, a vibration monitoring plan should be prepared and implemented as part of the Detailed Design phase of the project to lessen vibrations impacts related to construction.

Should future work require an expansion of the Study Area, then a qualified heritage consultant should be contacted in order to confirm the impacts of the proposed work on potential heritage resources.

The Cultural Heritage Report should be submitted by the proponent to heritage staff at TBM, the County of Grey, the Ministry of Heritage, Sport, Tourism, and Culture Industries, and any other relevant stakeholders with an interest in this project.

8.1 Climate Change Considerations

Climate change is defined as any significant change in long-term weather patterns. The term can apply to any major variation in temperature, wind patterns or precipitation that occurs over time. Global warming describes the recent rise in the average global temperature caused by increased concentrations of greenhouse gases (GHGs) trapped in the atmosphere.

Scientists have concluded that human activity is largely responsible for recently observed changes to our climate since GHGs are mainly caused by burning fossil fuels to produce energy.

The MECP finalized a document entitled “Considering Climate Change in the Environmental Assessment Process” in 2017 that provides guidance relating to the ministry’s expectations for considering climate change during the MCEA process. It is suggested that this guide be consulted if an approved MCEA has no climate consideration method.

There are two types of climate change effects that can be considered. The first is the effect that a project can have on climate change. In this case, the degree to which the project can provide some climate change mitigation measures is to be assessed. The second is the effect climate change has on the project. In this case, the degree to which the project can demonstrate adaptation to climate change impacts is assessed. Climate Change was considered during this MCEA and is discussed in this Section.

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8.1.1 Effects of the Project on Climate Change

There is potential for the works proposed to impact the atmosphere through the emission of GHGs on an ongoing basis.

An increase in traffic over time may result in an increase in associated GHG emissions. Road improvements are anticipated to reduce traffic congestion. The potential GHG emission effect from the Preferred Solution was determined to be insignificant on a regional and local scale. The total annual emissions are expected to be well below 0.01% of the provincial levels.

Other carbon sources and emissions associated with this project would relate to construction vehicle emissions during the construction period. Emissions can be decreased by increasing efficiency and through regular maintenance of equipment.

Landscape changes associated with a project can also impact climate change. A carbon sink is described as a land or ocean mass that can take in carbon, in particular carbon dioxide, from the atmosphere. Vegetation can assist in removing carbon dioxide from the atmosphere.

The proposed undertaking will result in some vegetation removal during grading activities. Vegetation loss (and related carbon sink removal) is anticipated to be minimized as much as possible by reducing the footprint of grading activities where feasible.

8.1.2 Effects of Climate Change on the Project

The pavement infrastructure is susceptible to deterioration from freeze-thaw events and roadside drainage features and the watercourse culvert may be impacted by increased precipitation events that are becoming more prevalent in Southern Ontario due to climate change effects which can result in potential flooding and erosion.

The Detailed Design of the road improvements and associated drainage infrastructure will consider peak flows and capacity.

9.0 Permits

Permit To Take Water (PTTW)

Water taking in Ontario is governed by the Ontario Water Resources Act (OWRA) and the Water Taking and Transfer Regulation O. Reg. 387/040, Section 34 of the OWRA requires anyone taking more than 50,000 L/d to notify the MECP. This requirement applies to all withdrawals, whether for consumption, temporary construction dewatering or permanent drainage improvements.

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Projects assessed to be taking more than 50,000 L/d but less than 400,000 L/d of ground water can obtain a permit / permission online via the Environmental Activity and Sector Registry (EASR) system.

If it is assessed that more than 400,000 L/d is required, then a Category 3 PTTW will be required.

Regulated Area

Development or alterations within the jurisdiction of the NVCA in Regulated Areas will require a permit from the NVCA under Ontario Regulation 172/06, Regulation of Development, Interference with Wetlands and Alterations to Shorelines and Watercourses.

DFO – Fisheries

Any work in water is recommended to be submitted to the DFO under a Request for Project Review.

For projects near water, proponents are required to ensure that activities meet the criteria outlined on the Fish and Fish Habitat Protection Program website (<http://www.dfompo.gc.ca/indexeng.htm>) and are responsible for the implementation of best management practices (i.e., Codes of Practice) into the project design.

If HADD is anticipated because of the project, even following the application of feasible avoidance and mitigation strategies, then a DFO review is recommended, and authorization may be required.

If fish salvage is required to remove fish from the work area, prior to dewatering, a LCF will be required from the MNRF prior to the salvage activities.

Archaeology

When all matters relating to archaeological sites within the project area of a development proposal have been addressed to the satisfaction of the Ministry of Tourism, Culture and Sport (MTCS), a letter will be issued by the ministry stating that there are no further concerns with regard to alterations to archaeological sites by the proposed development.

Utilities

The need to relocate utilities shall be reviewed during Detailed Design. The location of the underground utilities shall be verified through more exact methods (locates and / or test hole) to determine if they conflict with the Detailed Design.

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10.0 Phase 4 – Environmental Study Report

Phase 4 of the MCEA process is the phase in which the ESR is completed for a Schedule 'C' project and submitted for public and agency review.

The ESR is placed on the public record (e.g., publicly accessible municipal reading rooms, municipal websites) and accompanied by a Notice of Completion. The Notice of Completion is published in local newspapers and mailed or emailed to those individuals who have expressed an interest in the project throughout the planning phases.

The Notice of Completion provides members of the public with information on how the ESR can be reviewed, a deadline for their comments, and names and addresses of people to whom comments can be sent.

The intent of this ESR is to:

- Describe the project and its purpose;
- Outline the public consultation process;
- Identify and evaluate alternative solutions;
- Evaluate and identify the environmental effects associated with the alternatives;
- Select a Preferred Alternative based on clear, publicly vetted criteria; and
- Recommend how the selected project is to be implemented, including mitigating measures for identified effects and commitments to monitoring procedures.

Upon submission and approval of the ESR and provided there are no Part II Order requests associated with a MCEA project, the project is considered "approved" under the EA Act. The project can then proceed to finalize Detailed Design and construction provided that all other applicable approvals and permits have been secured.

11.0 Conclusions

During the Detailed Design and Construction of the Project, the following commitments are required:

- Mitigation measures as detailed in Section 6.0; and
- The County shall secure all necessary Permits and / or Authorizations required for the project, including consultation with the NVCA with respect to working within a Regulated Area.

In accordance with the requirements of the MCEA, this ESR is available for public review and comment for a period of 30 calendar days following the publication of the Notice of Completion.

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Interested persons may provide written comments to our project team within the 30-day comment period. All comments and concerns should be sent directly to either of the following Project Team members:

**Trevor Ireton, Project Planning
Engineer**

Grey County
595 9th Avenue East
Owen Sound ON N4K 3E3
519-372-0219 ext. 1246
trevor.ireton@grey.ca

Paul Hausler, Project Manager

R.J. Burnside & Associates Limited
3 Ronell Crescent
Collingwood ON L9Y 4J6
705-797-4289
paul.hausler@rjburnside.com

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

Requests should specify what kind of order is being requested (request for additional conditions or a request for an individual / comprehensive environmental assessment), how an order may prevent, mitigate, or remedy those potential adverse impacts, and any information in support of the statements in the request. This will ensure that the ministry is able to efficiently begin reviewing the request.

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

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

and

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

Requests should also be sent to the Project Team by mail or by e-mail.

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If the Minister does not receive a request for a Part II Order within the 30 calendar days, then the Project will move forward to Detailed Design, approvals process and subsequent implementation of the Preferred Solution.

12.0 References

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