ENVIRONMENTAL STUDY REPORT

TOWN OF COLLINGWOOD

Tenth Line and Mountain Road Improvements

Municipal Class Environmental Assessment Schedule "C"

APRIL 2019

AINLEY FILE # 116110

280 Pretty River Parkway, Collingwood
TEL: (705) 445-3451 • FAX: (705) 445-0968

WWW.AINLEYGROUP.COM

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Municipal Class Environmental Assessment, Schedule 'C'

ENVIRONMENTAL STUDY REPORT

Prepared For:

Mr. Trevor Harvey
Engineering Project Coordinator
Town of Collingwood
P.O. Box 157, 97 Hurontario Street
Collingwood, ON L9Y 3Z5
Tel: 705-445-1292 Ext: 4213
Fax: (705) 445-2448
Email: tharvey@collingwood.ca

Prepared By:

Jody Marks
Environmental Planning Assistant
Ainley Group
550 Welham Road
Barrie, ON L4N 8Z7
Tel: 705-726-3371 ext. 227
Email: marks@ainleygroup.com

Reviewed By:

Tom Nollert
Senior Technologist
Ainley Group
280 Pretty River Parkway
Collingwood, ON L9Y 4J5
Tel: (705) 445-3451 Ext. 156
Email: Nollert@ainleygroup.com

THE PUBLIC RECORD

This project has followed the Schedule 'C' planning and design process in accordance with the Municipal Class Environmental Assessment (Oct. 2000, as amended 2007, 2011 & 2015). This Environmental Study Report (ESR) has been prepared to document the Class EA process and by this Notice is being placed in the public record for review and comment. A digital copy of the ESR is available on the Town's website at www.collingwood.ca. A hard copy of the document is also available for review during regular business hours at the following location:

Collingwood Public Library
55 Ste. Marie Street
Collingwood, ON L9Y 0W6
Hours: Mon. to Thurs. 10:00 a.m. - 9:00 p.m.
Fri. 10:00 a.m. - 8:00 p.m.
Sat. 10:00 a.m. - 5:00 p.m.
Sun. 1:00 p.m. - 4:00 p.m.

In accordance with the Schedule 'C' Municipal Class Environmental Assessment process, this Environmental Study Report (ESR) will be made available for a 30-day public review period starting **April 25, 2019** and ending **May 25, 2019**. If concerns regarding this project cannot be resolved with the municipality, a person or party may request that the Minister of the Environment make an order for the project to comply with Part II of the Environmental Assessment Act (referred to as a Part II order), which addresses individual environmental assessments. Requests for a Part II Order must be submitted in writing to the Minister of Environment at the address listed below by **May 25, 2019**. A duplicate copy of the request must also be forwarded to the Director of the Environmental Assessment and Permissions Branch and Mr. Trevor Harvey of the Town of Collingwood at the addresses shown below:

Minister of Environment
Ministry of the Environment, Conservation and Parks
Ferguson Block, 77 Wellesley St. W,
11th Floor
Toronto ON M7A 2T5
Fax: 416-314-8452
Minister.MECP@ontario.ca

Director, Environmental Assessment and Permissions Branch
Ministry of the Environment, Conservation and Parks
135 St. Clair Ave W, 1st Floor
Toronto ON M4V 1P5
enviropermissions@ontario.ca

Mr. Trevor Harvey
Engineering Project Coordinator
Town of Collingwood
P.O. Box 157, 97 Hurontario Street
Collingwood, ON L9Y 3Z5
Tel: 705-445-1292 Ext: 4213
Fax: (705) 445-2448
Email: tharvey@collingwood.ca

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

APPENDICES

EXECUTIVE SUMMARY

In April 2017 the Town of Collingwood initiated a Schedule 'C' Municipal Class Environmental Assessment (Class EA) to facilitate road and intersection improvements on the Tenth Line, from Sixth Street to Mountain Road (approximately 1.2 km) and on Mountain Road from Cambridge Street to the Tenth Line (approximately 1.3 km). The purpose of this undertaking is to address capacity and operational deficiencies and to accommodate future growth. This project will provide improvements to the existing road cross-section as well as drainage, safety and intersection improvements including rehabilitation or replacement of the existing Black Ash Creek Bridge.

The project study area is located within an urbanized environment and is not located within an area that is subject to the Greenbelt Plan (2017), the Niagara Escarpment Plan (2017) or the Oak Ridges Moraine Conservation Plan (2017). There are no Provincially Significant Wetlands (PSW) or Areas of Natural & Scientific Interest (ANSI) within or adjacent to the subject study area. There is one unevaluated wetland identified on the south side of Mountain Road. A portion of the subject study area is located within an area regulated by the Nottawasaga Valley Conservation Authority. There are two watercourses within the study area; Black Ash Creek and Taylor Creek.

Vegetation within the right-of-way and immediately adjacent was confirmed to be common with no vegetation considered to be unique or rare. Area wildlife was determined to consist primarily of those species accustomed to a more urbanized environment. The terrestrial analysis determined that work proposed will generally not result in a negative impact to potential Species at Risk in the area if proper mitigation measures are applied.

Land use in the project study area is a mix of industrial, commercial and residential. Existing structures adjacent the affected corridors are of more recent construction and are not considered to be of cultural heritage value. A Stage 1 archaeological assessment determined that one previously registered archaeological site is located within one kilometer of the Study Area. The property inspection determined that parts of the Study Area beyond the existing disturbed right of ways exhibit archaeological potential and will require Stage 2 assessment

During Phase 2 of the Class EA process three alternative solutions were presented to the public at Public Information Centre (PIC) No. 1 held June 1, 2017. Following the receipt of input from interested parties, the municipality selected the Preferred Solution and presented six design options to implement it at a second PIC held September 6, 2018.

Comments submitted during the Class EA process focused on active transportation, safety, and impacts to area businesses. Residents also expressed concern with the proposed design proposal of roundabouts instead of the traditional signalized intersection design.

The final Recommended Plan proposes the reconstruction of the corridor of Mountain Road to a five lane urban cross-section including widening of the Mountain Road Bridge and a two lane cross-section of the Tenth Line corridor. The intersection of Mountain Road and Tenth Line will be reconstructed to a roundabout intersection, as well as the intersection of Tenth Line and Sixth Street. Landscaping elements will include plantings within the center areas of roundabouts.

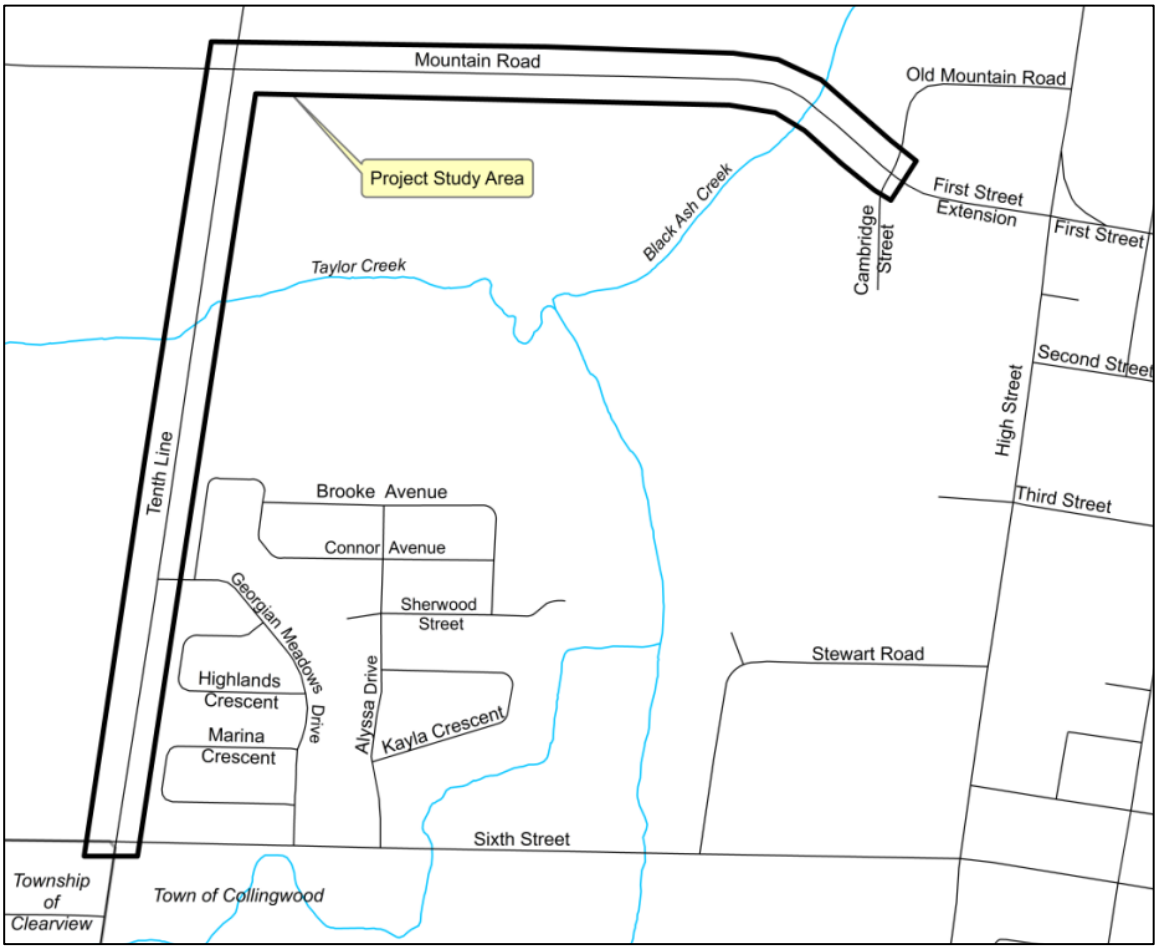
Overall, this project is expected to have a low potential for negative effects given that construction will be mainly contained within the existing right-of-way. For construction outside of the existing right-of-way, complying with appropriate timing windows for vegetation removal and any in-water works will minimize potential impacts to wildlife. Mitigation will also need to address standard construction related impacts such as sediment and erosion control, accidental spillage, disposal requirements for excavated material, noise, traffic management and property access during construction. It is anticipated that impacts will not be significant and any potential for impact can be reduced through the implementation of appropriate mitigation.

1.0 PROJECT OVERVIEW

1.1 Introduction

In April 2017, the Town of Collingwood initiated a Municipal Class Environmental Assessment (Class EA) and detailed design study to facilitate road and intersection improvements on the Tenth Line, from Sixth Street to Mountain Road (approximately 1.2 km) and on Mountain Road from Cambridge Street to the Tenth Line (approximately 1.3 km). This project was initiated to address capacity and operational deficiencies and to accommodate future growth. This project is following the Schedule 'C' planning and design process in accordance with the *Municipal Class Environmental Assessment (Oct. 2000, as amended 2007, 2011 & 2015).*

Figure 1: Project Study Area



1.2 Purpose of this Report

This report will identify the deficiencies affecting the Tenth Line and Mountain Road study area and the rationale for this Class EA. The alternatives considered to address the existing deficiencies are summarized as well as the evaluation of these alternatives and the decision making process leading to selection of the preferred solution. This report describes the existing project environment (physical, natural, socio-economic, and cultural), the potential for environmental impact and the mitigation strategy proposed. Consultation completed during this process is also summarized in this document.

1.3 Environmental Assessment Process

The purpose of the Ontario Environmental Assessment Act (OEAA) is to provide for *"…the betterment of the people of the whole or any part of Ontario by providing for the protection, conservation and wise management in Ontario of the environment."* The term "environment" is broadly defined and includes the built, natural, socio-economic and cultural environments. The Act applies to provincial ministries and agencies, municipalities and public bodies (i.e. Conservation Authorities and Metrolinx).

The Class EA is a planning process that has been approved under the OEAA for a class or group of undertakings. A Class EA follows an approved process designed to protect the environment and ensure compliance with the OEAA. A municipality is required to complete a Municipal Class Environmental Assessment (Class EA) before infrastructure improvements like the one proposed can be undertaken. Projects that are identified in the Class EA can proceed to implementation without further approval under the Act provided that the approved Class EA planning process is followed.

The Municipal Class Environmental Assessment (MCEA) document (Oct. 2000, as amended 2007, 2011 & 2015) as prepared by the Municipal Engineers Association defines the Class EA process to be followed based on the scope of the work proposed. Since the scope of work for this project involves a change in the number of lanes and since capital costs could potentially cost in excess of $17.5 million, this project constitutes a Schedule "C" project in accordance with the MCEA document. The proponent for this project is the Town of Collingwood.

Schedule 'C' projects require completion of Phases 1 to 4, with implementation during Phase 5. The MCEA flow chart, included as Figure 2 in this report, illustrates the Class EA process and steps required for each phase. The process requires the evaluation of potential solutions and design concepts so as to select a suitable approach that will address the problem and / or opportunity, but also keep impacts to a minimum. The end goal is to select a solution that will address the problem, but create the least amount of impact on the area environment.

Consultation is an integral part of an environmental assessment. Opportunity is provided throughout the process for members of the public, key stakeholders, external agencies and Indigenous communities to provide input during the Class EA process. The specific Class EA tasks completed for this project are as follows:

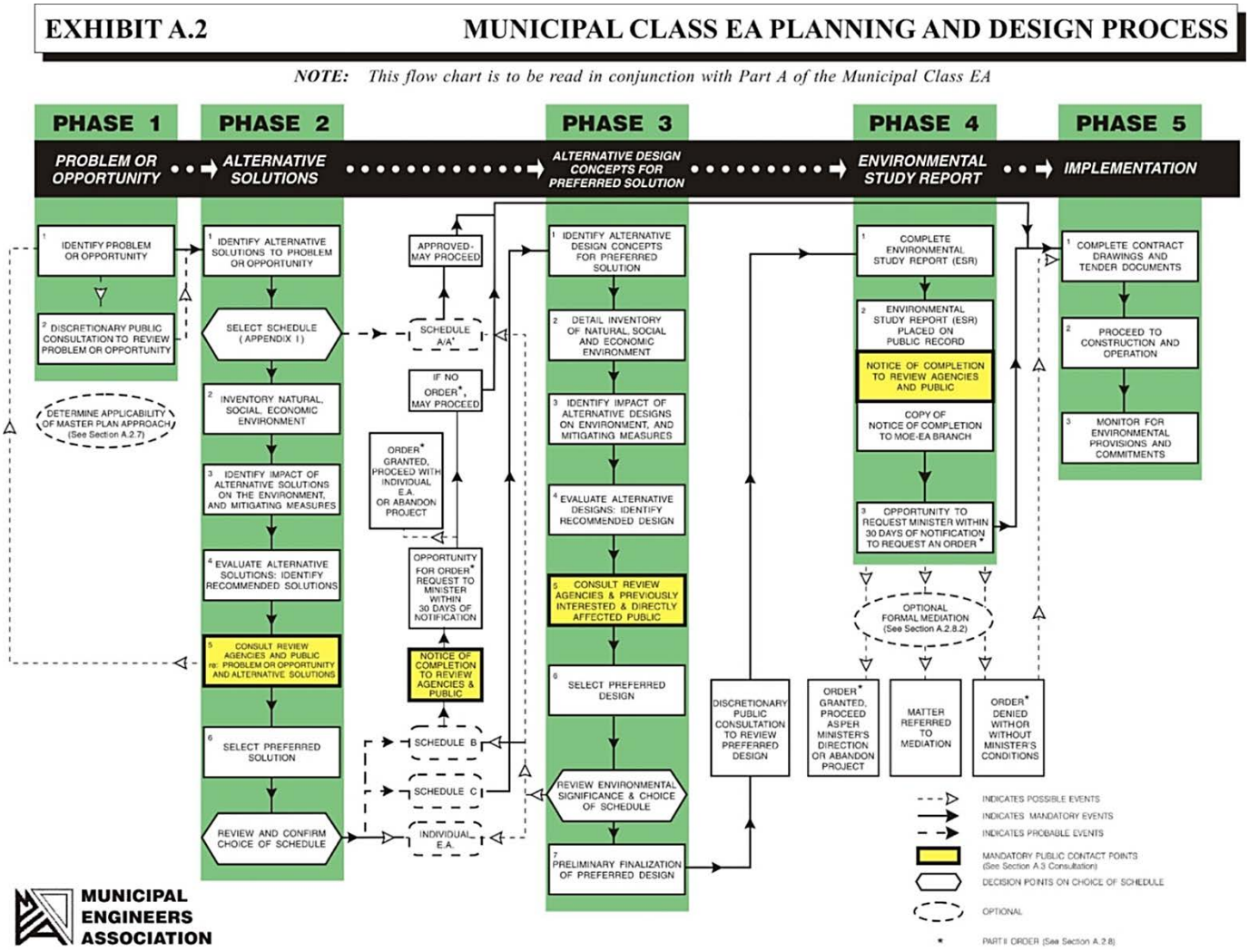
Phases 1 & 2

- Identify the problem/opportunity;
- Inventory the existing environment (physical, natural, social and economic);
- Develop alternative solutions to address the problem(s);
- Evaluate the proposed alternatives;
- Conduct Public Information Centre No. 1;
- Select the Preferred Solution in consideration of comments received.

Phases 3 & 4

- Establish alternative design concepts to implement the Preferred Solution as selected at the close of Phase 2;
- Evaluate the impacts of the proposed alternative designs on the existing environment;
- Conduct Public Information Centre No. 2;
- Select the Preferred Design in consideration of comments received;
- Develop a suitable mitigation strategy to minimize potential environmental effects;
- Recommend to Council a Preferred Design;
- Prepare an Environmental Study Report (ESR) to document the Class EA process;
- File the ESR for a 30 day public review period.

Figure 2: Municipal Class Environmental Assessment Flow Chart



Phase 5 - Implementation

- Complete the detailed design and prepare the contract drawings and tender documents and proceed to construction.
- Monitor for environmental provisions and commitments.

1.4 The Canadian Environmental Assessment Act

The Canadian Environmental Assessment Act was updated in 2012. The work proposed does not constitute a Designated Project under the revised Act and the project is not taking place on Federal lands. As such, a federal environmental assessment is not required under the Canadian Environmental Assessment Act for the current undertaking.

1.5 Project Team

The project team involved in the completion of this Schedule 'C' Class EA includes the following:

Town of Collingwood

- Mr. Trevor Harvey, Engineering Project Coordinator
- Mr. John Velick, Manager Engineering Services

Ainley Group

- Mr. Tom Nollert, Senior Technologist,
- Mr. Patrick Wojcieszynski, Project Engineer
- Ms. Andrea Potter, B.E.S., Environmental Planner
- Ms. Jody Marks, Environmental Planning Assistant

2.0 PLANNING CONTEXT

Prior to undertaking improvements as proposed it is important to review the policy framework that guides land use planning and the development of area infrastructure. This section of the report provides a discussion of the provincial and municipal planning documents that are applicable to this Municipal Class EA and demonstrates how this project is consistent with these policies.

2.1 Provincial Policy Statement (2014)

The Provincial Policy Statement (PPS) is issued under the authority of Section 3 of the Planning Act and came into effect on April 30, 2014. The PPS outlines provincial policies relating to land use planning and development. The policies provide for the efficient use of land, environmental protection and future sustainability. Growth is to be directed away from significant resources and focused within settlement areas. Land is to be managed to achieve an efficient use that accommodates both existing and future needs but also limits environmental impacts. The Planning Act requires that land use planning decisions be consistent with the policy statements issued under the Act.

Some of the key policies applicable to this project are identified below:

- **Building Strong Healthy Communities (S. 1.1g):** "Healthy, loveable and safe communities are sustained by ensuring that necessary infrastructure, electricity generation facilities and transmission and distribution systems, and public service facilities will be available to meet current and project needs…."

- **Settlement Areas (S. 1.1.3.7b):** "Planning authorities shall establish and implement phasing policies to ensure the orderly progression of development within designated growth areas and the timely provision of the infrastructure and public service facilities required to meet current and projected needs."

- **Public Spaces, Recreation, Parks, Trails and Open Space (S. 1.5.1a):** "Healthy, active communities should be promoted by planning public streets, spaces and facilities to be safe, meet the needs of pedestrians, foster social interaction and facilitate active transportation and community connectivity."

- **Wise Use and Management of Resources (Section 2.0):** Policies provide for the wise use and protection of resources (natural heritage, water, agriculture, cultural heritage etc.).

As the current project is following a Municipal Class Environmental Assessment process consideration is being given to the potential for impact from the project on the physical, natural, socio-economic and cultural environment prior to selection of the preferred design. The Class EA process will assist in establishing a feasible servicing strategy for the project study area that is both cost effective and environmentally responsible.

2.2 Growth Plan

Under the Places to Grow Act (2005), regional Growth Plans have been developed to manage long-term growth and infrastructure renewal throughout the province. The *Growth Plan for the Greater Golden Horseshoe (2017)* is the document that provides direction for the Town of Collingwood in this regard. The Growth Plan is a long-term plan that promotes the revitalization of downtown cores and the creation of "complete communities" that have all amenities, housing & employment in one location with the goal of eliminating urban sprawl, reducing traffic

congestion and protecting important features such as farmland and environmentally sensitive areas. Regional and local municipalities are required to comply with the policies of the Growth Plan and are to manage growth through their respective Official Plan documents using the population and employment growth forecasts contained in the Growth Plan. Schedules 3 & 7 of the *Growth Plan for the Greater Golden Horseshoe* identify a population of 33,400 for the Town of Collingwood and an employment projection of 13,500 to the year 2031.

The current Class EA infrastructure project will establish a suitable strategy for the Project Area to accommodate future growth of the overall area and will address capacity and operational deficiencies and. As this is being completed in accordance with the Class EA process it will assist the Town in achieving land use planning objectives for the area in an environmentally responsible manner.

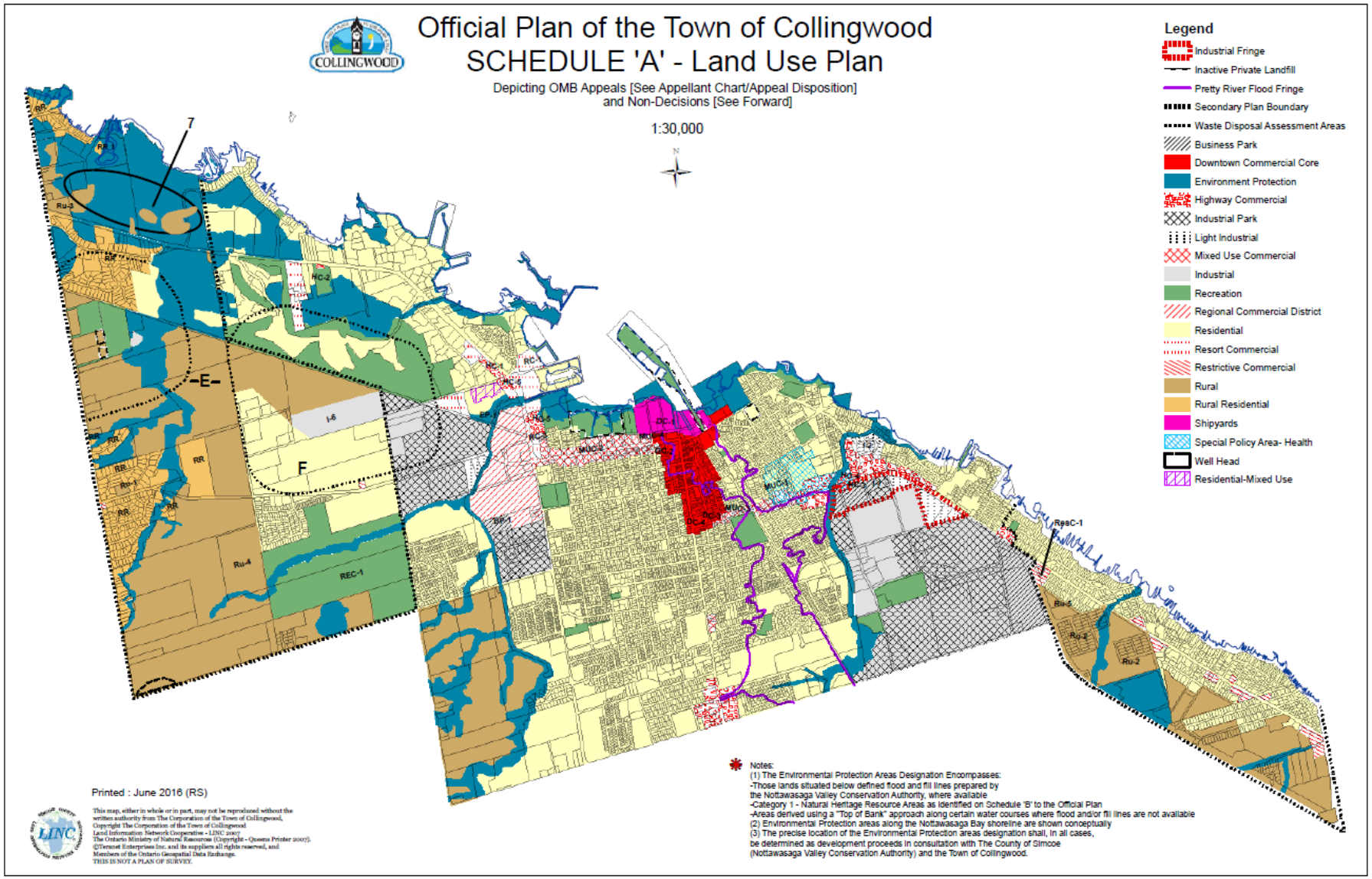
2.3 County of Simcoe Official Plan

At the regional level, provincial policy is implemented through the County of Simcoe's Official Plan document. The County's Official Plan promotes the wise use of the County's resources & natural heritage features as well as the efficient use of land, cost-effective servicing, economic sustainability and public health & safety.

2.4 Town of Collingwood Official Plan (2015)

The Town of Collingwood Official Plan (2015) establishes goals, objectives, land use, transportation, servicing and community improvement policies to direct the physical growth of the Town of Collingwood, within a context of relevant social, economic and environmental constraints, in order to obtain the most desirable living environment for present and future residents, and those citizens from the surrounding area who are utilizing the regional facilities within the Town. As illustrated in Figure 3, the Project Area is surrounded by mixed land use designated as residential, commercial, recreational, and industrial land use areas. The Town's Official Plan includes policies for the protection of natural heritage (Section 4.1), cultural heritage (Section 7.0), and provides direction for transportation infrastructure (Section 5.0). This undertaking and the completion of the Class EA process is consistent with these policies.

Figure 3: Town of Collingwood Land Use Plan



2.5 Town of Collingwood Transportation Study (2012)

In 2012, the Town completed a Transportation Study. The 2012 Transportation Study identified major road and intersection improvement needs for the Town's road network, including widening of the subject section of Mountain Road, and improvements to the intersections of Mountain Road/Tenth Line and Tenth Line/Sixth Street (County Road 32). However, to fulfill the requirements of this EA, more detailed road and intersection improvement needs to the section of Mountain Road and Tenth Line are to be identified. In addition, traffic volume projections need to be updated given the significant changes in development activities in the area.

2.6 Nottawasaga Valley Conservation Authority Guidance Documents

Portions of the project study area are within an area regulated by the Nottawasaga Valley Conservation Authority (NVCA) and as such, a permit will be required from this agency prior to construction. The *NVCA Planning and Design Guidelines* (NVCA, August 2009) is a guidance document that outlines the role of a conservation authority in the management of stormwater under the Conservation Authorities Act and the Planning Act. These guidelines provide direction relating to standards and requirements associated with the NVCA approvals. The *NVCA Stormwater Technical Guide* (NVCA, December 2013) provides technical guidance in the design of stormwater management infrastructure and report preparation. Consideration was given to both of the aforementioned documents in the development of this Class EA and the NVCA was actively consulted during this process. Ontario Regulation 172/06 subsection 2(e) permits the construction of public infrastructure that has been approved through a satisfactory Environmental Assessment process.

2.7 Source Protection Plan

The purpose of the Clean Water Act (2006) is to protect drinking water at the source and to safeguard human health and the environment. It ensures that municipal drinking water supplies are protected through prevention by the development of a watershed-based source protection plan. The project study area is subject to the South Georgian Bay Lake Simcoe Source Protection Plan and is within the Nottawasaga Valley Source Protection Area. Source water protection planning for the Town of Collingwood is coordinated by the NVCA who is a partner in the South Georgian Bay Lake Simcoe Protection Region.

Included within the Source Protection Plan are a series of assessment reports that summarize the technical studies completed to delineate vulnerable areas and potential significant drinking water threats within each municipality. Chapter 11 of the *Nottawasaga Valley Source Protection Area Assessment Report* provides direction for the Town of Collingwood. The source protection plan was reviewed to identify existing vulnerable areas within the study area and to determine the potential for the subject undertaking to impact these areas and to develop the design and mitigation accordingly. This is discussed in more detail in the section 5.1.3 of this report.

2.8 Climate Change

The MOECC has recently finalized a document entitled *Considering Climate Change in the Environmental Assessment Process (2017)* that provides guidance relating to the ministry's expectations for considering climate change during the environmental assessment process. The Guide is now a part of the Environmental Assessment program's Guides and Codes of Practice. The environmental assessment of proposed undertakings is to consider how a project might impact climate change and how climate change may impact a project. Climate Change was considered during the course of this Class EA and is discussed further in Section 11.0 of this document.

3.0 NEED AND JUSTIFICATION

This section of the report identifies the existing deficiencies affecting the project study area and discusses the existing and future traffic capacity requirements.

3.1 Existing Infrastructure Deficiencies

3.1.1 Road Deficiencies

As stated previously, the 2012 Transportation Study identified major road and intersection improvement needs for the Town's road network. Mountain Road was identified as an arterial road, and Tenth Line was categorized as a collector road. Under growth models for 2030 horizon and beyond, it is expected that the current configuration of Mountain Road and Tenth Line will cause considerable traffic delays and are not suitable for future traffic growth rates.

3.1.2 Servicing Deficiencies

The existing sanitary servicing infrastructure within the study limits is aging with some segments approximately 50 years old. In some segments the condition of the infrastructure is poor, with problems such as high infiltration, debris, broken joints and open joints. The proposed reconstruction will replace the aging infrastructure, but it also provides an opportunity to increase the capacity in anticipation of development growth.

3.1.3 Bridge Deficiencies

The Mountain Road Bridge over Black Ash Creek was field reviewed by the Ainley Group on April 3, 2017. The bridge, constructed circa 1978 in an east-west orientation, consists of a superelevated single span, cast-in-place concrete rigid frame structure with a parabolic soffit which provides two lanes of traffic and a sidewalk on the north side. The bridge exhibits a number of deteriorations including spalling, delamination, cracking and staining on the wing walls, fascia and soffit due to unsealed construction joints. Also noted were cracking, staining, abrasion, delamination and exposed reinforcing on the sidewalks and curbs. The concrete end posts of the barriers show medium deterioration. The bridge deck wearing surface has a large amount of cracking. Overall the bridge is in fair to good condition and our observations are generally consistent with those identified in the 2016 OSIM inspection completed by R.J. Burnside and Associates.

In order to both rehabilitate and co-ordinate bridge improvements with the required road widenings, four options were considered as follows:

1. Rehabilitate and Widen on North Side Only. Under this option, the existing bridge structure would be widened only on the north side and rehabilitated to address all currently identified deficiencies (deterioration).
2. Rehabilitate and Widen on South Side Only. Under this option, the existing bridge structure would be widened only on the south side and rehabilitated to address all currently identified deficiencies (deterioration). Because of superelevation on Mountain Road this option lowers the bridge soffit on the upstream side against the flow of Black Ash Creek and reduces freeboard.

3. Rehabilitate and Widen on Both Sides. Under this option, the existing bridge structure would be widened on both sides and would be rehabilitated to address all currently identified deficiencies (deterioration). Although widening on the south side would be less similar concerns with reduced freeboard exist with this option.
4. Replace the Existing Bridge with a new one. This option would involve complete removal and replacement of the existing bridge structure to accommodate the required road widening. This option would provide most design flexibility as it would permit changes to the bridge alignment, elevation, road profile, superelevation, width and span to fully address all road configuration and hydraulic capacity requirements.

A full discussion on the Mountain Road Bridge can be found in Appendix A.

3.2 Problem / Opportunity Statement

Problems

- Road and intersection improvements are necessary to accommodate future growth.
- The existing corridors do not accommodate active transportation (pedestrian and cycling) since there are no existing sidewalks or bicycle lanes.
- Existing servicing infrastructure (sanitary and storm) cannot accommodate development planned for the area.

Opportunities

- Addressing the problems noted above will provide opportunity to complete improvements to drainage, safety and the existing Black Ash Creek Bridge.

4.0 TRAFFIC REQUIREMENTS

A Traffic Analysis was completed as part of this Class EA to assess the transportation needs of the subject lengths of roads under 2017 existing conditions and future traffic projections for the horizon years of 2022 (representing a 5 year horizon), 2030 (10 year horizon to align with the area development timing and phasing) and 2037 (20 year horizon). A copy of the Traffic Analysis is included in its entirety in Appendix A of this report.

4.1 Existing Traffic Volumes

A review of the traffic volumes in the area indicates:

- An annual growth rate of 3.87% per annum from 2010 to 2016 on Sixth Street between High Street and Stewart Road
- An annual growth rate of -1.14% per annum from 2010 to 2014 on First Street Extension between Old Mountain Road and Cambridge Street (probably due to daily variation i.e. only one day data was collected)
- An annual growth rate of 3.79% per annum from 2009 to 2015 on Sixth Street between Tenth Line and County Road 34
- An annual growth rate of 5.41% per annum from 2013 to 2015 on Tenth Line between Poplar Sideroad and Sixth Street

To ensure a conservative approach, an annual growth rate of 3.87% per annum has been applied for Mountain Road and Tenth Line (the average growth rate was calculated as 2.98% per annum). To reflect the existing 2017 traffic volumes, the 2010, 2012, 2014 and 2016 traffic volumes have increased by 30.4%, 20.9%, 12.1% and 3.87% respectively. To obtain lane balance (i.e. traffic volumes downstream should be comparable with the one upstream), some of the volumes have been adjusted. The corresponding 2017 peak hour traffic volumes are shown in Figure 4. While it is recognized that there are a number of private commercial access points along the section of Mountain Road and Tenth Line, most are relatively minor and thus need not be explicitly addressed from an operational perspective.

With respect to pedestrian traffic, crossing volumes were observed during the traffic counts. The highest peak hour pedestrian volumes are in the order of 7 persons crossing Tenth Line at Sixth Street, and at the Blue Mountain Golf & Country Club entrance. Pedestrian traffic is in the order of 0 to 2 persons crossing Tenth Line and Mountain Road at the other intersections.

Figure 4: 2017 Traffic Volumes

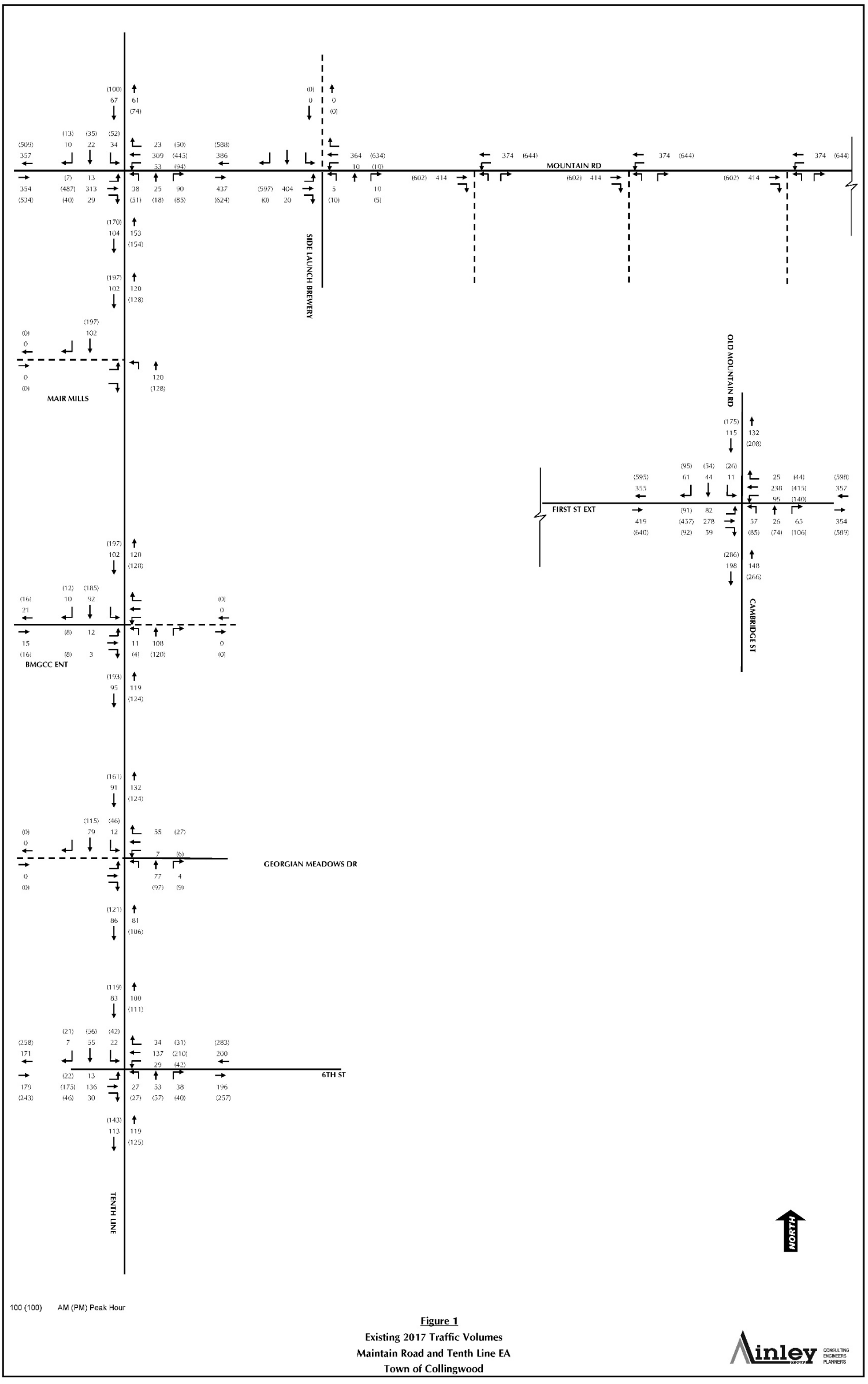


Figure 1
Existing 2017 Traffic Volumes
Maintain Road and Tenth Line EA
Town of Collingwood

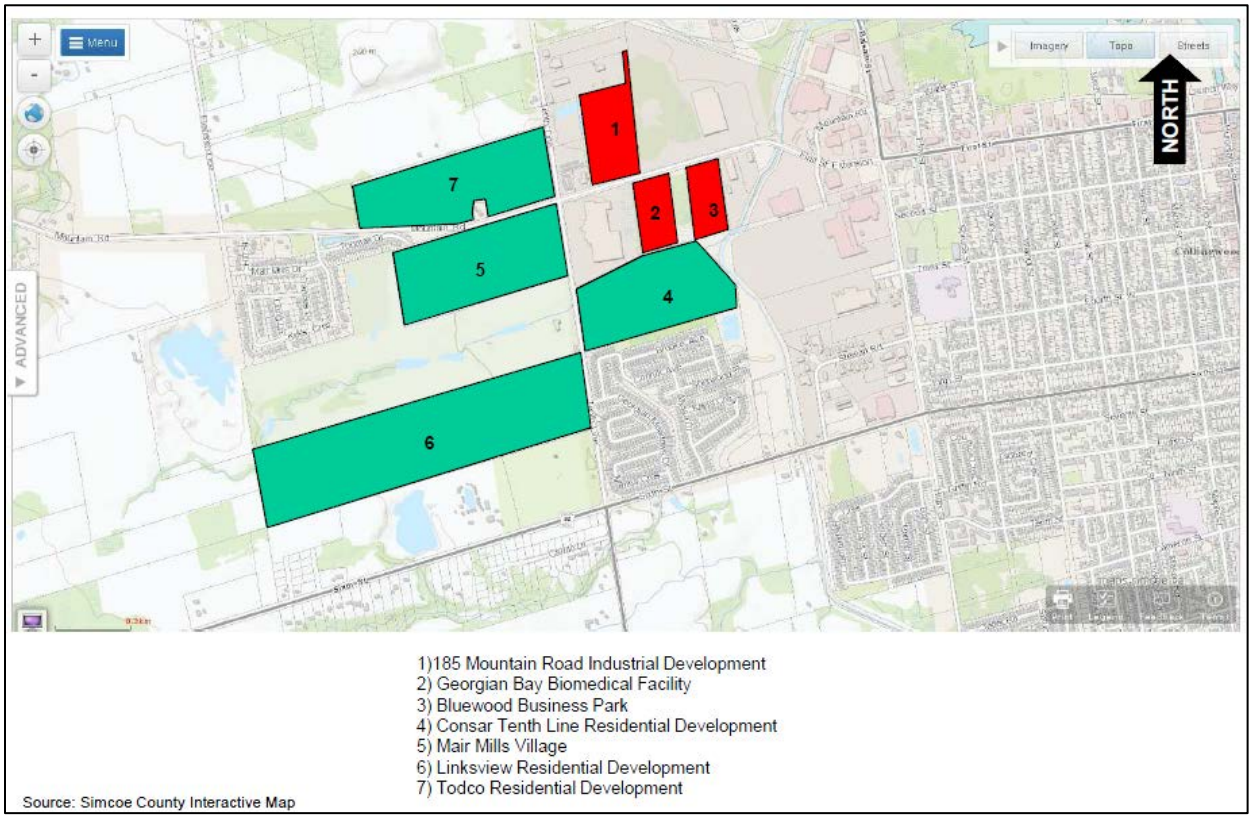
4.2 Future Development Blocks

A number of specific developments within and adjacent to the study area have been considered. These are illustrated in Figure 5 and are listed below:

1) 185 Mountain Road Industrial Development located on the north side of Mountain Road, east of Tenth Line and east of CRS Contractors Rental Supply – 4.2 hectare light industrial/warehouse;
2) Georgian Bay Biomedical Facility at the south side of Mountain Road (180 Mountain Road), east of Tenth Line and east of Side Launch Brewing Company Inc. – 8700 m^2 11 rooms medicinal marijuana grow up facility;
3) Bluewood Business Park on the south side of Mountain Road, east of Tenth Line and east of Georgian Bay Biomedical Facility – 9097 m^2 5 buildings;
4) Consar Tenth Line Residential Development on the east side of Tenth Line, south of Mountain Road – 164 single family detached units, 73 clustered Townhouse units;
5) Mair Mills Village at the southwest quadrant of Mountain Road with Tenth Line – a total of 302 units (99 single family detached units, 36 semi-detached units, 37 townhouse units and 130 mid-rise apartment units);
6) Linksview Residential Development on the west side of Tenth Line, south of Mountain Road, south of Blue Mountain Golf & Country Blub – 1000 units (300 single family detached units, 200 townhouse units and 376 mid-rise apartment units, 124 basement apartment units); and
7) Todco Residential development at the northwest quadrant of Mountain Road with Tenth Line – 700 units (assuming 30% single family detached units, 20% townhouse units and 37.6% mid-rise apartment units, 12.4% basement apartment units).

Development phases are provided in detail in Table 1.

Figure 5: Development Locations



1)185 Mountain Road Industrial Development
2) Georgian Bay Biomedical Facility
3) Bluewood Business Park
4) Consar Tenth Line Residential Development
5) Mair Mills Village
6) Linksview Residential Development
7) Todco Residential Development

Source: Simcoe County Interactive Map

Table 1: Development Phasing

No.	Development	Build Out Timing/Phasing		
		2022	2030	2037
1	185 Mountain Road Industrial Development	100%		
2	Georgian Bay Biomedical Facility	100%		
3	Bluewood Business Park	100%		
4	Consar Tenth Line Residential Development	43%	100%	
5	Mair Mills Village	38%	100%	
6	Linksview Residential Development	20%	73%	100%
7	Todco Residential Development	30%	100%	

4.3 Future Traffic Volumes

Trips generated by the developments #1 – 6 have been derived from their respective traffic impact study reports. Trips generated by the Todco Residential Development have been estimated based on the combined trip rates and trip distribution for the Linksview Residential Development. For the Todco Development, the following has been assumed

- the site has one access on Tenth Line and one access on Mountain Road;
- 30% traffic to/from the east and south would use the access on Tenth Line;
- 70% traffic to/from the east and south would use the access on Mountain Road; and
- traffic to/from the west would use the access on Mountain Road.

During the analysis and forecasting of future traffic volumes the Grey County Transportation Master Plan (GCTMP) was reviewed to compare traffic volume predictions for Mountain Road. The GCTMP considered future developments in the Town of the Blue Mountains and predicted a traffic volume for Mountain Road in the 2036 planning year. The two-way peak hour volume approaching County Road 21 in the GCTMP is 1471 vph (vehicles per hour). The two-way peak hour volume predicted for the Mountain Road analysis for the year 2037 is 2013vph. The higher volumes reflect the added development within the study area as well as a conservative background growth in background traffic. Traffic volumes should be monitored to confirm needs as developments proceed and therefore consider phasing options as discussed in section 6.4.1 of this report.

Figure 6 illustrates traffic volumes predicted for 2037 for the area of Mountain Road and Tenth Line.

Figure 6: 2037 Traffic Volumes

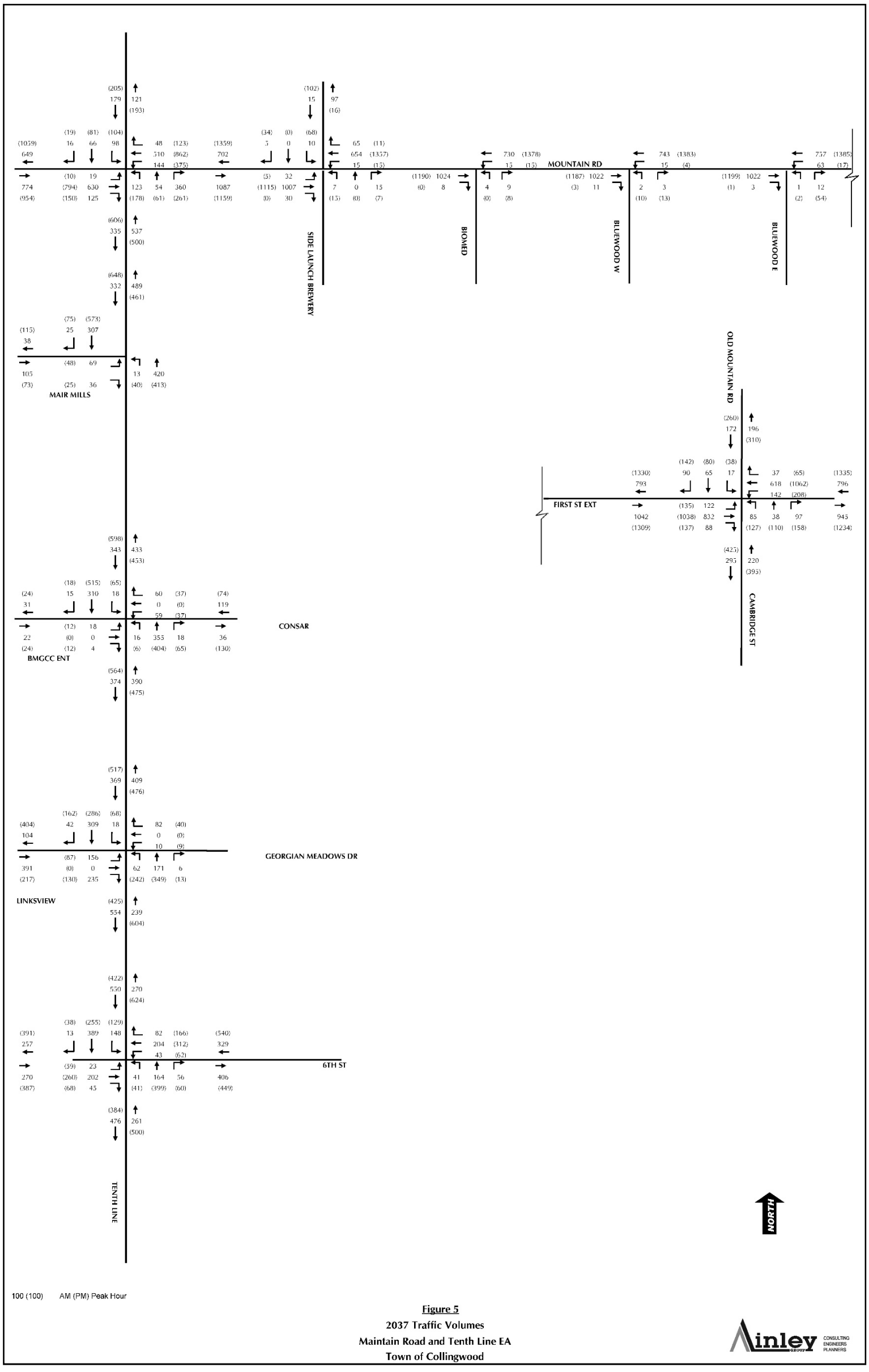


Figure 5
2037 Traffic Volumes
Maintain Road and Tenth Line EA
Town of Collingwood

4.4 Intersection Operations Analysis (Existing, 2027 & 2037)

4.4.1 Existing Intersection Operations 2017

Based on the existing intersection lane configurations and control, analyses of the area intersections were conducted for the existing peak hour traffic volumes. The methodology applied was consistent with the 2010 *Highway Capacity Manual* method for unsignalized and signalized intersections as employed in the software program Synchro 8. Table 2 summarizes the results of the analysis with level of service (LOS), estimated delays (measured in seconds) and volume to capacity (v/c) ratio provided. Level of service A, corresponding to minimal delays, is the best whereas level of service F, corresponding to high delays, is generally considered poor conditions. When volume is less than capacity, v/c ratio is less than 1. Otherwise, v/c ratio equals to 1 or more than 1, which means volume reaches capacity or is more than capacity.

As per the analyses, acceptable levels of service (C or better) occur at all intersections under existing conditions and thus no improvements related to intersection operations are required at this time on the basis of the intersection operational analysis.

Table 2: 2017 Intersection Operations (Existing)

Intersection		Control	AM Peak Hour		PM Peak Hour	
			Delays(s)	LOS	Delays(s)	LOS
Mountain Rd & Tenth Line	all	signal	13.1	B	17.4	B
First St. Ext. & Cambridge St.	all	signal	12.4	B	15.2	B
Tenth Line & Sixth St	all	all-way stop	9.2	A	10.9	B
Tenth Line & Georgian Meadows Dr.	WB	stop	9.1	A	9.3	A
Mountain Rd & SLB Entrance	NB	stop	13.0	B	24.0	C
Tenth Line & BMGCC Entrance	EB	stop	10.0	B	10.2	B

4.4.2 Future 2022, 2030 & 2037 Operations with Existing Road System

The operations of the key study area intersections were investigated based upon the existing configurations, and the proposed development entrances; and the 2022, 2030 and 2037 traffic projections previously presented. A single lane approach and stop control are assumed on all development entrances. The intent was to determine if improvements are required beyond the existing intersection configurations and to gauge the appropriate timing. Levels of service deteriorate at all area intersections as traffic volumes increase. Acceptable levels of service (E or better) will be provided at most of the intersections in the 2022 horizon with an exception of the intersection of Mountain Road at Side Launch Brewery/Industrial Entrance, where, a poor level of service (F) will be provided during the PM peak hour. Thus, improvements to the intersection should be considered.

For the 2030 horizon, a poor level of service (F) will also occur at the intersections of Mountain Road with Tenth Line, Tenth Line with Sixth Street, Mountain Road with Bluewood W Access during the PM peak hour. This is indicative of the need for future intersection improvements.

Tables 3 to 5 represent the existing intersection operations analysis with future traffic volumes.

Table 3: 2022 Intersection Operations (Background and Development on Existing Road Configuration)

Intersection		Control	AM Peak Hour		PM Peak Hour	
			Delays(s)	LOS	Delays(s)	LOS
Mountain Rd & Tenth Line	all	signal	15.9	B	35.2	D
First St. Ext. & Cambridge St.	all	signal	16.7	B	17.7	B
Tenth Line & Sixth St	all	all-way stop	11.0	B	15.9	C
Tenth Line & Georgian Meadows Dr./Linksview	EB	stop	10.9	B	12.3	B
	WB		9.6	A	10.8	B
Mountain Rd & SLB Entrance/185	NB	stop	20.2	C	56.5	**F**

Intersection		Control	AM Peak Hour		PM Peak Hour	
			Delays(s)	LOS	Delays(s)	LOS
Mountain Road Industrial	SB		26.7	D	216.1	**F**
Tenth Line & BMGCC Entrance/Consar	EB	stop	11.8	B	12.4	B
	WB		10.9	B	12.1	B
Mountain Rd & Biomed Entrance	NB	stop	16.7	C	15.2	C
Mountain Rd & Bluewood W Access	NB	stop	17.6	C	31.6	D
Mountain Rd & Bluewood E Access	NB	stop	14.3	B	18.8	C
Tenth Line & Mair Mills Entrance	EB	stop	10.7	B	12.2	B

Table 4: 2030 Intersection Operations (Background and Development on Existing Road Configuration)

Intersection		Control	AM Peak Hour		PM Peak Hour	
			Delays(s)	LOS	Delays(s)	LOS
Mountain Rd & Tenth Line	all	signal	30.7	C	345.7	F
First St. Ext. & Cambridge St.	all	signal	14.6	B	25.8	C
Tenth Line & Sixth St	all	all-way stop	27.1	D	74.8	F
Tenth Line & Georgian Meadows Dr./Linksview	EB	stop	23.5	C	49.0	E
	WB		11.0	B	17.3	C
Mountain Rd & SLB Entrance/185 Mountain Road Industrial	NB	stop	31.4	D	298.7	F
	SB		53.3	F	1266.8	F
Tenth Line & BMGCC Entrance/Consar	EB	stop	16.7	C	19.5	C
	WB		15.5	C	21.3	C

Intersection		Control	AM Peak Hour		PM Peak Hour	
			Delays(s)	LOS	Delays(s)	LOS
Mountain Rd & Biomed Entrance	NB	stop	25.4	D	19.7	C
Mountain Rd & Bluewood W Access	NB	stop	27.1	D	84.7	F
Mountain Rd & Bluewood E Access	NB	stop	20.1	C	30.4	D
Tenth Line & Mair Mills Entrance	EB	stop	15.0	C	20.9	C

Table 5: 2037 Intersection Operations (Background and Development on Existing Road Configuration)

Intersection		Control	AM Peak Hour		PM Peak Hour	
			Delays(s)	LOS	Delays(s)	LOS
Mountain Rd & Tenth Line	all	signal	70.8	E	569.2	F
First St. Ext. & Cambridge St.	all	signal	36.0	D	35.1	D
Tenth Line & Sixth St	all	all-way stop	41.8	E	78.1	F
Tenth Line & Georgian Meadows Dr./Linksview	EB	stop	60.1	F	269.8	F
	WB		12.0	B	24.8	C
Mountain Rd & SLB Entrance/185 Mountain Road Industrial	NB	stop	47.7	E	870.9	F
	SB		80.3	F	2496.7	F
Tenth Line & BMGCC Entrance/Consar	EB	stop	19.1	C	23.7	C
	WB		17.7	C	26.4	D
Mountain Rd & Biomed Entrance	NB	stop	31.6	D	22.9	C
Mountain Rd & Bluewood W Access	NB	stop	34.1	D	154.8	F
Mountain Rd & Bluewood E Access	NB	stop	24.0	C	43.3	E

Intersection		Control	AM Peak Hour		PM Peak Hour	
			Delays(s)	LOS	Delays(s)	LOS
Tenth Line & Mair Mills Entrance	EB	stop	16.6	C	25.4	D

4.5 Traffic Analysis Conclusions

While the capacity of a road system is effectively dictated by the capacity of its intersections, mid-block capacity has also been considered in the analysis for the need for additional through lanes in the sections of Mountain Road and Tenth Line. The mid-block capacity analysis suggests there may be a need for additional lanes in each direction for the section of Mountain Road between Tenth Line and First Street Extension in the 2030 horizon.

Based on the Traffic projections described above, the following summarizes the suggested roadway improvements required and their anticipated timing.

- 2022 Horizon
  - Mountain Road
    - One through lane in each direction and a centre left turn lane (3 Lane Option) on Mountain Road from east of Tenth Line to First Street Extension and associated servicing infrastructure.
  - Tenth Line
    - Urbanize Tenth Line to a local collector with curbs, sidewalks, bike lanes and associated servicing infrastructure
- 2030 Horizon
  - Intersection of Mountain Road and Tenth Line
    - Exclusive left turn lanes on each approach and signal upgrades
    - Alternative option to a signalized intersection is a two lane roundabout.
  - Intersection of Tenth Line and Sixth Street
    - Signalized the intersection with exclusive left turn lanes on each approach
    - Alternative option to a signalized intersection is a one lane roundabout

- Intersection of Tenth Line and Blue Mountain Golf & Country Club entrance/Consar
  - A southbound left turn lane
- Intersection of Tenth Line and Georgian Meadows Drive/Linksview
  - Southbound and northbound left turn lanes
- Mountain Road Through Lanes
  - Two through lanes in each direction and a centre left turn lane (5 Lane Option) on Mountain Road from east of Tenth Line to First Street Extension and associated servicing infrastructure.
  - Mountain Road Bridge widening

- 2037 Horizon
  - Intersection of Tenth Line and Georgian Meadows Drive/Linksview
    - A traffic signal along with left turn lanes on each approach
    - Alternative option to a signalized intersection is a one lane roundabout
  - Intersection of Tenth Line and Mair Mills
    - Northbound left turn lane

5.0 EXISTING CONDITIONS

This section of the report provides details relating to the existing natural, socio-economic, and cultural environment associated with the project study area. For the purposes of this report, the natural environment includes fish/fish habitat, vegetation, wildlife/wildlife habitat, Species at Risk (SAR), surface drainage, groundwater and air quality. The Socio-Economic environment refers to land use, noise, traffic management, servicing/utilities and contamination/waste management. The Cultural environment includes archaeological and built heritage resources. This inventory was established through the completion of field investigations, a review of existing engineering drawings and background reports. Several site specific studies were also completed as part of this Class EA and are summarized in the following sections.

5.1 Physical Environment

5.1.1 Water and Sanitary Servicing Infrastructure

Mountain Road is serviced with an existing sanitary sewer system ranging in size from 375mmØ to 525mmØ between Tenth Line and Balsam Street (Hwy 26). From Tenth Line westerly, a 450mmØ sanitary sewer comes from the Mair Mills Estates approximately 620m to the west. Along the south side of Tenth Line there is a 100mmØ forcemain serving the Blue Mountain Golf and Country Club which discharges into the sanitary sewer at the intersection of Mountain Road and Tenth Line.

The existing sanitary sewer from Tenth Line to Balsam Street (Hwy 26) was video inspected in 2003/4. Pipe material is Polyvinyl Chloride (PVC) and Asbestos Cement (AC). Conditions of the sewer indicated problems such as high infiltration, debris, broken and open joints. From the as constructed records it appears that the sewer system was constructed during 2-time frames. An inspection of the existing manholes on Mountain Road was also completed in 2003. The manholes are all 1200 mm diameter pre-cast structures that were generally in good condition at the time of the inspection although several had some infiltration. The first section from Balsam (Hwy 26) up to 100 Mountain Road consisting of AC pipe was constructed in 1966 and the second section up to Tenth Line consisting of PVC pipe was constructed in 1987. West of the Tenth Line this section is relatively new and was not part of the video inspection, it was constructed in 2005/6.

Currently within the study area there is on Mountain Road an existing 300mmØ watermain from Tenth Line to and crossing the Black Ash Creek. Just west of the Tenth Line there is there is indication of a future 400mmØ watermain from the west originating from the Mair Mills subdivision. Along the north side of Tenth Line there is a 100mmØ watermain serving the Blue Mountain Golf and Country Club which is connected to the 300mmØ watermain at the intersection of Mountain Road and Tenth Line. Along Tenth Line there are plans to construct a 400mmØ watermain from Sixth Street to approximately 240m south of Mountain Road. This watermain will connect to an existing 400mmØ watermain on Sixth Street at Georgian Meadows Drive.

The most relevant assessment of the Mountain Road sanitary sewer capacity appears to be the December 2014 Crozier report "*Regional Sanitary Servicing Report, Linksview Residential Development, Town of Collingwood, Landex Capital Corporation*". This report relies on the findings of several prior reports including a 1994 Tatham report "Harbourview Sanitary Trunk Sewer Design Brief" but is updated to include flows from newer developments. Using the year 2045 design flows from the December 2014 Crozier report, the required capacity of the Mountain Road sanitary sewer is 428.1 L/s (from Tenth Line to "Black Ash Creek Input") and 500.7 L/s (from "BAC Sewer Input" to Balsam Street). The "BAC Sewer Input" location appears to correspond roughly to where the existing sanitary sewer transitions from 375 mm to 525 mm. According to the Crozier report, the existing capacities of the above sections of sanitary sewer are 134.7 L/s and 141.2 L/s, respectively. The report proposes to make up the capacity deficit by twinning the existing sewer.

5.1.2 Existing Road Cross-Section

Mountain Road and Tenth Line currently are rural cross sections with 1 lane in each direction. Lane width varies, up to approximately 3.5m. Shoulders on Mountain Road vary from 1.5 to 2.0m and on Tenth Line vary from less than 1.0m to 1.5m. Both roads are paved and Mountain Road exhibiting the greatest signs of distress with pavement cracks visible throughout the entire section.

5.1.3 Utilities

Existing utility records and review of the development Functional Servicing Reports (FSR) within the study area indicate that there may be still some upgrades required. Available capacities have been indicated on an individual basis with a proviso that availability is based on a first come first serve basis. Each utility company will be contacted during detail design with the development information and request confirmation of any upgrades required.

- Hydro Utility

  On Mountain Road, there is a relatively new major 3 phase hydro pole line along the north side. The pole line crosses the Black Ash Creek from the Blue Mountain Mall parking lot and runs to west of Tenth Line. There is a primary overhead line crossing

Mountain Road west of 100 Mountain Road. There are also some underground secondary services crossing the road and running along the edge of the road.

Along Tenth Line there is a 3-phase hydro pole line along the east side of the road, it swings over to the west side at the Blue Mountain Golf and Country Club and continues to Sixth Street. On Sixth Street, it continues east along the north side. From the intersection of Sixth Street and Tenth Line there is a single phase primary line that crosses the intersection at a skew form the west side to the east side of Tenth Line S. There is an underground 3-phase primary crossing the Tenth Line to the south side of Georgian Meadows Drive. Blue Mountain Golf and Country Club is serviced by an overhead 3-phase primary crossing Tenth Line.

It is proposed that the alignment of Mountain Road be set such that very few of the poles would require relocation, about 4 or 5 along the road. At the intersection, it is anticipated that pole relocations would be required. We understand that if all of the planned development were to proceed that there may not be sufficient capacity to service it all and a sub-station may be required in the area.

- Gas Utility

  Along Mountain Road there is a 100mmØ along the north side of the road. Based on record drawings it appears that the gas main is just in the existing north shoulder and will therefore be under traveled lanes in the future. There is some discussion that the gas main on Mountain Road could potentially require upgrading depending on final load confirmation for 190 Mountain Road Industrial Facility. Further details on future gas main upgrading will be determined during detail design.

- Bell Utility

  Along Mountain Road there are Bell conduits and cables in various locations. Some are located 1m off the north property line, some 2.4m off the south property line and some that appears to be along the edge of the pavement. There is Bell plant going through the Mountain Road Bridge on the south side. Along Tenth Line there is Bell plant along the west side at various offsets from 1m to 2.75m and a 5m jog in around the Taylors Creek Culvert. Along Sixth Street Bell plant is along the north property line between 1-3m.

5.1.4 Stormwater Infrastructure

Mountain Road and Tenth Line have rural cross sections and there is no storm sewer system within the study area. The main components of the area drainage system are Taylor's Creek channel, an 800mm dia. storm sewer south of Agnora property (200 MR), and roadside ditches. Taylor's Creek is a tributary of Black Ash Creek. Its drainage area at 10th Line crossing is 183 ha. Hydraulic analysis (by others) shows that the creek's channel capacity downstream of 10th Line is limited to 10-year flood events and bigger floods will overtop the banks. To confine the creek and minimize the spill to adjacent properties including Mountain Road south ditch a channelization project was recently completed. The completed channel will increase the creek's conveyance capacity such that it can accept pre-and post-development flows from all of the upstream lands without flooding the adjacent properties.

The 800mm storm sewer currently accepts drainage from the Agnora property as well as drainage from Mountain Road and some of the Mair Mills Village (MMV) property (3.8 ha). The development of the MMV property will direct existing flows away from the 800mm storm sewer system and into the Taylor's Creek.

5.1.1 Contamination / Waste Management

There is the potential for excess materials (i.e. old pavement, concrete, asphalt and earth) to be generated during construction. A Designated Substance Survey was not required for this project and the existing culverts are not expected to contain Designated Substances (i.e. asbestos, lead, arsenic etc.) A geotechnical investigation will be carried out during the detail design.

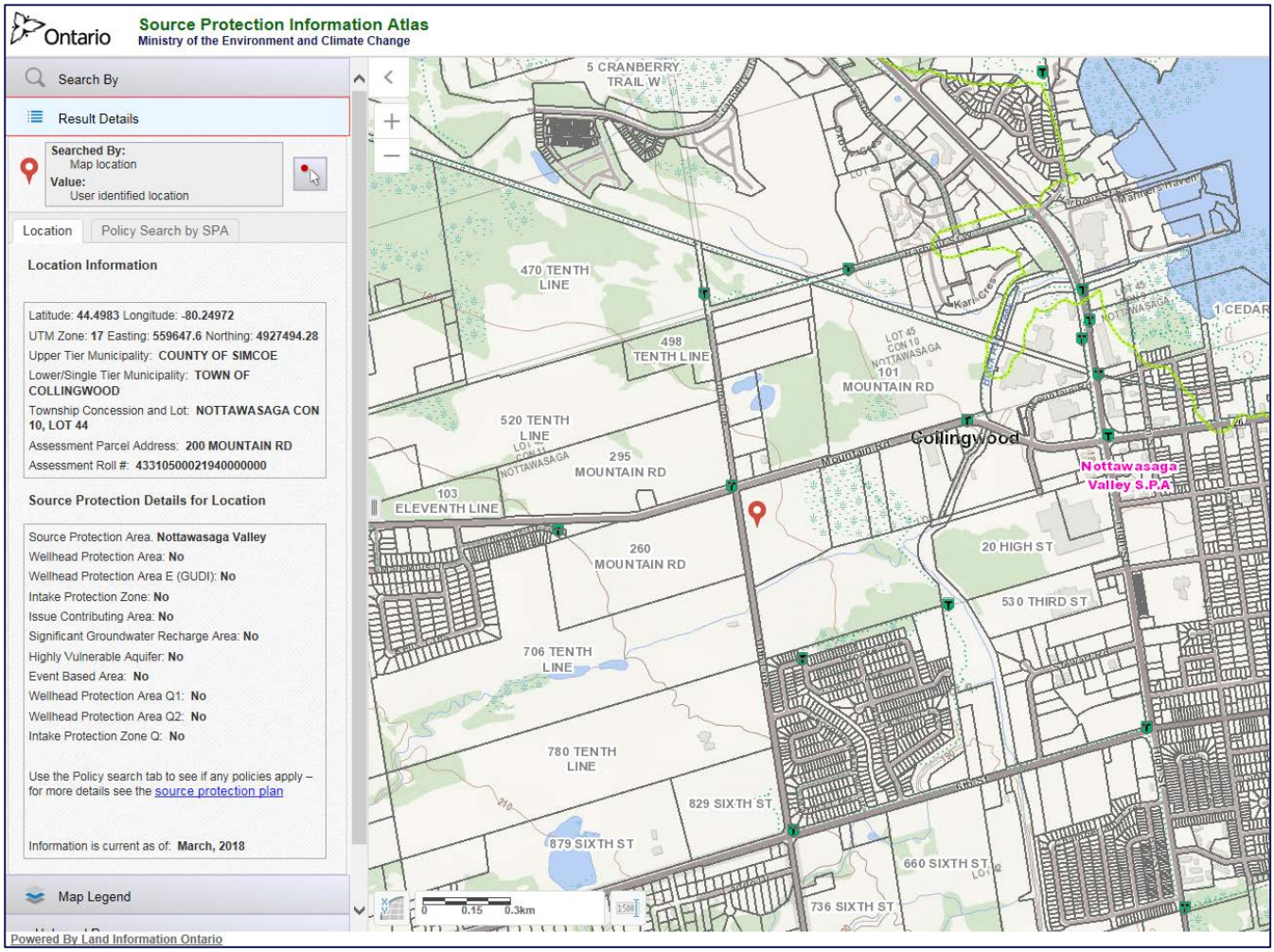
5.1.2 Surface Water / Drainage

Roadside ditches collect the runoff from road and external drainage area and outlet to Taylor's Creek and Black Ash Creek. A roadside ditch west of 10th Line collects the runoff from a large external drainage area and discharges it to Taylor's Creek. The road side ditch east of 10th Line only collects the runoff from the road and its ROW and has no specific outlet for the large portion of the ditch.

5.1.3 Groundwater

The project study area is located in the South Georgian Bay Lake Simcoe Region Source Protection Region and within the Nottawasaga Valley Source Protection Area. As per the Nottawasaga Valley Source Protection Area Approved Assessment Report the Town of Collingwood has one drinking water system that services approximately 16,000 people as well as providing pumped water to the Town of New Tecumseth. This document identifies areas that are vulnerable to contamination. These include Wellhead Protection Areas (WHPA) for wells and Intake Protection Zones (IPZ) for surface water intakes. A WHPA is the area around the wellhead where land use activities have the greatest potential to affect the quality of the water flowing into the well. An IPZ is the area of water and land where activities have the potential to affect the quality of water being taken up by the surface water intake. The system in Collingwood is a surface water intake meaning that water is taken from Nottawasaga Bay (southern end of Georgian Bay) as opposed to a groundwater well. The MECP's Source Protection Atlas was consulted to determine if the project is located within a vulnerable area. As illustrated in Figure 7, the project is not located within a Wellhead Protection Area or Intake Protection Zone.

Figure 7: Source Protection Information



(Source: MECP Source Protection Information Atlas, 2018)

5.2 Existing Natural Environment

To assist in the development of the environmental inventory, Azimuth Environmental Consulting Inc. (Azimuth), on behalf of Ainley Group, completed an inventory of the natural heritage features present within the area of study. The Nottawasaga Valley Conservation Authority was consulted to confirm the scope of study necessary prior to initiation. The area of study included the existing road allowance and an area of approximately 30 m either side of the road corridor with additional areas of up to 120m (as per the MNRF) where sight lines permitted. A request was submitted to the MNRF to obtain background information pertaining to fish and fish habitat,Species at Risk occurrences in the study area, and the existence of any PSWs or ANSI areas in proximity to the project.

A field survey was completed in July 2017 to confirm vegetation communities and plant species in proximity to the project. These were classified using the Ecological Land Classification (ELC) protocol for Southern Ontario. The assessment included two dawn breeding bird surveys on June 13 and June 26, 2017. A spring aquatic habitat survey was completed May 9, 2017 to confirm aquatic features and fish habitat present in Black Ash Creek and Taylor Creek and any other watercourse features in proximity to the project. The area was reviewed for the presence of wildlife (i.e. birds, mammals, reptiles, and amphibians) and their habitat through an examination of tracks, scat, and vocalizations. The bridge structure and area culverts were reviewed for the presence/absence of existing bird nests and the potential to provide nesting habitat. A Species at Risk (SAR) screening was also completed for both terrestrial and aquatic species. The project study area was assessed for the presence of SAR and SAR habitat based upon background information received and field observations. During the field surveys habitat types were compared with the habitat of Species at Risk reported by NHIC to be present within the area. The assessment was documented in the *Tenth Line and Mountain Road Natural Sciences Existing Conditions and Impact Assessment Report* (Azimuth Environmental, September 2017) included in Appendix B of this report. The sub-sections that follow provide an inventory of the existing natural environment associated with the project study area.

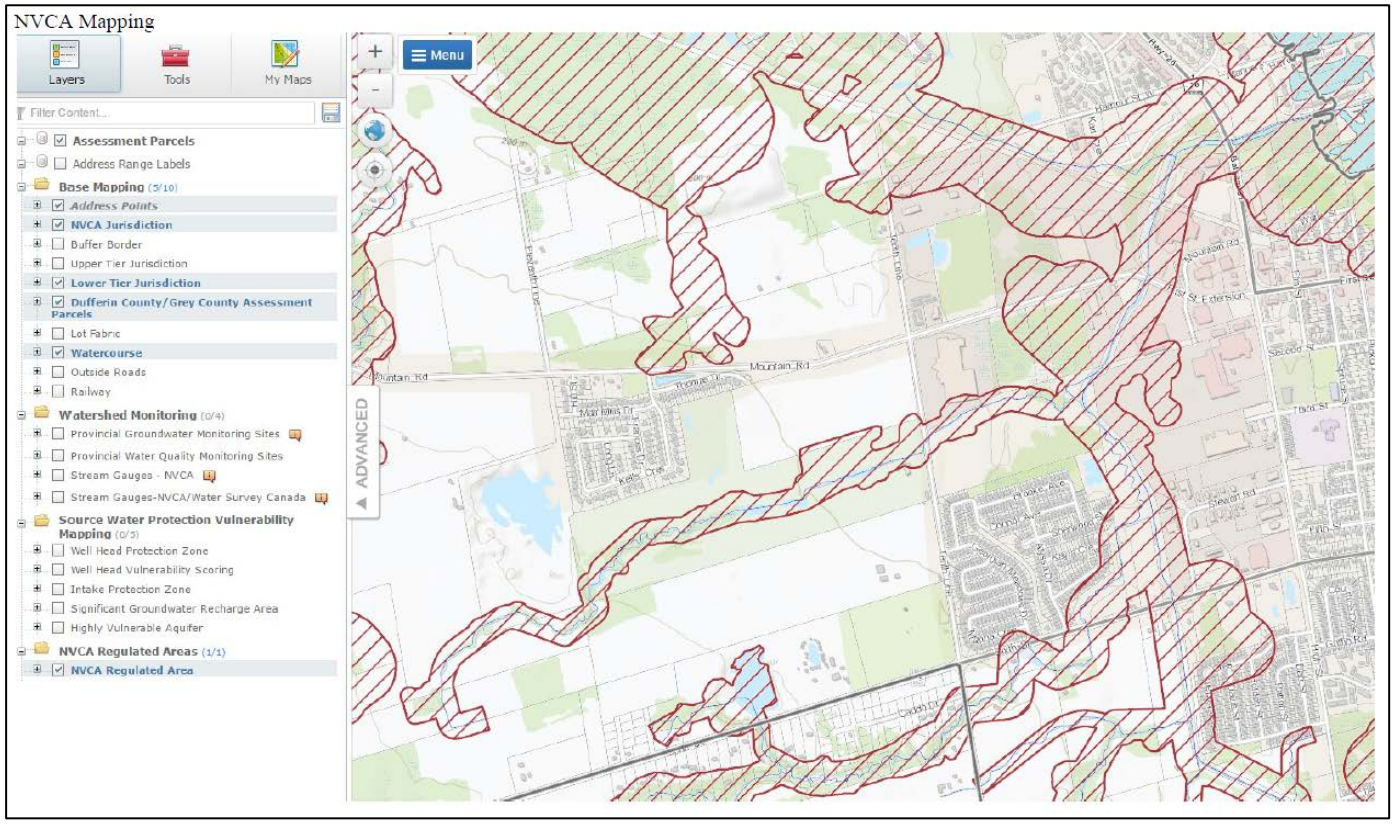
5.2.1 Soils and Topography

Soils will be identified with the geotechnical investigation during detail design.

5.2.2 Designated Areas

The site is not within an area that is subject to the Greenbelt Plan (2017), the Niagara Escarpment Plan (2017) or the Oak Ridges Moraine Conservation Plan (2017). There are no Areas of Natural & Scientific Interest (ANSI) within or adjacent to the subject study area**.** While there were small pockets of isolated wetland areas (i.e. MAM2-2, MAMM3-1, SWT2-2, and SWT2-8/SWT2-5) associated with local drainage, there were no Provincially Significant or Locally Significant wetlands located within the study area or within 120 m. There is one unevaluated wetland identified on the south side of Mountain Road. A portion of the subject study area is located within an area regulated by the Nottawasaga Valley Conservation Authority (NVCA) as shown in Figure 8.

Figure 8: NVCA Regulated Areas



(Source: *Existing Conditions and Impact Assessment Report, Azimuth 2017)*

5.2.3 Fish and Fish Habitat

There are two watercourses within the project study area. These include the Black Ash Creek and Taylor Creek as illustrated in Figure 9. Black Ash Creek crosses Mountain Road approximately 900 m east of the Tenth Line and outlets to Georgian Bay approximately 1 km to the north. A spring aquatic survey was completed at this location on May 9, 2017 to document fish and fish habitat in the study area.

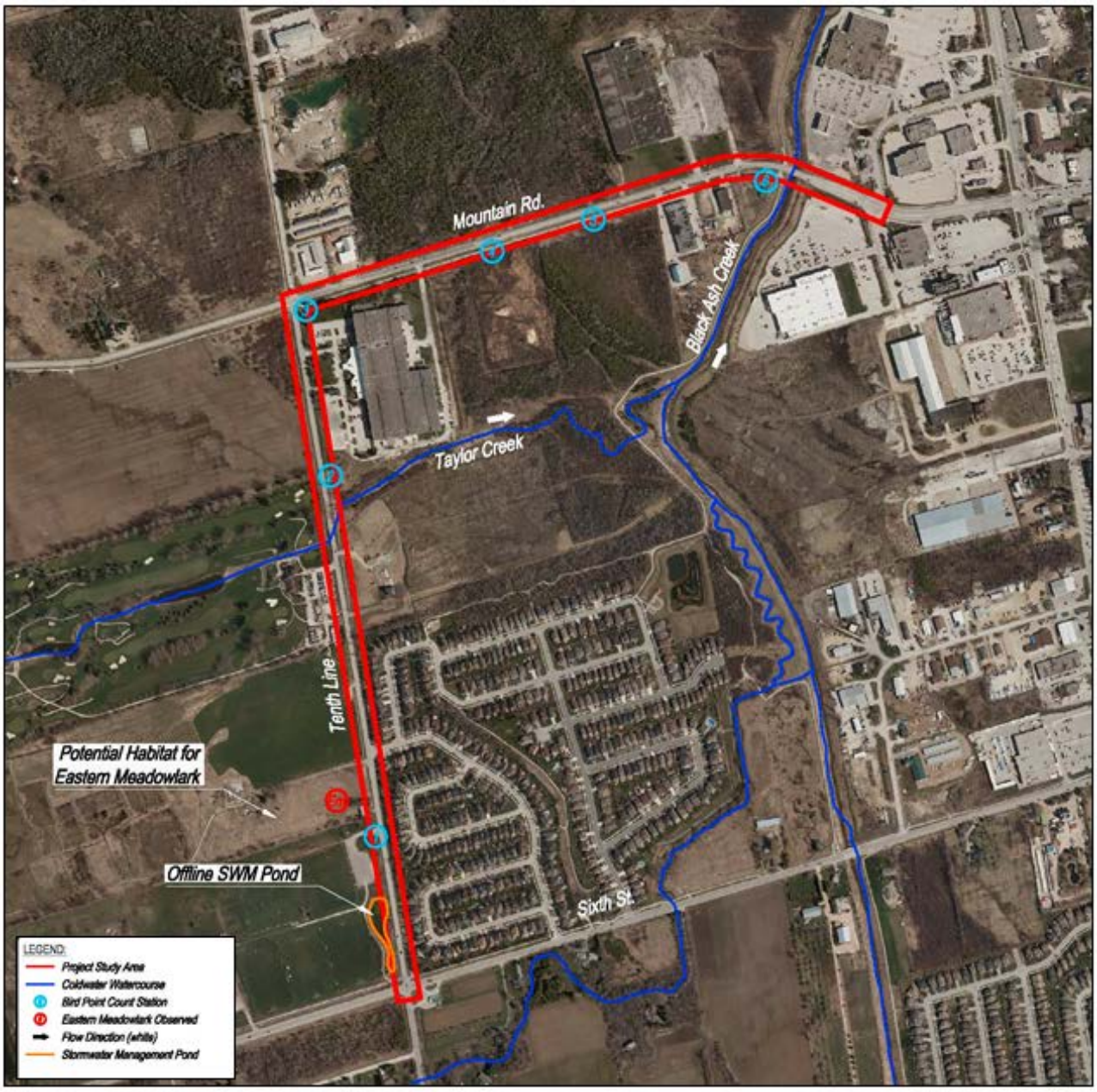
The headwaters of Black Ash Creek considered trout habitat and a number of species have been identified within the Black Ash Creek. These include the Common Shiner, Emerald, Shiner, Mimic Shiner, Blacknose Dace, Longnose Dace, Northern Redbelly Dace, Bluntnose Minnow, Brassy Minnow, Creek Chub, Common Carp, White Sucker, Redhorse Sucker, Brook Sticklebak, Johnny Darter, Small mouth Bass, native Brook Trout, Northern Pike, migratory

Brown Trout, migratory Chinook Salman, and migratory Rainbow Trout. The MNRF confirmed that the Black Ash Creek is a coldwater system and that Brook Trout, Chinook Salmon, Brown Trout, and Rainbow Trout are known to reside in the watercourse. Based on MNRF background information and the 2017 Azimuth field survey, it was determined that this location provides permanent, direct fish habitat for coldwater fish species and is classified as high sensitivity. A low flow structure was observed immediately downstream of the Black Ash Creek Bridge that crosses Mountain Road.

Taylor Creek crosses Tenth Line approximately 400 m south of Mountain Road through a Corrugated Steel Pipe (CSP). The watercourse is approximately 1.5 m wide (wetted width) and 0.40 m in depth. The MNRF confirmed that there is the potential for Brook Trout to be in the creek. Based on MNRF background information and the 2017 Azimuth field survey it was determined that this location provides permanent, direct fish habitat for coldwater fish species and is also classified as high sensitivity.

North of the intersection of the Tenth Line and Sixth Street on the west side of the road is an existing offline pond that may contain a warmwater fish community. As this pond is confirmed to be offline and not directly connected to another drainage feature it is not considered ‘fish habitat’ under the Fisheries Act.

Figure 9: Natural Sciences Existing Conditions



(Source: Natural Sciences Existing Conditions & Impact Assessment Report, Azimuth Sept. 2017)

5.2.4 Vegetation

Vegetation within the right-of-way consists primarily of vegetated ditches and mowed, manicured lawns (ML) that transition to cultural meadows (MEMM3/CUM1-C) beyond the right-of-way. In localized areas the right-of-way is bordered by fragmented vegetation communities that include treed hedgerow (CUH1-A), cultural plantation (CUP3-G), thicket (CUT1-C, THDM2-6, THDM4-1), woodland (WODM5-1), meadow marsh (MAMM3-1), MAM2-2) and swamp thicket (SWT2-8/SWT2-5, SWT2-2). A localized area of Fresh-Moist Poplar Deciduous Woodland (WODM5-1) exists in the southwest quadrant of the intersection of Tenth Line and Mountain Road. A more swampy type vegetation identified as Silky Dogwood Mineral Deciduous Thicket Swamp Type (SWT2-8) and Red-osier Dogwood Mineral Deciduous Thicket Swamp Type (SWT2-5) was observed just north of the intersection of the Tenth Line and Sixth Street on the west side of the corridor adjacent the existing offline pond. Vegetation within the right-of-way and immediately adjacent was confirmed to be common with no vegetation considered to be unique or rare.

5.2.5 Wildlife

Area wildlife was determined to consist primarily of those species accustomed to a more urbanized environment. Based on direct observation and / or a review of tracks, scat, and vocalizations the following species are expected to be present within the project study area:

- Mammals - Coyote, Eastern Grey Squirrel, Raccoon, Red Squirrel, Beaver, Red Fox, Striped Skunk and White-tailed Deer;
- Reptile/Amphibian – Leopard Frog, Green Frog, and American Toad.
- A total of 31 bird species were identified in the area.

5.2.6 Species at Risk

Background information identified a number of species as having the potential to be in the area of the project. However, based on the field surveys and a review of habitat available at the site or in proximity it was determined that there is potential suitable habitat for the following species within or adjacent to the study area.

Reptiles and Amphibians:

- *Snapping Turtle (Special Concern):* While this species was not observed during the field survey there is potential nesting and foraging habitat present within the study area. Nesting habitat is associated with the loose gravel soils on the shoulders of the road. The resulting deposited eggs would be vulnerable from June 1st through to September 30th. As such, any areas of loose or exposed soil or gravel is considered to be potential nesting habitat for the Snapping Turtle and can be considered Significant Wildlife Habitat. The offline pond located just north of the intersection of the Tenth Line and Mountain Road, the Black Ash Creek and Taylor Creek are all locations of potential foraging habitat for this species.

Mammals

- *Bats (Little Brown Myotis, Northern Long –eared Myotis and Tri-coloured (all Threatened):* These species use a variety of habitats for summer roosting which can include rock crevices, buildings, bridges, caves, mines and large snags (greater than 25 cm in diameter at breast height). Potential maternity roosting habitat may be present within the WODM5-1 woodland community. This area is located in the forested segment in the southwest quadrant of the intersection of Tenth Line and Mountain Road and extends from the intersection south for a distance of approximately 200 m on the west side of the corridor. If the proposed works will result in the removal of any woodland habitat, additional surveys may be required to assess the nature of candidate habitat for END Bat Species.
- To further assess the woodland habitat identified as WODM5-1 community, Azimuth conducted a morning survey on May 11, 2018 to assess candidate habitat for Species at Risk bats. The habitat assessment was based on the 'Technical Note for Species at Risk Bats' published by the Regional Operations Division of the MNRF in 2015. The treed areas in question were pioneer growth stands and the majority of the areas contained no trees ≥ 25cm. Of those trees that were ≥ 25cm very few had features which would qualify them as a snag tree. Given this result the treed areas in question are unlikely to provide appropriate function for a maternity roost.

Birds

Of the avian species identified below, only the Eastern Meadowlark was directly observed during the field survey.

- *Barn Swallow (Threatened):* The Black Ash Creek Bridge may provide nesting habitat for the species. Foraging habitat may exist in the open meadow and open water features adjacent to the study area.

- *Bank Swallow (Threatened):* The open meadow and open water features within and adjacent to the study area may provide foraging habitat for the species.
- *Chimney Swift (Threatened):* The open meadow and open water features within and adjacent to the study area may provide foraging habitat for the species.
- *Bobolink (Threatened):* The large areas of cultural meadow may provide nesting and foraging habitat for this species.
- *Eastern Meadowlark (Threatened):* The large areas of cultural meadow may provide nesting and foraging habitat for this species.
- *Grasshopper Sparrow (Special Concern):* Potential habitat may exist in large meadow areas directly adjacent the right-of-way.
- *Forest Breeding Birds of Special Concern (Red-headed Woodpecker, Wood Thrush, and Eastern Wood-pewee):* Potential nesting and foraging habitat for these species would include any forested areas adjacent to the right-of-way.

Insects

- *Monarch (Special Concern)*: there is potential habitat for this species throughout both corridors within the right-of-way and immediately adjacent meadow habitats.

The reconstruction proposed for the Tenth Line will primarily be contained within the existing right-of-way. As expansion of Mountain Road is required beyond the existing right-of-way vegetation removal will be required to accommodate the widening. This will result in the loss of some woodland and meadow vegetation communities. Impacts are not expected to be significant since habitat will remain post construction. There is potential for temporary impacts during the construction period; however, mitigation will assist in keeping impacts to a minimum.

Under the Provincial Policy Statement, development and site alteration is not normally permitted within Significant Wildlife Habitat; however, this does not normally apply to infrastructure works associated with an environmental assessment under the Environmental Assessment Act. Habitat features with the potential to be considered Significant Wildlife Habitat relate to the habitat of the Snapping Turtle, Bird species of Special Concern and the Monarch (Special Concern).

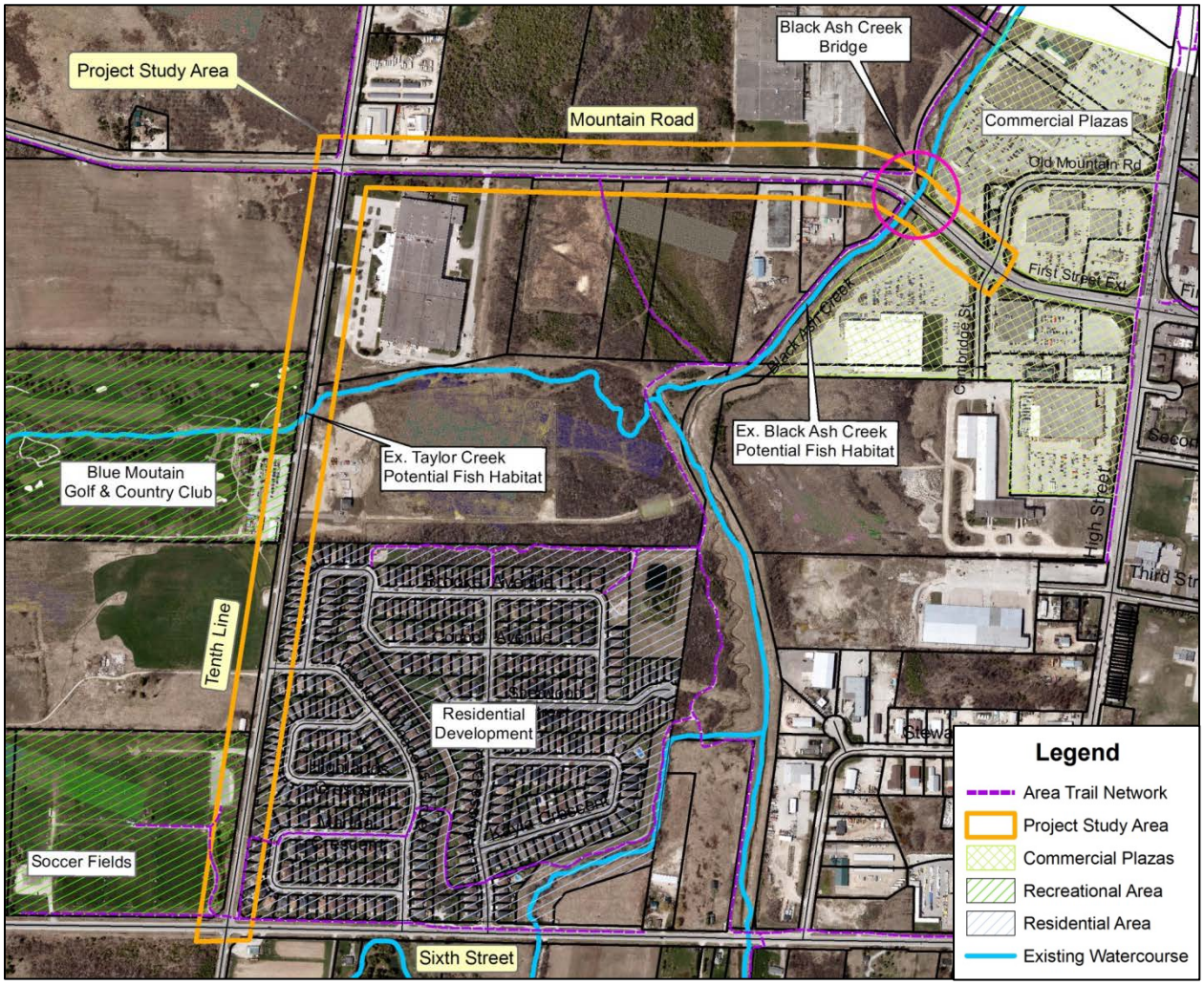
5.3 Existing Socio-Economic Environment

5.3.1 Area Land Use

Land use in the project study area is a mix of industrial, commercial and residential. As illustrated in Figure 10, the eastern section of Mountain Road, east of the Black Ash Creek Bridge consists primarily of commercial plazas and a Walmart Supercentre with two industrial land uses located just west of the bridge. At the intersection of Tenth Line and Mountain Road there is a large industrial facility located in the southeast quadrant that houses several small companies that include a brewery. In the northeast quadrant there is a CRS Contractors Rental Supply and a mini storage facility. The remainder of the subject stretch of Mountain Road is vacant.

Land use adjacent the Tenth Line consists of a residential subdivision in the northeast quadrant of the intersection of Tenth Line and Sixth Street. A soccer field is located on the west side of the corridor near Sixth Street and the Blue Mountain Golf and Country Club is located midway between Mountain Road and Sixth Street on the west side of Tenth Line. The study area for this project is located in a part of the municipality that is designated for growth in the Town of Collingwood Official Plan. As such, there are a number of developments planned within and adjacent to the current study area.

Figure 10: Area Land Use



5.3.1 Noise

A Noise impact review was completed in response to concerns raised and the results indicated that noise predictions are within the guidelines and do not require mitigation. Although the curbs are moving closer to the receiver they are not being used by traffic as they are bike lanes. Also the centre line of the road is actually moving slightly further away from the receiver. The overall conclusion is that with the improvements and the growth in traffic noise levels are predicted to be below the 65dBA and are not increasing in excess of the 5dBA threshold. Details pertaining to this study can be found in Appendix E of this report.

5.3.2 Air Quality

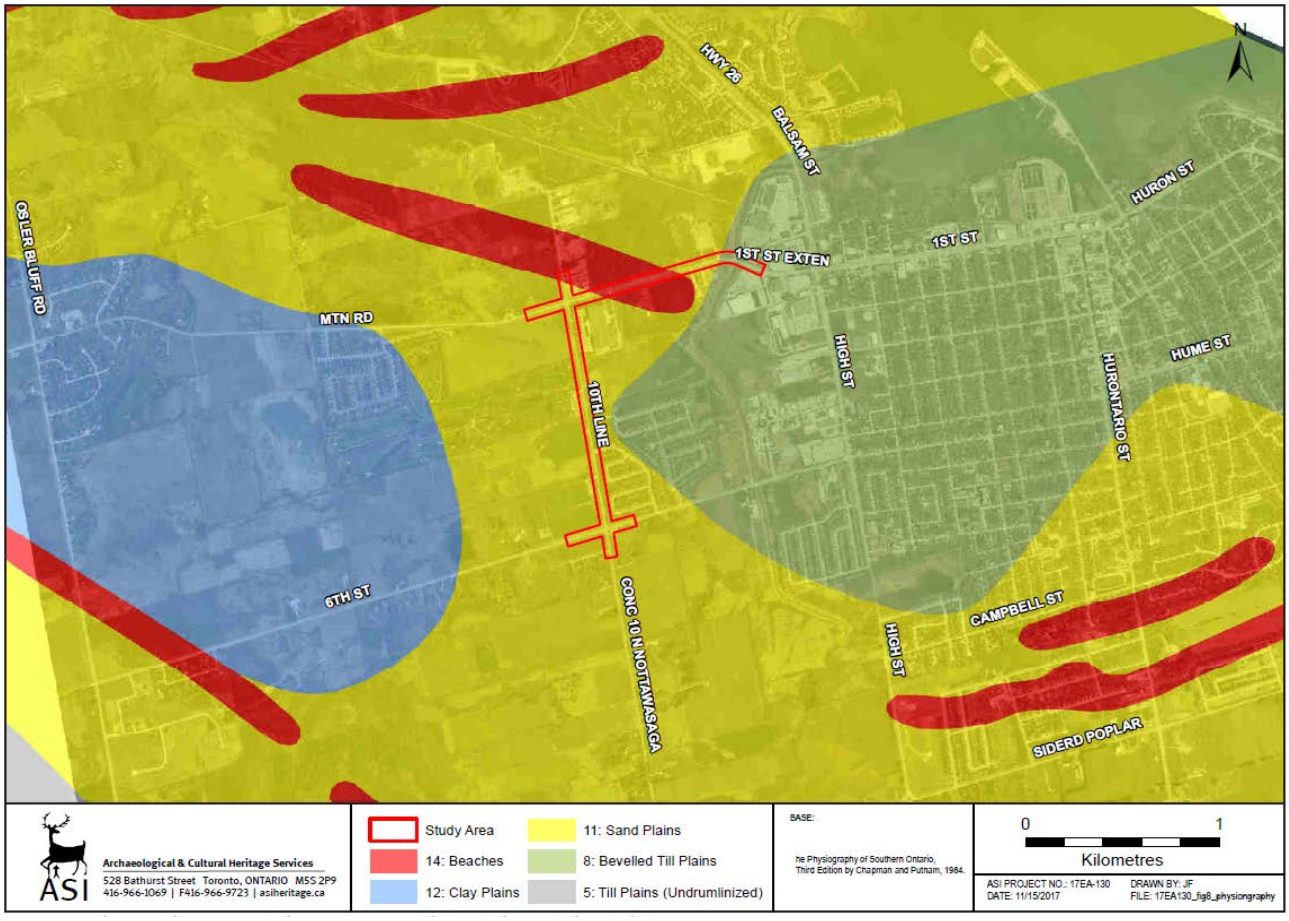
Air quality is not anticipated to be significantly impacted by the project. There are no sensitive receptors such as schools, hospitals, or nursing homes located in close proximity to the project area.

5.4 Existing Cultural Environment

5.4.1 Archaeological Resources

A Stage 1 archaeological assessment was completed for the project. The Stage 1 background study determined that one previously registered archaeological site is located within one kilometer of the Study Area. The property inspection determined that parts of the Study Area beyond the existing disturbed ROWs exhibit archaeological potential and will require Stage 2 assessment (Figure 10: areas highlighted in green and orange). Parts of the Study have been subject to previous Stage 2 survey and do not require further archaeological assessment. The remainder of the Study Area has been subjected to deep soil disturbance events associated with the construction of the ROWs, including the shoulders, ditches, and buried utilities, as well as adjacent commercial and residential development and do not require further survey. A copy of the archaeological report is included in Appendix 'C' of this document.

Figure 11: Archaeological Potential



(Source: Stage 1 Archaeological Assessment, Archaeological Services Inc. December 2017)

5.4.2 Built Heritage Resources

To demonstrate that this Class EA has given consideration to the potential for this project to impact built heritage resources and cultural heritage landscapes. The following two checklists provided by the Ministry of Tourism, Culture and Sport (MTCS) were utilized to assess the potential to impact these resources and to determine if additional study is necessary:

- For Corridor - *Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscapes utilized for the project study area.*
- Bridge Structure - *Municipal Heritage Bridges Cultural Heritage and Archaeological Resources Assessment Checklist (April 2014)*

Existing structures adjacent the affected corridors are of more recent construction and are not considered to be of cultural heritage value. The aforementioned checklist was completed and it is determined that the subject study area does not have any built heritage or cultural heritage landscape potential and therefore no further assessment is necessary. The checklists and associated supporting documentation are included in Appendix D.

6.0 PHASE 2 ALTERNATIVE SOLUTIONS

6.1 Description of Alternative Solutions

6.1.1 Alternative - 1 'Do Nothing'

The 'Do Nothing' alternative proposes no changes. The existing corridor and bridge would remain 'as is' with no improvements or modifications. The 'Do Nothing' alternative is given consideration as part of the Class EA process and used as a benchmark to gauge the potential for environmental impact.

6.1.2 Alternative 2 – Mountain Road 3 Lanes + Tenth Line 2 Lanes + Bridge Improvements

- Reconstruct Mountain Road to a 3 lane rural cross-section providing:
    - Two 3.50m wide travel lanes and one 4.0m wide continuous centre turn lane in a 30.0 m wide right-of-way
    - 3.0m wide paved multi-use trail on south side of corridor
    - 1.5m paved shoulders
- Reconstruct Tenth Line to a 2 lane urban cross-section providing:
    - Two 3.50m wide travel lanes in a 23.0m wide right-of-way
    - 1.5m wide bicycle lane on both sides of corridor
    - 1.5m wide paved sidewalk on both sides of corridor

- Intersection improvements (additional turn lanes with signalization or roundabouts)
- Servicing improvements (i.e. sanitary, water, and storm drainage)
- Bridge improvements (rehabilitation, widen, or replacement)

Figure 12: Alternative 2 – Mountain Road 3 Lane Rural Cross Section

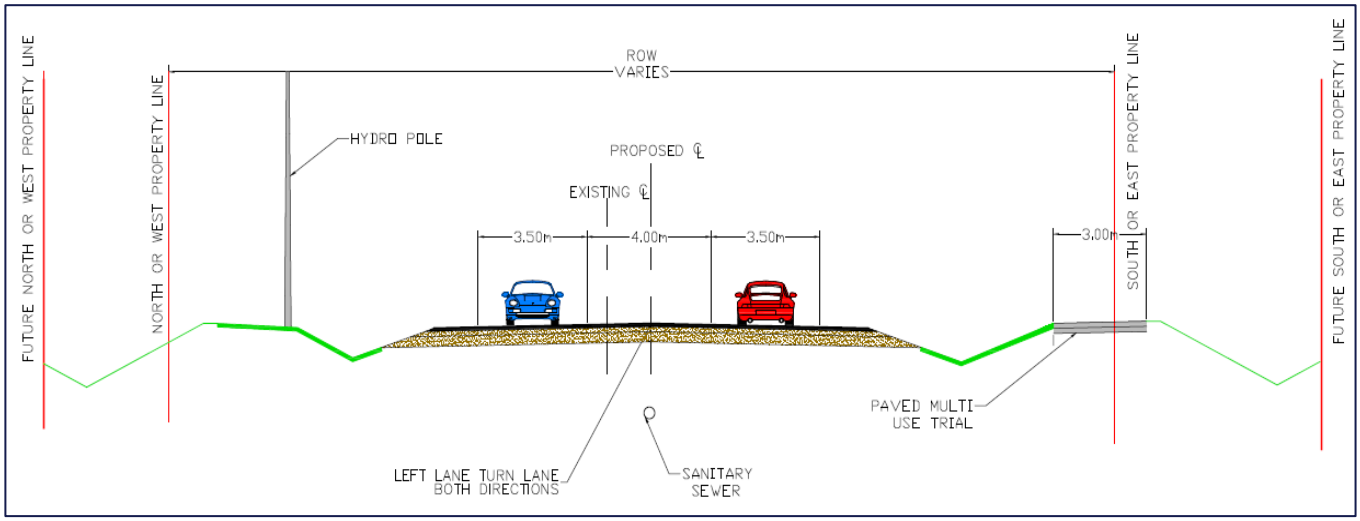
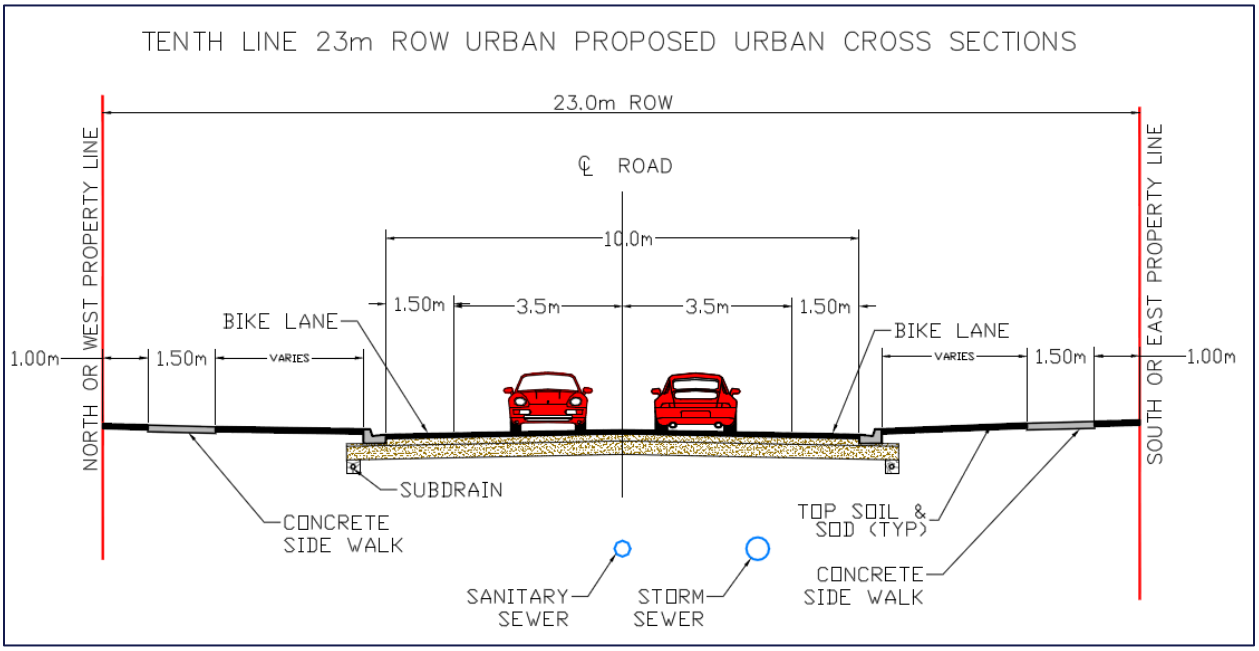


Figure 13: Alternative 2 – Tenth Line 2 Lane Urban Cross Section



6.1.3 Alternative 3 – Mountain Road 5 Lanes + Tenth Line 2 Lanes + Bridge Improvements

- Reconstruct Mountain Road to a 5 lane urban cross-section providing:
    - Four 3.50m wide travel lanes and one 4.00m wide continuous centre turn lane in a 34-43m wide right-of-way
    - 3.0m wide paved multi-use trail on south side of corridor
    - 1.5m wide bicycle lane on both sides of corridor
    - 1.5m sidewalk on north side of corridor
- Reconstruct Tenth Line to an urban cross-section providing:
    - Two 3.50m wide travel lanes in a 23-29m right-of-way
    - 1.5 m wide bicycle lane on both sides of corridor
    - 1.5 m wide paved sidewalk on both sides of corridor
- Intersection improvements (added turn lanes with signalization or roundabouts)
- Municipal servicing improvements (i.e. sanitary, water, and storm drainage)
- Bridge improvements (rehabilitation, widen, or replacement)

Figure 14: Mountain Road 5 Lane Urban Cross Section

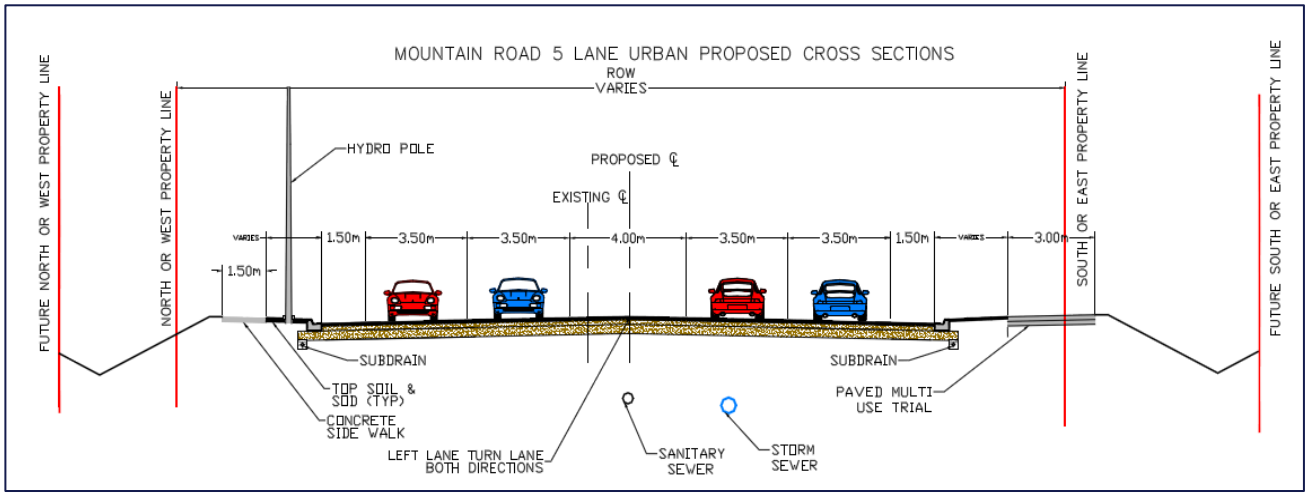
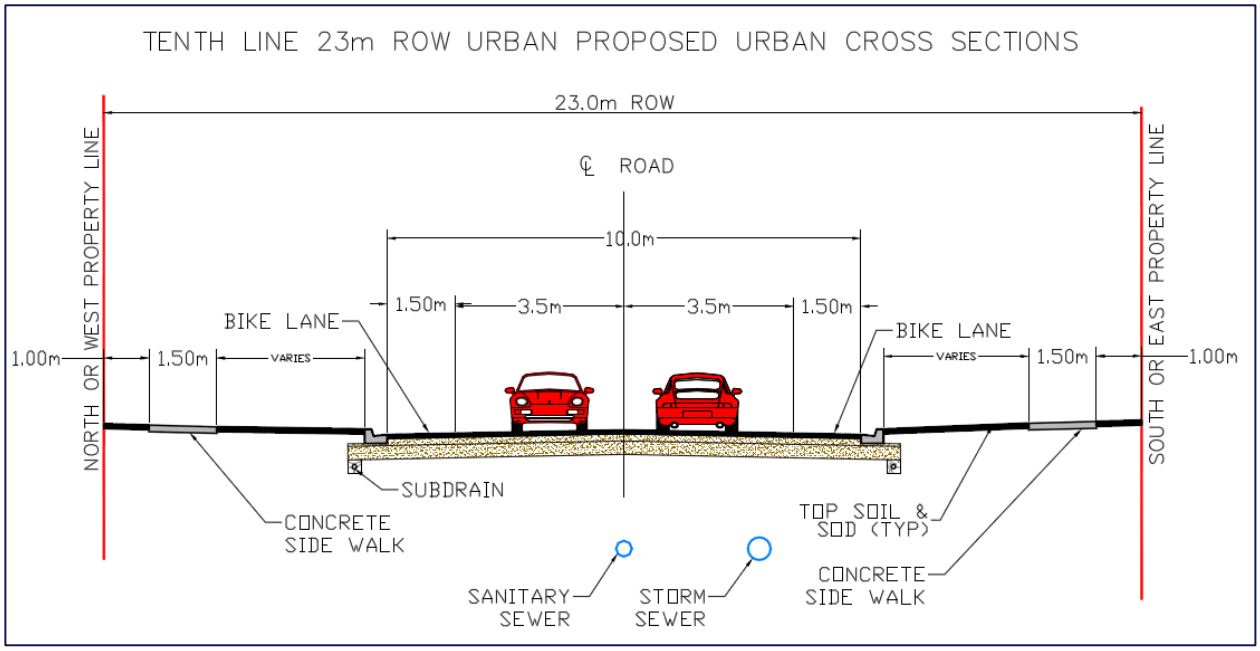


Figure 15: Tenth Line 2 Lane Urban Cross Section



6.2 Evaluation of Alternative Solutions

To assist in the selection of the preferred solution, an evaluation matrix was developed using criteria considered key to this project. The evaluation matrix provides a means of comparing the effects that each alternative will generate on the area environment (physical, natural, socio-economic, and cultural). Table 6 identifies the criteria used for this evaluation as presented at PIC No. 1. The matrix utilized to evaluate the alternative solutions as presented at PIC No. 1 is shown in Tables 7 and 8.

Table 6: Phase 2 Evaluation Criteria

PHASE 2 EVALUATION CRITERIA	
Physical Environment	**Natural Environment**
Future Traffic Capacity	Terrestrial Wildlife (including Species at Risk)
Operations	Fisheries / Aquatic
Constructability	Vegetation
Safety	Surface Water / Drainage
Municipal Services (sanitary, water, storm)	Groundwater
Utilities	**Social Environment**
Bridge Structure	Land Use Planning Objectives
Cultural Environment	Active Transportation
Archaeological Resources	Property Impacts
Built Heritage & Cultural Heritage Landscapes	Residential and Commercial Access
Economic Environment	Noise and Vibration
Property Acquisition Costs	Air Quality
Construction Costs	
Operation/Maintenance Costs	

The evaluation matrix used a simplified, visual comparison to illustrate the positive and negative impacts associated with each alternative. A small circle indicates that the proposed alternative creates a more negative impact and is therefore a least preferred option. Conversely, a large circle indicates a more positive impact and therefore a more preferred option. A red circle was used to demonstrate that an alternative would result in no impacts. An alternative with a higher number of larger circles indicates that it is more preferable in that it addresses deficiencies, but minimizes negative impacts to the area environment.

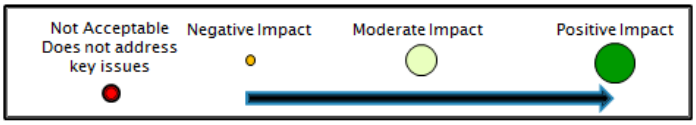


Table 7: PIC No. 1 Evaluation Matrix Part A

EVALUATION CRITERIA	ALT 1	ALT 2	ALT 3	DESCRIPTION OF EFFECTS	MITIGATION
PHYSICAL ENVIRONMENT					
Future Traffic Capacity				Alt. 1 will not accommodate future capacity requirements and will result in increased congestion over time. Alt. 3 will address future capacity needs to the greatest extent since 5 lanes are proposed.	n/a
Operations				Alt. 1 proposes no improvements to operations so intersection movement will continue to deteriorate. Alt. 3 will address operational improvements to the greatest extent.	n/a
Constructability				As Alt. 3 requires the widest corridor it will have more challenges in terms of constructability in comparison to the other alternatives.	n/a
Safety				Alt. 1 proposes no improvements. Alt. 2 & 3 will equally address safety concerns.	n/a
Bridge Structure				The current structure cannot accommodate anticipated future capacity. Alt. 1 is considered 'not acceptable' since it proposes no improvements to the existing structure . Alts. 2 & 3 will have a positive impact in this regard since bridge improvements are proposed with each of these options.	n/a
Services				Alt. 1 proposes no changes to existing municipal services and is the least preferred option since it will not accommodate future development. Alt. 2 & 3 propose improvements to existing servicing to accommodate future development and will equally address this aspect.	Confirm area development servicing needs and incorporate into design.
Utilities				Alt. 1 will have the least amount of impact to existing utilities since no improvements or modifications are proposed. Alt. 3 will result in the greatest impact to existing utilities since it proposes the widest cross-section and may require utility relocation.	Advance contact with area utilities during design to minimize impacts.
NATURAL ENVIRONMENT					
Terrestrial Wildlife (including Species at Risk)				As Alt. 1 proposes no improvements it will have the least potential for impact in comparison to the other two options under consideration. There is an increased potential to impact area wildlife from Alt. 3 since it proposes the widest cross-section; however, impacts can be mitigated.	Minimize encroachment beyond right-of-way; comply with Migratory Birds Convention Act and Migratory Bird Regulations and avoid impacting migratory birds (including SAR) during the breeding season; obtain input, as required, from Nottawasaga Valley Conservation Authority and Ministry of Natural Resources and Forestry.
Fisheries / Aquatic (including Species at Risk)				As Alt. 1 proposes no improvements it will have the least potential for impact of the three options under consideration. Alts. 2 & 3 propose improvements to the existing Black Ash Creek Bridge and other drainage infrastructure which has the potential to impact fish and fish habitat during construction; however, impacts can be mitigated.	Utilize design that minimizes in-water work; adherence to fisheries timing restrictions; obtain necessary approvals from the Department of Fisheries & Oceans , Nottawasaga Valley Conservation Authority, and the Ministry of Natural Resources and Forestry; application of standard best management practices for working in and around water (i.e. sediment & erosion control; site restoration following construction; equipment refueling and maintenance restrictions etc.).
Vegetation				As Alt. 1 proposes no improvements it will have the least potential for impact of the three options under consideration. Alt. 3 has an increased potential to impact area vegetation as it proposes the widest cross-section and could require construction outside the existing right-of-way.	Design footprint to minimize impacts to area vegetation as much as possible; re-stabilize and re-vegetate exposed surfaces as soon as possible following construction; minimize disturbance to root systems; define limits of construction with fencing to minimize intrusion into unnecessary areas.
Surface Water / Drainage				As drainage improvements are required to accommodate future development, Alt. 1 is the least preferred since this option proposes no improvements to drainage in the area. Alt. 2 & 3 will equally improve drainage for the area since both propose the urbanization of the Tenth Line and improvements to drainage on Mountain Road.	Obtain necessary approval from the Nottawasaga Valley Conservation Authority; application of standard best management practices for working in and around water (i.e. sediment & erosion control; site restoration following construction; equipment refueling and maintenance restrictions etc.); obtain MOECC Permit To Take Water (surface water), as required.
Groundwater				Alt. 1will result in the least amount of impact to groundwater of the three options under consideration since no construction is proposed. Alt. 2 & 3 will have an increased potential in this regard during the construction process; however, impacts can be mitigated.	Complete baseline well survey prior to construction; obtain Ministry of Environment and Climate Change Permit To Take Water (groundwater), as required; utilize standard water conservation measures to minimize the amount of water taken and to terminate the usage as soon as possible.

Table 8: PIC No. 1 Evaluation Matrix Part B

EVALUATION CRITERIA	ALT 1	ALT 2	ALT 3	DESCRIPTION OF EFFECTS	MITIGATION
SOCIAL ENVIRONMENT					
Land Use Planning Objectives				Alt. 2 & 3 provide the necessary capacity and operational improvements necessary to accommodate development planned for the area and is in accordance with land use planning objectives. Alt. 1 does not provide for future development.	n/a
Active Transportation (pedestrian & cycling)				Alt. 2 & 3 include provisions for cyclists and pedestrians while Alt. 1 proposes no changes in this regard.	n/a
Property Impacts				While Alt. 2 could potentially be constructed within the existing right-of-way there is the possibility that property may be required if it becomes apparent that the alignment needs to be shifted. This will be confirmed later in the process. Regardless, Alt. 3 is expected to result in the greatest amount of impact in this regard.	Adjust design (slopes, grading, ditching) so as to minimize impacts to adjacent property and to reduce property requirements.
Residential and Commercial Access				Alt. 1 is considered to be 'not acceptable' since it proposes no improvements to property access in the area. Both Alt. 2 & 3 will result in improved access to adjacent properties. While there may be potential property access impacts during construction, these can be mitigated.	Maintain property access during construction; utilize traffic management measures (i.e. detours, construction staging etc.) to minimize impacts to traffic flow during construction.
Noise				As an increase in traffic capacity is anticipated, there is the potential for increased noise with any of the alternatives proposed. There is also an increased potential for noise impacts during construction for Alts. 2 & 3; however, this will be temporary and can be mitigated.	Utilize standard noise mitigation measures to minimize potential for impact (i.e. construction equipment to comply with the noise emission standards; equipment to be in good repair & fitted with functioning mufflers; limit construction activities that create excessive noise to daytime hours; maximize the separation distance between construction staging areas and nearby receptors to the greatest extent possible). Adherence to Municipal Noise By-law and associated timing restrictions.
Air Quality				As Alt. 1 proposes no corridor improvements the increased traffic volumes may lead to congestion which could negatively impact air quality. While construction associated with Alt. 2 & Alt. 3 has the potential to impact air quality it would be temporary and measures can be implemented to minimize impacts.	Utilize best management practices during construction such as no unnecessary idling of vehicles; covering of stockpiles of soil, sand and aggregate; application of dust suppressants during construction.
CULTURAL ENVIRONMENT					
Archaeological Resources				Alts. 2 & 3 have a greater potential for impact since both options may require construction beyond the existing limits of the current right-of-way in areas not previously disturbed.	To be determined once archaeological assessment complete.
Built Heritage & Cultural Heritage Landscapes				Minimal potential for impact since no built heritage resources or cultural heritage landscapes are located in proximity to the project.	n/a
ECONOMIC ENVIRONMENT					
Property Acquisition Costs				As property is not required for Alt. 1 it is the least expensive of the three alternatives. It is expected that Alt. 3 will be the most expensive of the options under consideration since it proposes the widest cross-section.	Efforts will be made to negotiate fair and equitable arrangements for property acquisition.
Construction Costs				Alt. 1 will have no costs associated with construction since no improvements are proposed. Alt. 3 will be the most costly of the alternatives under consideration.	n/a
Operating & Maintenance Costs				Alt. 1 will incur greater operating/maintenance costs over time as compared to Alt. 2 & 3. Improved geometrics and pavement structure associated with Alts. 2 & 3 will reduce operation/maintenance costs.	n/a

A description of the advantages and disadvantages associated with each alternative is detailed below.

Alternative 1: This does not address capacity or operational deficiencies or accommodate future development and does not provide improvements to active transportation.

Alternative 2: This option will address capacity and operational deficiencies for a period of time, but will require widening at some point in the future. Property acquisition will be required to accommodate three lanes.

Alternative 3: This option will fully address capacity and operational requirements and accommodate future development. It is advantageous to obtain property requirements now before the area is fully developed.

6.3 Phase 2 Input Received

This section provides a brief summary of comments received following PIC No. 1 as it pertains to the evaluation of the alternatives and in selection of the Preferred Solution. For a more complete summary of the consultation program completed for this project and additional details pertaining to comments received, please refer to Section 9.0.

The comments received indicate that the 'do nothing' alternative is not a favourable option and support was provided for both Alternatives 2 and 3. Respondents were generally supportive of improving the subject corridors and better accommodating pedestrians and cyclists. Below is a brief summary of the key concerns raised by the public following PIC No. 1:

- Drainage and Groundwater Control: Comments were received pertaining to concerns with flooding in the area of the Georgian Meadows subdivision on Tenth Line. One resident noted that Tenth Line is prone to flooding from Georgian Meadows to Mountain Road and another identified basement flooding when the Tenth Line ditches have backed up previously. Potential flooding from Taylor Creek into homes in Georgian Meadows was also identified as a concern.

- Snowmobile Trails: The snowmobile club questioned how the existing snowmobile trails will be accommodated with the alternatives proposed.
- A perceived blind spot was identified at Tenth Line and Georgian Meadows Drive as well as between Sixth Street and Georgian Meadows Drive. Residents questioned if the designs proposed will address this aspect.
- Construction Noise and Dust: A resident of the Georgian Meadows subdivision questioned the timeframe that they will have to tolerate construction of the area developments and now road construction and if there was any way that construction vehicles for Mair Mills and Consar Developments could be encouraged to use Mountain Road and the Tenth Line rather than Sixth Street and the Town Line. One resident noted that dust and noise controls should be rigidly enforced during construction.
- Concern relating to increased noise from increased traffic. A couple of residents indicated that there are existing noise issues from current truck traffic and questioned if a sound barrier is proposed for the Tenth Line.
- The mixed use crossing at the Black Ash Creek Bridge was identified as a safety concern. It was suggested that an underground crossing be considered with the five lane option or perhaps implement a pedestrian crosswalk with lights at the east end of the Black Ash Creek Bridge.
- A resident expressed concern for the protection of natural heritage features. It was suggested that a wildlife tunnel be constructed on Mountain Road to accommodate wildlife movement.
- Roundabouts: There was support for and against the construction of roundabouts. One resident implied that a roundabout calms traffic and would provide opportunity to incorporate a heritage/cultural/aboriginal feature. It was suggested that a roundabout would be preferable at the intersection of Tenth Line and Sixth Street as it would reduce braking noise. One resident noted that lights are more preferable on the Tenth Line to better accommodate ski hill traffic.
- A resident noted that the traffic projections in and out of the Side Launch Brewery are vastly understated and that turning left onto Mountain Road from the brewery is currently an issue.
- Residents provided input on the additional safety measures that could be utilized (i.e. reducing the speed limit). As noted there were comments received in support of bike lanes and against the provision of bike lanes.

6.4 Selection of the Preferred Solution

Following PIC No. 1 and a review of comments received it was determined that Alternative 3 was the most viable option moving forward. The Preferred Solution involves the construction of Mountain Road to a 5 lane urban cross section, construction of Tenth Line to a 2 lane urban cross section, and various bridge improvements. As well the preferred solution will include the addition of bicycle lanes on both sides of Mountain Road and Tenth Line, as well as a sidewalk lane. Servicing and intersection improvements will also be completed.

6.4.1 Implementation of the Preferred Solution

Mountain Road's ultimate cross section is being proposed as a 5-lane urban cross section. Once the project is approved the Town may consider the potential of phasing Mountain Road to a 3-lane rural cross section while continuing to monitor the progress of area development and traffic. The Mountain Road bridge improvements would be carried out to the ultimate design regardless and appropriately configured with the use of temporary barriers for a 3-lane road. The multi-use trail would be constructed so that it is compatible in both the rural 3-lane and urban 5 lane cross sections. The alignment and profile of the road would be designed to accommodate both cross sections and only require a road widening from 3-lane to 5-lane. During the ultimate road widening to an urban 5-lane cross section storm sewer, curbs and gutters will be constructed all as per the ultimate proposal.

7.0 PHASE 3 DESIGN OPTIONS

7.1 Description of Design Options

As part of Phase 3 of the Class EA process six design options were developed to implement the Preferred Solution selected at the close of Phase 2. The six design variations were presented to the public at PIC No. 2 on Thursday September 6, 2018. Table 9 illustrates the key differences between the six options.

Table 9: Design Options Presented at PIC 2

DESIGN OPTIONS	MOUNTAIN ROAD CROSS SECTION	TENTH LINE CROSS SECTION	MOUNTAIN ROAD ACTIVE TRANSPORTATION	TENTH LINE ACTIVE TRANSPORTATION	BRIDGE IMPROVEMENTS
DESIGN OPTION 1A	▪ 5 Lanes with road and bridge reconstructed on existing centre line	▪ Two lanes reconstructed on existing centre line	▪ 3.0 m paved multi-use trail on south side of corridor ▪ 1.5 m bicycle lane on both sides of corridor ▪ 1.5 m sidewalk on north side of corridor	▪ 1.5 m wide bicycle lanes on both sides of corridor ▪ 1.5 m wide paved sidewalk on both sides of corridor	▪ Rehabilitate and widen Black Ash Creek Bridge both sides
DESIGN OPTION 1B	▪ Same as above	▪ Same as above	▪ Same as above	▪ Same as above	▪ Replace Black Ash Creek Bridge
DESIGN OPTION 2A	▪ 5 Lanes with road and bridge centre line shifted south	▪ Same as above	▪ Same as above	▪ Same as above	▪ Rehabilitate and widen Black Ash Creek Bridge south side only
DESIGN OPTION 2B	▪ Same as above	▪ Same as above	▪ Same as above	▪ Same as above	▪ Replace Black Ash Creek Bridge
DESIGN OPTION 3A	▪ 5 Lanes with road centre line shifted south and bridge centre line shifted north	▪ Same as above	▪ Same as above	▪ Same as above	▪ Rehabilitate and widen Black Ash Creek Bridge north side only
DESIGN OPTION 3B	▪ Same as above	▪ Same as above	▪ Same as above	▪ Same as above	▪ Replace Black Ash Creek Bridge

7.2 Public Information Centre No. 2 Evaluation of Design Options

To assist in the selection of the Preferred Design during Phase 3 of the Class EA process the aforementioned design options were evaluated to assess their potential to impact the area environment (physical, natural, social, cultural and economic) so as to obtain an understanding of the advantages and disadvantages associated with each option. An evaluation matrix was developed to compare each option using criteria considered relevant to the project. The evaluation criteria were updated slightly from that used in the Phase 2 evaluation.

Similar to the Phase 2 evaluation, a visual comparison was used to illustrate the positive and negative impacts associated with each option as illustrated in Table 10. A numerical scoring system was used to indicate if an option will create a negative impact and is therefore a least preferred option or a positive effect and is therefore a more preferred option. An option with the highest score indicates a more preferable option that addresses deficiencies, but minimizes negative impacts.

Table 10: PIC 2 Evaluation Matrix

EVALUATION CRITERIA	1A	1B	2A	2B	3A	3B	DESCRIPTION OF EFFECTS
PHYSICAL ENVIRONMENT							
Future Traffic Capacity	3	3	3	3	3	3	All Design Options propose five lanes which will fully accommodate future traffic capacity requirements.
Geometrics	2	2	1	1	3	3	Design Options 3A & 3B propose a shift in the road centreline to the south and a shift in the bridge centreline to the north. This will optimize the road design in comparison to the other options.
Hydraulic Capacity	0	3	0	3	1	3	Rehabilitation and widening of the existing bridge as proposed with Design Options 1A and 2A will decrease the existing hydraulic capacity of the structure. Widening on the north as proposed with Design Option 3A will not decrease the existing hydraulic capacity of the structure. A new bridge as proposed with Design Options 1B, 2B & 3B can fully accommodate hydraulic capacity requirements and allow for more flexibility on the horizontal and vertical road alignments.
Safety	3	3	3	3	3	3	All Design Options will equally provide safety improvements.
Municipal Services	3	3	3	3	3	3	All Design Options will equally provide servicing improvements.
Utilities	1	1	3	3	3	3	Design Options 2A, 2B, 3A & 3B will create the least amount of impact to the newly installed hydro poles on the north side of the corridor. Design Options 1A &1B are least preferred in this regard because the construction footprint will impact the north side of the corridor.
Constructability	1	1	3	3	3	3	Construction of the bridge on the existing centreline as proposed with Design Options 1A & 1B is least preferred from a constructability standpoint since it may only allow one lane of traffic to be maintained during construction. The remaining design options can make use of the existing structure during construction and potentially maintain 2 lanes of traffic.
NATURAL ENVIRONMENT							
Terrestrial Wildlife	2	2	2	2	2	2	All Design Options require construction outside of the corridor and are expected to have a similar potential for impact.
Fisheries / Aquatic	3	2	3	2	3	2	A bridge rehabilitation as proposed with Design Options 1A, 2A and 3A will create less of an impact to fish and fish habitat in comparison to a full replacement as proposed with Design Options 1B, 2B, and 3B.
Vegetation	2	2	2	2	2	2	All Design Options require construction outside of the corridor and are expected to have a similar potential for impact.
Surface Water / Drainage	1	3	1	3	2	3	While all Design Options propose improvements to area drainage, Design Options 1A and 2A propose a rehab of the existing bridge which cannot accommodate hydraulic capacity.
Groundwater	2	2	2	2	2	2	All Design Options will have a similar potential to impact area groundwater during the construction process; however, impacts can be mitigated.
SOCIAL ENVIRONMENT							
Active Transportation	3	3	3	3	3	3	All Design Options will equally provide for active transportation to the same extent.

Property Impacts	3	3	1	1	1	1	Design Option 1A & 1B are the most preferred in this regard since the road would be reconstructed on the existing centreline and therefore all property requirements could be equally taken from both sides of the corridor. Design Options 2A, 2B, 3A & 3B propose a shift in the alignment and therefore the construction footprint and property requirements would need to be acquired more from one side of the corridor.
Residential and Commercial Access	2	2	2	2	2	2	All Design Options will have a similar potential to impact area residences and businesses during the construction period.
Noise	2	2	2	2	2	2	All Design Options will have a similar potential for noise during the construction period; however, this will be temporary and can be mitigated. Any impacts to long term noise would be the same for all options since all propose an increase in the number of lanes to five. The Mountain Road corridor does not have Noise Sensitive Areas (NAS) within the project limits. On Tenth Line a review of the potential noise impact from the improvement concluded that it is below the acceptable criteria above which would require mitigation.
Air Quality	2	2	2	2	2	2	All Design Options will have a similar potential to impact air quality during the construction period; however, this will be temporary and can be mitigated.
Climate Change	2	2	2	2	2	2	All Design Options will accommodate future traffic capacity requirements and therefore minimize vehicle emissions from congestion. All Design Options will incorporate landscaping which will contribute to replacement of vegetative cover necessary to assist in the removal of carbon dioxide. All Design options are expected to have a similarly low potential to impact climate change.
CULTURAL ENVIRONMENT							
Archaeological	2	2	2	2	2	2	The Stage 1 archaeological assessment determined that a Stage 2 assessment will be required in localized areas, outside of the existing right-of-way. Since all Design Options require construction beyond the existing limits of the current right-of-way they will have a similar potential to impact archaeological resources. The Stage 2 assessment will be completed during the detailed design phase when property requirements have been confirmed and acquired.
Built Heritage & Cultural Heritage Landscapes	2	2	2	2	2	2	All Design Options will have a similar low potential to impact built heritage resources and/or cultural heritage landscapes since these resources are not present within the study area.
ECONOMIC ENVIRONMENT							
Property Acquisition Costs	2	2	2	2	2	2	Property will be required with all Design Options.
Construction Costs	2	2	2	2	2	2	Design Options 1B, 2B, & 3B are anticipated to have increased construction costs since these options propose a new bridge. Looking at an overall life cycle cost, the rehabilitation and the cost of a new bridge will be almost equal depending on how staging is performed.
Operating & Maintenance Costs	1	3	1	3	1	3	Design Options 1A, 2A, & 3A are anticipated to have increased operating and maintenance costs over time since these options propose only a rehabilitation of the existing bridge.
SCORE	**46**	**52**	**47**	**53**	**51**	**55**	

As illustrated in Table 10, all six options score relatively similar scores, with Option 3B scoring the highest value. Under the Physical Environment, all Design Options propose five lanes which will fully accommodate future traffic capacity requirements. As well, all Design Options will equally provide safety and municipal servicing improvements. Where the six Design Options vary is the impact on the hydraulic capacity of the bridge and geometric alignments of the road design.

Under the Natural Environment, all Design Options scored identical in regards to potential impacts to terrestrial wildlife, vegetation, and ground water. Design Options 1A and 2A scored the lowest as they do not offer improvements to surface drainage.

All Design Options scored identical in every category related to the Social Environment, with the only differing score pertaining to property requirement needs. Design Options 2A, 2B, 3A & 3B propose a shift in the alignment and therefore the construction footprint and property requirements would need to be acquired more from one side of the corridor. All Design Options scored identically under Cultural Environment.

Under the Economic Environment, all Design Options scored identical regarding the costs associated with property acquisition and construction. However, Design Options 1A, 2A, & 3A scored the lowest related to operating and maintenance costs.

Table 11 provides a tabular summary of the advantages and disadvantages associated with each Design Option.

Table 11: PIC No. 2 Summary of Advantages and Disadvantages

ROAD DESIGN						
	DESIGN OPTION 1A	**DESIGN OPTION 1B**	**DESIGN OPTION 2A**	**DESIGN OPTION 2B**	**DESIGN OPTION 3A**	**DESIGN OPTION 3B**
KEY ADVANTAGE	• Utilizes the existing centreline and shares property requirements from both sides of corridor.	• Utilizes the existing centreline and shares property requirements from both sides of corridor. • Bridge replacement provides hydraulic capacity requirements.	• Preferred from a constructability standpoint since can utilize existing bridge while new section being constructed.	• Bridge replacement provides hydraulic capacity requirements. • Preferred from a constructability standpoint since can utilize existing bridge while new bridge being constructed.	• Preferred from a constructability standpoint since can utilize existing bridge while new section being constructed. • Minimum utility relocations.	• Bridge replacement provides hydraulic capacity requirements. • Preferred from a constructability standpoint since can utilize existing bridge while new bridge being constructed. • Minimum utility relocations.
KEY DISADVANTAGE	• Bridge rehabilitation does not provide the required hydraulic capacity. • Hydro line on the north side will need to be relocated.	• Hydro line on the north side will need to be relocated.	• Requires that most property be acquired from the south side of corridor. • Bridge rehabilitation does not provide the required hydraulic capacity required. • Minimum road radius requirements will not be met.	• Requires that more property be acquired from the south side of corridor. • Minimum road radius requirements will not be met.	• Requires that more property be acquired from the north side of corridor.	• Requires that more property be acquired from the north side of corridor.

During PIC 2 the key advantages and disadvantages of the proposed intersection design were presented. The following summarizes the points presented:

Roundabouts (Advantages):

- Potential conflicts at roundabouts are less severe due to the slower speed and angular merging of vehicles therefore making them safer
- Virtually eliminate the potential for some of the most severe type of collisions such as right angle (T-bone) and head on-on collisions.
- Pedestrian and cyclists will only have to cross one approaching traffic stream at a time as the lanes are separated with the splitter island which provides refuge for the pedestrian.
- Keeps traffic moving better and allows vehicle to merge into traffic
- Roundabouts are also the most environmentally friendly type of intersection. This is due to their visual aesthetics with the landscaped inner island and reduced emissions from less idling and less wasted fuel.
- Noise levels will be lower compared to signalized and stop controlled intersections because of the smoother flow through roundabouts, reduced braking and reduced accelerating.
- Operation and maintenance costs for a roundabout are lower since there is no signal to maintain and consume electricity.

Roundabouts (Disadvantages):

- Requires more land
- The public is not exposed to roundabouts to the same extent as signalized intersections (this is changing in the future with the increase use of roundabouts)

Signalized Intersections (Advantages):

- Easier to use because everyone is familiar with them
- Provides a defined time for vehicle and pedestrian movement
- Less amount of property required

Signalized Intersections (Disadvantages):

- Higher speeds going through intersection potentially causing more severe accidents
- More pollution and noise due to vehicles stopping and then accelerating.
- More maintenance required due to the traffic lights.

7.2.1 Phase 3 Public Information Centre No. 2 Input Received

This section provides a brief summary of comments received following PIC No. 2 as it pertains to the evaluation of the alternatives and in selection of the Preferred Design. For a more complete summary of the consultation program completed for this project and additional details pertaining to comments received, please refer to Section 9.0. Overall, the Town received a number of comments in support of completing improvements to the subject segments of both the Tenth Line and Mountain Road. There was support for and against the construction of roundabouts at the intersection of Tenth Line and Sixth Street and the intersection of Tenth Line and Mountain Road. Many were supportive of the addition of sidewalks and bike lanes so as to promote active transportation and improved connectivity. There were concerns brought forward by a local business owner regarding the potential for construction to impact their business and the need to maintain traffic and property access during construction period as well as the with the propose roundabout design.

7.3 Selection of the Preferred Design

Following the completion of Public Information Centre No. 2 and the receipt of input from interested parties, the Town of Collingwood selected Design Option 3B as the Preferred Design for the following reasons:

- Design Option 3B addresses the problem and opportunity in the most favourable way
- Design Option 3B sets the framework to meet the needs of the area as it develops and experiences growth in population within the next 20 years.
  - ☐ It will provide the required traffic capacity
  - ☐ It will provide active transportation facilities
  - ☐ It will include new and upgraded servicing infrastructure as needed by a growing residential and commercial population in the area
  - ☐ It will include upgraded and new roadway illumination
  - ☐ it will provide for safer and efficient intersection operation through the use of roundabouts instead of signalization
  - ☐ It will provide drainage improvements
  - ☐ It will include crossing controls to assist both pedestrian and snowmobilers to cross the Black Ash Trail at the Mountain Road Bridge.

8.0 DETAILS OF THE RECOMMENDED PLAN

This section provides additional details regarding the Preferred Design Option 3B which is the Town's Recommended Plan for moving forward to address the deficiencies affecting the project study area. Copies of the preliminary drawings are included in Appendix 'F'.

8.1.1 Road Cross-section

Mountain Road cross-section details:

- Two 3.5m through lanes in each direction
- One 4.0m centre left turn lane
- 1.5m bike lanes on each side
- Concrete curb and gutter
- 3.0m multi-use trail on the south side
- 1.5m concrete sidewalk on the north side

Tenth Line cross section details:

- One 3.5m through lanes in each direction
- 1.5m bike lanes on each side
- Concrete curb and gutter
- 1.5m concrete sidewalk on each side
- Auxiliary turn lanes at various intersections

8.1.2 Landscaping Elements

Landscaping such as small trees and shrubs will be provided at the roundabout centre islands. The remaining roadway boulevards will be treated with topsoil and sodded, additional landscaping opportunities will be explored during the detail design.

8.1.3 Intersection Improvements

Mountain Road at Tenth Line intersection is to be designed as a 2-lane roundabout with sidewalks. The design will incorporate bicycle lane ramp transitions to sidewalks and pedestrian cross-overs.

Tenth Line at Sixth Street is to be designed as a 1 lane roundabout with sidewalks. The design will incorporate bicycle lane ramp transitions to sidewalks and pedestrian cross-overs.

8.1.4 Stormwater Management

This project proposes to construct drainage systems for an urbanized road cross-section with drainage addressed through curb and gutter and storm sewer. Stormwater management for this project will need to address quality of the runoff. Quantity control is not required since the outlet is into the Black Ash Creek (BAC) and close to the outlet into Georgian Bay. Proposed stormwater infrastructure will be required to comply with current agency and municipal design standards and guidelines. It is anticipated to provide quality treatment through the use of oil-grit separator(s) prior to out letting into the BAC.

Typically for urban cross-sections, the preferred retrofit configuration would include Low Impact Development (LID) measures such as compact bio-retention planters, perforated pipe systems, and permeable pavement, where space is insufficient for bio-retention/bio-swale systems. Further review will be done during detailed design for the feasibility of these types of treatments.

8.1.5 Utility Relocations

Further coordination with Enbridge Gas, Bell and Rogers will be carried out during the detailed design phase regarding relocation requirements.

8.1.6 Servicing Improvements

The Town of Collingwood is currently finalizing a Master Servicing Plan (MSP) for the Town and it is anticipated that recommendations from the outcome of the MSP will be incorporated into the final plans and detail design of the project. Prior sanitary sewer inspections revealed that due to its age and condition, the existing 525 mm AC pipe that is located within the Mountain Road ROW (west of the bridge) should be removed and replaced in conjunction with the road reconstruction.

It is anticipated that the MSP will provide the sizing requirements of the sanitary sewer to be included in the project during the detail design.

8.1.7 Property Acquisition / Easements

Along Mountain Road it is anticipated that 12 properties will be impacted and widening will be required. Some widening has already been acquired through development and additional will be required either through the ongoing development or purchase for the project. Construction of a roundabout is not anticipated to affect more properties but will increase the impact at the intersection.

Along Tenth Line approximately 8 properties will be impacted mostly to facilitate grading. These properties may be dealt with permission to grade. However, in some cases drainage facilities may have to be provided to capture runoff that previously entered road side ditches and now must be intercepted. Construction of a roundabout at Sixth Street and Tenth Line will affect an additional 3 properties.

8.1.8 Construction Staging / Traffic Management

To minimize impacts to area residents and businesses, detailed design will complete construction staging so as maintain traffic flow and property access during construction.

8.1.9 Preliminary Construction Cost Estimate

As illustrated in Table 12, the preliminary cost estimate for the reconstruction is estimated to be approximately $17,500,000.00.

Table 12: Preliminary Construction; Cost Estimate

Preferred Design Cost Estimate	
Construction Component	**Cost Estimate**
BRIDGE	$2,500,000
ROADWORKS	$9,321,500
SANITARY SEWERS	$1,175,660
UTILITIES	$535,000
CONTINGENCIES & ENGINEERING	$1,290,000
SUBTOTAL	$15,440,160
H.S.T. (13%):	$2,007,220
TOTAL	**$17,447,380**

9.0 CONSULTATION

9.1 Points of Contact

As per Section A.3.5.3 of the Municipal Class EA, a minimum of three points of contact are required for a Schedule 'C' project. For this undertaking three points of contact were completed as follows:

- Contact Point No. 1 - Notice of Commencement /Notice of Public Information Centre No. 1
- Contact Point No. 2 - Notice of Public Information Centre No. 2
- Contact Point No. 3 - Notice of Completion

During each point of contact notification was provided to the public, relevant agencies and Indigenous communities as summarized in Table 13.

Table 13: Key Consultation Contact Points

Contact Point	Notification Issued
Notice of Commencement / Notice of Public Information Centre No. 1	▪ The purpose of this notice was to introduce the project, provide background information on the improvements required, identify the Class EA process, define the project study area, and to advise of the scheduling of a Public Information Centre. ▪ Public Information Centre No. 1 was held Thursday, June 1, 2017 at the Collingwood Public Library from 4:00 p.m. to 7:00 p.m. in Community Room B and C. ▪ Notice published in the local newspaper *The Enterprise Bulletin* May 12, 2017 issue ▪ Notice posted on the Town of Collingwood website. ▪ A letter and copy of the notice was issued by the Ainley Group on May 12, 2017 to area residents, relevant agencies and Indigenous communities. ▪ **A copy of all correspondence is included in Appendix 'G' of this report.**
Notice of Public Information Centre No. 2	▪ This notice identified the Preferred Solution that was selected following PIC No. 1 and advised of the scheduling of a second Public Information Centre to present the alternative design concepts under consideration to implement the Preferred Solution. ▪ Public Information Centre No. 2 was held Thursday, September 6, 2018 at the Collingwood Public Library from 4:00 p.m. to 7:00 p.m. in Community Room B and C. ▪ Notice published in the local newspaper *The Enterprise Bulletin* August 16, 2018 and August 23, 2018 editions ▪ Notice posted on the Town of Collingwood website. ▪ A letter and copy of the notice was issued by the Ainley Group on August 13, 2018 to area residents, relevant agencies and Indigenous communities. ▪ **A copy of all correspondence is included in Appendix 'H' of this report.**
Notice of Completion	▪ This notice announced the completion of the Class EA process and identified the locations available to review the Environmental Study Report. ▪ The notice also provided direction for the submission of a Part II Order request. ▪ Notice published in the local newspaper *The Enterprise Bulletin* on April 25, 2019 and May 2, 2019. ▪ Notice posted on the Town of Collingwood website. ▪ A letter and copy of the notice was issued by the Ainley Group on April 15, 2019 to area residents, relevant agencies and Indigenous communities. ▪ **A copy of all correspondence is included in Appendix 'I' of this report.**

9.2 Consultation with Indigenous Communities

Using The Aboriginal and Treaty Rights Information System (ATRIS), a contact list was developed for Indigenous community consultation. The following communities received the project Notice of Commencement and Notice of PIC No. 1:

- Aamjiwnaang First Nation
- Alderville First Nation
- Aundeck-Omni-Kaning First Nation
- Beausoleil First Nation
- Chippewas of Georgina Island First Nation
- Nation
- Mississaugas of the Credit First Nation
- Mohawks of Akwesasne First Nation
- Mohawks of the Bay of Quinte First Nation
- Moose Deer Point First Nation

- Chippewas of Kettle and Stony Point First Nation
- Chippewas of Nawash First Nation
- Chippewas of Rama First Nation
- Chippewas of the Thames First Nation
- Curve Lake First Nation
- Hiawatha First Nation
- M'Chigeeng First Nation
- Mississauga's of Scugog Island First
- Saugeen First Nation
- Sheguiandah First Nation
- Six Nations of the Grand River First Nation
- Wahta Mohawk First Nation
- Walpole Island First Nation
- Wasauksing First Nation
- Zhiibaahaasing First Nation

The communities of Chippewas of the Thames First Nation, Missisaugas of the Credit First Nation, and Wasauksing First Nation all responded that the project was either outside of their Traditional Treaty land, or they did not foresee any concerns with the proposed project at that time. These Indigenous communities, as requested in correspondence, were removed from the project contact list. A full copy of all comments received in regards to the Notice of Commencement and PIC No. 1 can be found in Appendix ‘G’.

The Ministry of the Environment, Conservation and Parks (MECP) was contacted to confirm which Indigenous communities should be contacted as part of this project as per the current protocol. In accordance with the MECP direction the following communities were continued to be consulted with as part of this process:

- The Metis Nation of Ontario
- Moon River Metis Council
- Georgian Bay Metis Council
- Saugeen Ojibway Nation Environment Office
- Beausoleil First Nation
- Chippewas of Georgina Island First Nation
- Chippewas of Rama First Nation (a copy to MHBC Planning as requested by Chippewas of Rama)
- Wahta Mohawks (Mohawks of Gibson)

The originally developed contact list from ATRIS was compared with the list provided by the MECP. Three Indigenous communities were added to the contact list, which were; Moon River Metis Council, the Georgian Bay Metis Council and the Saugeen Ojibway Nation Environmental Office. A re-issue of the notices were emailed to these three communities on July 12, 2017. Copies of all correspondence can be found in Appendix 'G' of this report.

In addition to the above, the Ministry of Indigenous Affairs (formerly Ministry of Indigenous Relations & Reconciliation) and the Metis National Council were also contacted. Indigenous & Northern Affairs Canada (formerly Aboriginal Affairs & Northern Development Canada) was not contacted since the project was not taking place on Indigenous lands.

All notification issued to Indigenous agencies and communities were sent by registered mail so as to confirm receipt. Four Indigenous communities submitted comments in response to the Notice of Commencement / PIC No. 1 issued for this project as shown in Table 14. Following the Archaeological Standards and Guidelines; "*Conducting Archaeology within the Traditional Territory of the Saugeen Ojibway Nation*" the Stage 1 Archaeological Assessment report was sent to Saugeen Ojibway Nation Environment Office in July 2018 for review prior to being submitted to the Ministry of Tourism and Culture for review in November 2018. No comments were received from Saugeen Ojibway Nation Environment Office.

The Chippewas of Rama First Nation and were the only Indigenous community to respond following issue of the Notice of PIC No. 2. Their letter acknowledged receipt of the notice and indicated that it was shared with Council and forwarded to the Williams Treaties First Nation Process Co-ordinator/Negotiator who would take action if necessary.

At the present time, there remain no outstanding Indigenous issues or concerns relating to this project. All items are considered to be addressed.

Table 14: Indigenous Community Comment Summary

	INDIGENOUS COMMUNITY	COMMENTS RECEIVED Notice of Commencement and PIC No. 1	RESPONSE/ACTION
1.	Fallon Burch Consultants Coordinator Chippewas of the Thames First Nation 320 Chippewa Road Muncey, ON N0L 1T0 519-289-2662.ext. 213 fburch@cttfn.com	Email Submitted June 2, 2017 "We are in receipt of correspondence of the aforementioned project, dated May 12th, 2017. In our screening of your correspondence, we have identified no concerns with your project or the information that you have presented to us. Due to the proximity of this project to other First Nations, we feel that we no longer need to receive regular project updated or any other correspondence related to your project. If you have any questions please contact me directly. Thank you for notifying Chippewas of the Thames first Nation."	Comment Noted. Removed from Contact List No response required
2.	Chief Rodney Noganosh Via Hollie Nolan Executive Assistant to the Chief, Administration Chippewas of Rama First Nation 705-325-3611 ext. 1216 705-325-0879	Email Submitted June 2, 2017 "Please be advised that we reviewed your letter. I have shared it with Council and we've forwarded the information to Karry Sandy McKenzie, Williams Treaties First Nation Process Co-ordinator/Negotiator. Ms. McKenzie will review your letter and take the necessary action if required. In the interim, should you wish to contact Ms. McKenzie directly, please do so at k.a.sandy-mckenzie@rogers.com "	Comment Noted. No response required
3.	Fawn D. Sault Mississaugas of the Credit First Nation 6 First Line Rd., Unit 1 R.R. #6 Hagersville, ON N0H 1H0 905-768-4260 doca@mncfn.ca fawn.sault@mncfn.ca	Email Submitted June 23, 2017 Thank you for the notification sent to The Mississaugas of the New Credit First Nation (MNCFN) regarding the Tenth Line and Mountain Road Improvements Schedule C Municipal Class EA Notice of Study Commencement dated May 16th, 2017. We have reviewed the document you have provided and determined that, at this time, MNCFN has a low level of concern about the project. Please see the attached letter for more information. Respectfully, we ask that you immediately notify MNCFN if there are any changes to the project as they may impact MNCFN's interests. Additionally, MNCFN requests a copy of all associated environmental and/or archaeological reports. These can be electronic copies, if you prefer. Furthermore, MNCFN employs Field Liaison Representatives who must be on location whenever any fieldwork for environmental and/or archaeological assessments is undertaken. If additional work is scheduled, please notify us as soon as possible so that we may work together to discuss and arrange for MNCFN's. Attachment Letter included in Appendix 'G'.	Email Issued by Andrea Potter (Ainley Group) July 5, 2017 • Please see the email below and the attached letter previously submitted by MNCFN. From our discussion today I understand that the subject project may actually be outside of the treaty area. It would be greatly appreciated if you could please confirm and advise if MNCFN would like to continue to receive correspondence regarding the project and whether coordination with a Field Liaison Representative is still required.

4.	Megan DeVries, M.A. Archaeological Coordinator Department of Consultation and Accommodation (DOCA) Mississaugas of the New Credit First Nation (MNCFN) 6 First Line Road, Unit 1, RR#6, Hagersville, ON N0A 1H0 905-768-4260	Email Submitted July 5, 2017 "Thank you for the email. As discussed on the phone this morning, please note that the project in question is outside of MNCFN treaty territory. We apologize for the confusion. MNCFN will not require FLR participation in the upcoming fieldwork associated with the EA, and we can be removed from the project notification list."	Comments Noted. Removed from Contact List. No further action required.
5.	Ms. Daniella Baker Community Consultation Coordinator Wasauksing First Nation P.O. Box. 250 Parry Sound, ON P2A 2X4 405-746-2531 ext. 2248 ccc@wasauksing.ca	Letter Submitted July 5, 2017 "Thank you for your notification dated May 12, 2017 in regards to the Study Commencement and Public Information Centre. Wasauksing First Nation does not have any concerns and / or comments to submit in response to the project and we do not wish to continue to received information and / or updates."	Comments Noted. Removed from Contact List. No further action required.
	INDIGENOUS COMMUNITY	**COMMENTS RECEIVED** **Notice of PIC No. 2**	**RESPONSE/ACTION**
1.	Chief Rodney Noganosh Via Hollie Nolan Executive Assistant to the Chief, Administration Chippewas of Rama First Nation 705-325-3611 ext. 1216 705-325-0879	Email Submitted June 2, 2017 "Please be advised that we reviewed your letter. I have shared it with Council and we've forwarded the information to Karry Sandy McKenzie, Williams Treaties First Nation Process Co-ordinator/Negotiator. Ms. McKenzie will review your letter and take the necessary action if required. In the interim, should you wish to contact Ms. McKenzie directly, please do so at k.a.sandy-mckenzie@rogers.com "	Comment Noted. No response required

9.3 Consultation with External Agencies

As identified in Table 15, a number of agencies were contacted regarding this project. During the course of the project comments were submitted by the Ministry of Environment, Conservation and Parks (MECP), the Ministry of Tourism, Culture and Sport (MTCS) and the County of Simcoe Engineering, Planning and Environment Division. At the present time, there remain no outstanding agency issues or concerns relating to this project. All items are considered to be addressed.

Table 15: External Agency List of Contacts

Provincial & Federal Agencies	Local Government and Other Agencies	Utilities
▪ Environment Canada ▪ Ministry of Environment, Conservation and Parks ▪ Ministry of Environment Barrie District Office ▪ Ministry of Tourism, Culture & Sport ▪ Ministry of Natural Resources & Forestry - Midhurst District Office ▪ Ontario Ministry of Agriculture, Food and Rural Affairs ▪ Ministry of Transportation ▪ Ministry of Municipal Affairs and Housing ▪ Infrastructure Ontario	▪ County of Simcoe ▪ Town of Collingwood ▪ Nottawasaga Valley Conservation Authority ▪ Township of Clearview ▪ Town of The Blue Mountains ▪ Simcoe Muskoka Catholic District School Board ▪ Simcoe County District School Board ▪ Simcoe County Student Transportation Consortium ▪ Accessibility Advisory Committee ▪ Town of Collingwood ▪ Simcoe County Historical Association ▪ Association Franco-Ontarienne Des Conseils Scolaires Catholiques ▪ Conseil Scolaire Viamonde ▪ County of Simcoe Paramedic Services ▪ Town of Collingwood Fire Department ▪ Township of Clearview Fire Department ▪ Ontario Provincial Police ▪ Collingwood Constituency Office ▪ Collingwood Chamber of Commerce ▪ Collingwood Heritage Committee ▪ Blue Mountain and Collingwood Snowdrifters Snowmobile Club ▪ Collingwood Cycling Club ▪ Black Ash Trail Committee	▪ Enbridge Gas ▪ Rogers Communications Inc. ▪ Bell Canada ▪ EPCOR (Formerly Collus Powerstream)

Table 16: External Agency Comment Summary

KEY AGENCY COMMENTS	HOW ADDRESSED
MINISTRY OF ENVIRONMENT, CONSERVATION AND PARKS	
MOECC indicated that the following Indigenous agencies/communities should be contacted regarding the project: • Saugeen Ojibway Nation Environment Office with a copy to the Chiefs of (Saugeen First Nation and Chippewas of Nawash Unceded First Nation) • Chippewas of Georgina Island First Nation • Beausoleil First Nation • Chippewas of Rama First Nation • Moon River Métis council • Georgian Bay Métis council • (Note: notices to these two Métis councils should be copied to the Métis Nation of Ontario main office.) MOECC identified the following areas of interest relating to the project that must be addressed: • Planning and Policy • Air Quality, Dust and Noise • Ecosystem Protection and Restoration • Surface Water • Groundwater • Contaminated Soils • Servicing and Facilities • Mitigation and Monitoring • Consultation • Class EA Process A hard copy of the ESR is to be sent to the MOECC when the Notice of Completion is issued for the 30 day review period.	• Following receipt of the email from MOECC, the Aboriginal agency and community contacts were reviewed to confirm that those identified by the MOECC were included. The Moon River Metis Council, the Georgian Bay Metis Council and the Saugeen Ojibway Nation Environmental Office were not on the initial list developed by ATRIS. An email was therefore issued by Andrea Potter (Ainley Group) July 12, 2017 to the aforementioned three organizations advising of the project. A copy of the original notice issued for the project was included with the email. • As per MOECC request a digital copy of the ESR will be circulated to the MOECC with the Notice of Completion and a hard copy forwarded upon request.
MINISTRY OF TOURISM CULTURE AND SPORT (MTCS)	
MTCS's interest in this Environmental Assessment (EA) project relates to its mandate of conserving Ontario's cultural heritage, which includes: • Archaeological resources, including land-based and marine; • Built heritage resources, including bridges and monuments; and, • Cultural heritage landscapes. Please update your contact list to remove Tom Chrzan and send future notices for this EA to Daniel de Moissac, Heritage Planner. Future heritage related inquiries or EA Notices can be sent to MTCS to the attention of Karla Barboza, Team Lead.	• Comment noted and contact list updated.

COUNTY OF SIMCOE	
The following comments were provided via email as a result of County staff attending PIC 1 on June 1st in Collingwood. • The population and employment numbers displayed as part of the background information (board 5 I think) should be verified based on the recent census data that was released. • It appears the intersection improvements at 6th Street and 10th Line would be considered in both Alt. 2 and Alt 3. As we suspect the 'do nothing' alternative would not be preferred, either choice would provide the recommended improvements to the intersection and therefore the County has no preference. • Once the alternative designs for the intersection improvements of either traffic signals with lane improvements vs. roundabout are evaluated, we will consider the most preferred for inclusion in the final EA report. It is recognized these improvements would not be required until 2030 but would want to ensure this intersection is included as improvements may be considered earlier.	Comments noted.

9.4 Consultation with the Public

The public mailing list was provided by the municipality and derived from the Municipal Property Assessment Corporation (MPAC) data extracted from the Municipality's Geographical Information System database. As indicated, two public meetings were hosted by the Town during the course of this Class EA. The following sections detail the public comments received at the key contact points and the action taken to address individual concerns.

9.4.1 Notice of Study Commencement / Public Information Centre No. 1

This notice was issued early in the process in May 2017 to introduce the project, specify the Class EA Schedule, identify the problem / opportunity and define the project study area. The notice also advised the public of the scheduling of a Public Information Centre. Public input was encouraged and direction provided for the submission of comments.

During Phase 2 of the Class EA process, an informal drop-in style Public Information Centre (PIC) was held Thursday, June 1, 2017 at the Collingwood Public Library from 4:00p.m. to 7:00p.m. to provide details regarding the project. A total of 23 exhibits were displayed that provided information pertaining to the Class EA process, project background, the problem / opportunity, the alternative solutions under consideration and the evaluation completed. Plan view drawings with satellite imagery were also displayed for each alternative including the proposed roundabouts. Comment sheets were made available at the PIC and the public was advised that the PIC material was available on the Town's website. The following members of the Project Team were in attendance and available to answer questions:

Brian McDonald	Town of Collingwood, Director Public Works and Engineering
John Velick	Town of Collingwood, Manager Engineering Services
Trevor Harvey	Town of Collingwood, Project Coordinator
Mark McLeod	Ainley Group, Project Engineer
Patrick Wojcieszynski	Ainley Group, Project Engineer
Andrea Potter	Ainley Group, Environmental Planner

The meeting was well attended, a total of 30 people signed in. Attendees included property owners in the area of the project and an area business (i.e. golf course) as well as representatives from the County of Simcoe, the local snowmobile club, and an area land developer.

Table 17 provides a summary of the public comments received during this period and the associated municipal response identifying how those concerns were addressed. A copy of the PIC exhibits, the public comments submitted during this period and the municipal responses are included in Appendix 'G' of this report.

Given the large number of public comments submitted the project team prepared an itemized summary that identified each individual comment (excluding personal information) and the associated municipal response. As some comments were quite lengthy they were paraphrased to include key points and then grouped by topic. Respondent letters were issued September 2017 and included the aforementioned summary of all comments received and the associated municipal response. The cover letter identified the Project Team was still working towards selection of a preferred solution from the options presented at PIC No. 1 and identified the next steps in the Class EA process.

On June 11, 2018 Ainley provided a summary presentation to Council of the Class EA for Mountain Road and Tenth Line. The purpose of the presentation was to provide a brief overview of the project and to answer questions. The presentation provided details on the following:

- The Project Study Area
- Why is the study required in the context of development growth
- Discussion of the Problem/Opportunities
- Improvements Required
- Preferred Solution
- What's Next

Table 17: PIC No. 1 Summary of Comments and Municipal Response

NOTICE OF COMMENCEMENT / PIC NO. 1 SUMMARY OF COMMENTS AND HOW ADDRESSED DURING CLASS EA PROCESS
GENERAL DESIGN OF TENTH LINE AND MOUNTAIN ROAD
• ***It is premature to design and construct Mountain Road to a 5-lane urban cross-section within the study area. With the increasing costs of owning and maintaining a personal vehicle and the heightened awareness and focus on creating active transportation and regional transit opportunities, it is recommended that the Town discount Alternative 3 (5 lane option) at present. Strongly in favour of Alternative 2 (3 lane option).*** • ***Alternative 3 involving 5 lanes on Mountain Road is preferred as this is a major route from Blue Mountain to the Town.*** • ***The concept of a new road with trails or sidewalks and safe crossings both at the Mountain Road and Sixth Street is welcome as well as the 5 lane option on Mountain Road.*** RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS: As can be seen from the above comments support was received for both the three lane and five lane design options. Please note that many factors will be considered in determining whether a three lane or a five lane design is appropriate for the Mountain Road. Prior to selection of a preferred solution, consideration will be given to traffic operation and safety, pedestrian safety, property requirements and utility impacts as well as impacts to adjacent land use and natural heritage features and economic considerations such as costs associated with property acquisition, construction, and maintenance. While a definitive answer cannot be provided at the present time the preferred solution(s) will be presented at Public Information Centre No. 2 which will provide additional opportunity for comment.
ROUNDABOUTS
• ***A roundabout is crucial at both the Grey Road 19/Grey Road 21/Mountain Road and Mountain Road/Tenth Line intersections in order to ensure the long-term, successful flow of traffic between Blue Mountain Resort and Collingwood.*** • ***In addition to providing a continuous flow of traffic, particularly during off-peak periods, there are a number of benefits associated with roundabouts recognized by the Ministry of Transportation, and various counties, cities, and municipalities throughout the province. The Town of Collingwood's website (http://www.collingwood.ca/roundabouts) notes that benefits include an increased level of safety and lower impacts on the environment, and indicates that roundabouts are more aesthetically pleasing. In addition to providing a sense of arrival/gateway to an area, roundabouts provide the opportunity for visitors new to an area to circle around if an exit is missed rather than making a U-turn or 3-point turn to correct a navigation error.*** • ***The intersection at Tenth Line and Mountain Road is dangerous and needs a roundabout or left hand turning lane.*** • ***Consider a traffic circle at the intersection of Tenth Line and Mountain Road while land on the west side of Tenth Line is still available. Traffic Circles work and are a lot cheaper to maintain.*** • ***Traffic circles preferred at the intersection of Tenth Line/Mountain Road. Traffic circles calm traffic and provide opportunity for a gateway feature (heritage/cultural/aboriginal).*** • ***Roundabouts are preferred at the intersection of Mountain Road and Tenth Line ASAP, not 2030.***

NOTICE OF COMMENCEMENT / PIC NO. 1 SUMMARY OF COMMENTS AND HOW ADDRESSED DURING CLASS EA PROCESS
• ***Prefer traffic lights at the intersection of Tenth Line and Mountain Road rather than a roundabout.*** • ***The intersection at Tenth Line and Sixth Street needs improvement. Not safe for children and families crossing from soccer fields or Georgian Meadows. Strongly disagree with putting a roundabout at this intersection as it does not stop traffic and allow children and families to cross the street and the amount of land required to build one may have a detrimental effect on adjacent market and land use. Traffic lights at this intersection would be a better solution.*** • ***A roundabout is preferred at the intersection of Tenth Street and Sixth Street to reduce braking.*** • ***Prefer lights at Tenth Street and Sixth Street intersection unless a roundabout can be positioned south-west of the existing intersection so as not to impact existing residential area or soccer field.*** • ***Traffic circles preferred at the intersection of Tenth Line and Sixth Street. Traffic circles calm traffic and provide opportunity for a gateway feature (heritage/cultural/aboriginal).*** • ***Prefer traffic lights at the intersection of the Tenth Line and Sixth Street rather than a roundabout.*** RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS: It is recognized that roundabouts have many benefits and while they have been successfully implemented in the Town and in area municipalities, they may not be appropriate in all locations. During this Class EA process many factors will be considered to determine if a roundabout is suitable at a specific intersection or whether signalization is more appropriate. Prior to selection of a preferred solution, consideration will be given to traffic operation and safety, pedestrian safety, property requirements and utility impacts as well as impacts to adjacent land use and natural heritage features and economic considerations such as costs associated with property acquisition, construction, and maintenance. If a roundabout is selected as the preferred option its location can be optimized to try and minimize the potential for impact. While a definitive answer cannot be provided at the present time, the preferred solution(s) will be presented at Public Information Centre No. 2 which will provide additional opportunity for comment.
SIGNALIZATION AT OTHER INTERSECTIONS
• ***If a signalized intersection is not proposed at Georgian Meadows and Sixth Street, please consider a four way stop.*** • ***Definitely lights preferred at Georgian Meadows Drive.*** • ***The intersection of Tenth Line and Georgian Meadows Drive and the proposed Linksview intersection with Tenth Line should be signalized.*** RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS: Intersection traffic control requirements are being assessed as part of this Class EA process. Consideration will be given to recent traffic counts and land development proposals in the area.
SNOWMOBILE TRAIL
• ***The existing snowmobile trail provides economic benefit (i.e. food, fuel, accommodation) to the Town. The existing snowmobile trail currently travels from the golf course property east across the Tenth Line towards Taylor Creek where it intercepts with an alternate snowmobile trail that follows Taylor Creek north to the Black Ash Trail. The trail also crosses Mountain Road at the***

NOTICE OF COMMENCEMENT / PIC NO. 1
SUMMARY OF COMMENTS AND HOW ADDRESSED DURING CLASS EA PROCESS

Black Ash Creek Bridge. The urbanization of both the Tenth Line and Mountain Road with sidewalks may create a problem for the snowmobile trail. How will the proposed urbanization of both the Tenth Line and Mountain Road accommodate the existing snowmobile trail system?

RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS: The Town recognizes the contribution that the snowmobile trail system affords the local economy. We are in the process of investigating an alternative snowmobile route. We understand that trail crossings of public roads from private lands to other private lands may be difficult to secure permanently. We will continue to keep you informed as the project progresses and additional opportunity for comment will be provided at the second Public Information Centre to be scheduled for this project later this year.

ACTIVE TRANSPORTATION AND TRAIL CONNECTIVITY

- ***Strongly in favour of improving connectivity between roads or sections of roads with paved shoulders, sidewalks, and/or multi-use trails. There are currently too many areas throughout our region where paved shoulders, sidewalks, and/or multi-use trails abruptly end. It is hoped that future road improvements along additional sections of Mountain Road and Tenth Line and other area roads (Grey Road 19, etc.) carry forward similar designs that support a more integrated active transportation network. It is strongly encouraged that the Town of Collingwood to liaise and work with neighbouring municipalities and counties to ensure consistency across political boundaries, wherever possible.***

- ***Mountain Road - Comfortable with plans to have bike lanes plus the paved trail on the south side of Mountain Road. This plan will hopefully concur with the study that is underway to create a trail link between Collingwood and the Village at Blue. Concerned with the Black Ash Trail crossing immediately to the west of the Black Ash Creek Bridge on Mountain Road. This location will need to provide a safe crossing for pedestrians and cyclists as well as area snowmobilers and the trail groomer. Is a pedestrian-activated traffic signal an option?***

- ***Tenth Line - The issue of a mid-block crossing reappears again along this road. At the moment the snowmobile route west of Tenth Line follows the land immediately south of the Blue Mountain Golf Course and then crosses Tenth Line and follows the road northbound on the east side of Tenth Line to Taylor Creek. It is expected that a future pedestrian/cycling trail will follow this same route. Is it possible to have curb cuts at the appropriate trail route locations for bikes and snowmobiles?***

- ***A mixed use crossing at the Black Ash Creek Bridge on Mountain Road is a safety concern. Would like to see a crossing under the road with a 5-lane structure.***

- ***Tenth Line needs a trail from 6th Street to Mountain Road.***

RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS: One of the problems to be addressed as part of this undertaking is to provide for active transportation (pedestrian and cyclists) which includes giving consideration to improved safety and trail connectivity. The Town of Collingwood has recently prepared an Active Transportation Framework Plan to provide formal direction relating to the development of active transportation within the municipality. The design options currently under consideration to improve both the Tenth Line and Mountain Road propose the inclusion of bicycle lanes and sidewalks which will assist in improving active transportation and connectivity in that area of the municipality.

The Town recognizes that the crossing on Tenth Line west of the Black Ash Creek Bridge is a key location that will need to safely accommodate pedestrians, cyclists and snowmobilers. The project team is reviewing various crossing options for this location including a tunnel crossing, a pedestrian island or crosswalk, or potentially moving the crossing to a location with better sight lines. The alternatives as presented at the June 1,

NOTICE OF COMMENCEMENT / PIC NO. 1 SUMMARY OF COMMENTS AND HOW ADDRESSED DURING CLASS EA PROCESS
2017 PIC do provide for improved pedestrian and cyclist safety via a 1.5 m sidewalk on both sides of the Tenth Line from Sixth Street to Mountain Road as well as a 3.0 m multi-use trail on Mountain Road as part of the three lane option. Sidewalks, a bike lane and a multi-use trail are also proposed as part of the five lane option. It is expected that these provisions within the corridor will greatly improve safety for pedestrians and cyclists. The potential to provide curb cuts at appropriate trail locations will also be given further consideration during this process. We hope to provide additional details in this regard at PIC No. 2 scheduled for later this year.
EXISTING TRUCK TRAFFIC, NOISE AND DUST
• ***Concerned with road reconstruction and the huge number of truck loads bringing soil into the Consar Development, the Linksview etc. Will regulations regarding dust control and noise be rigidly enforced?*** • ***There is a large volume of truck traffic with many of these trucks going to the landfill at the end of the Tenth Line from other transfer stations.*** • ***Concerned with increased truck traffic on Tenth Line which is already very noisy.*** • ***The Tenth Line surface is currently noisy. The paving when done needs to be better quality.*** • ***Will there be a sound barrier for the Tenth Line. This seems to be a major truck route for Lafarge Concrete and Town trucks.*** • ***Will there be increased noise from increased traffic on Tenth Line?*** • ***Is there way that construction vehicles from Mair Mills and Consar Developments can be directed to use Mountain Road and the Tenth Line rather than Sixth Street and the Town Line?*** RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS: The Tenth Line reconstruction proposes improvements to the existing corridor and not an expansion in terms of additional lanes for increased capacity. While it is recognized that truck traffic and resulting noise may be increased during the period of construction, this will be temporary. Please note that during construction contractors working within the Town are required to abide by the Town's noise bylaw and implement standard noise mitigation measures during construction. Standard best management practices can also be utilized during construction to address dust. These may include the covering of stockpiles, the application of dust suppressants, the regular cleaning of access roads to remove debris and dust caused by construction, as well as reducing travel speeds of construction vehicles. The surface treatment of the Tenth Line will be improved as part of the planned reconstruction which may also assist in reducing noise. It is recognized that there may be an increase in noise as a result of the land development projects planned for the area, but please keep in mind that this area of the municipality is designated for growth in the Town of Collingwood's Official Plan.
PERCEIVED BLIND SPOT ON TENTH LINE
• ***There is a blind spot on the Tenth Line between Sixth Street and Georgian Meadows Drive.*** • ***There is a blind spot at the Tenth Line and Georgian Meadows Drive.***

NOTICE OF COMMENCEMENT / PIC NO. 1
SUMMARY OF COMMENTS AND HOW ADDRESSED DURING CLASS EA PROCESS

RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS: The Town is aware of potential existing sight line issues and these will be addressed as part of this undertaking.

TRAFFIC PROJECTIONS

- ***Traffic Projections into and out of the Side Launch Brewery is vastly understated. The brewery is growing rapidly and traffic will increase. Currently turning left onto Mountain Road from the brewery is an issue at times.***

RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS: The traffic projections as presented at PIC No. 1 were based on traffic counts taken at the site in August 2016. We acknowledge that the numbers presented for this location at PIC No. 1 may be understated; however, a shared left turn lane will address turning movement requirements at this location.

DRAINAGE CONCERNS

- ***Tenth Line is prone to flooding from Georgian Meadows to Mountain Road.***
- ***Concerns with potential flooding from Taylor Creek into homes in Georgian Meadows.***
- ***Drainage and ground water control is a concern. Past basement flooding when Tenth Line ditch backed up. Taylor Creek is a huge concern.***
- ***Proper underground drainage is necessary to ensure runoff from the Tenth Line is properly addressed so that flooding does not occur in the Georgian Meadows subdivision.***

RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS: During the Class EA process a drainage assessment is being completed to examine existing drainage within the subject study area and to develop an appropriate drainage strategy to accommodate the works proposed. As presented at PIC No. 1 it is proposed to urbanize the Tenth Line. This means that the existing ditch drainage will be removed and replaced with a curb and gutter system with road drainage conveyed underground to a storm sewer. This will lead to improved drainage within the corridor and may assist in reducing overland flow. It is not expected that this project will impact existing groundwater levels.

CORRIDOR MAINTENANCE

- ***Presently Town does no maintenance on property beside road.***

RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS: The Town carries out maintenance, as required, to meet the Town's required roadway standards.

EXISTING NATURAL HERITAGE FEATURES

- ***Consider constructing a wildlife tunnel on Mountain Road to accommodate wildlife movement. Conserve/protect natural corridors at 20 metres. The Taylor Creek forested area and the natural channel on the east side of the corridor within the Red Maple property should be protected. Restoration should be completed with natural species ecology.***

RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS: As part of the current Class EA process a natural heritage review is being completed that will establish an inventory of the existing environment and identify any sensitive features or aspects that need to be considered in the development of the design. The potential to impact fish and fish habitat, area wildlife, vegetation and Species at Risk will be considered as part of this Class EA process and an appropriate mitigation strategy will be developed to minimize impacts during construction. Once the natural heritage review is complete the Project Team will have a better understanding

NOTICE OF COMMENCEMENT / PIC NO. 1 SUMMARY OF COMMENTS AND HOW ADDRESSED DURING CLASS EA PROCESS
of design measures that may be necessary to minimize impacts. The forested area noted above on the Red Maple property (i.e. Consar Development) is outside the study area for the current project and all environmental concerns associated with that property will be addressed as part of the land use planning process for that development.
AREA DEVELOPMENT
• ***The study should include consideration with respect to traffic flows/impacts and servicing infrastructure improvements for the future Todco Development which is designated for urban development and located at the northwest corner of the Tenth Line / Mountain Road intersection. This property has been Draft Plan approved. It is projected that 30% of the residential density will be completed by 2022 with the entire development completed before 2030. How will the Town accommodate Todco's residential density by 2022 (from a road and infrastructure servicing perspective)? Will the proposed densities take into consideration the new Growth Plan targets for green field development? For future developments, we assume applicable widenings and/or land will simply be required by the Town (no negotiation) as part of the development process. Please advise the amount and configuration of the land (if any) that would be required from the Todco development. Please confirm all proposed improvements will be paid for through Development Charges and/or by the Town.***
RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS: During the current Class EA process consideration will be given to any new developments proposed in the area of the project. Ongoing consultation throughout the Class EA process with the developer's consultant will assist in ensuring that the site can be accommodated from a traffic and infrastructure servicing perspective. Any site specific questions pertaining to widening requirements, site servicing, densities and Development Charges will require separate discussion with the Town as part of the land use planning process.

9.4.2 Public Information Centre No. 2

The municipality hosted a second Public Information Centre on Thursday, September 6, 2018 at the Collingwood Public Library from 4:00p.m. to 7:00p.m. using the same informal, drop-in style format as the first PIC. While the twenty-one exhibits presented similar background information as shown at PIC No. 1, the focus of the meeting was on the selection of the Preferred Solution and the presentation and evaluation of the design options developed to implement the Preferred Solution. Plan view drawings of each design variation were also displayed on tables at two viewing locations. Comment sheets were made available at the PIC and the public was advised that the PIC material was available on the Town's website. The following members of the Project Team were in attendance and available to answer questions:

John Velick	Town of Collingwood, Manager Engineering Services
Trevor Harvey	Town of Collingwood, Project Coordinator

Tom Nollert	Ainley Group, Senior Technologist
Patrick Wojcieszynski	Ainley Group, Project Engineer
Jody Marks	Ainley Group, Environmental Planning Assistant

The meeting was well attended with a total of 47 people signing-in. Attendees included property owners in the area of the project and Town staff. Many of the comments received during the PIC were related to the installation of a multi-lane roundabout at Mountain Road and Tenth Line. Other comments received were associated with active transportation opportunities including snowmobile accessibility through the study area.

A large number of public comments were submitted following PIC No. 2. Similar to PIC No. 1 all comments received were summarized and categorized by topic. As some comments were quite lengthy they were paraphrased to include key points. Table 18 provides a summary of the comments received and the associated municipal response. Individual response letters were issued December 20, 2018. A copy of the PIC No. 2 exhibits, the public comments submitted during this period and the municipal responses are included in Appendix ‘H’ of this report.

Table 18: PIC No. 2 Summary of Comments and Municipal Response

NOTICE OF PIC NO. 2 SUMMARY OF COMMENTS AND HOW ADDRESSED DURING CLASS EA PROCESS
GENERAL DESIGN OF TENTH LINE AND MOUNTAIN ROAD
• ***Thomas Lane is a lane – for walking or bicycles. Entrance for #5 should be on 10th - like Creekside or an extra straight onto Mountain Rd.*** • ***Spend our money widening the turn lanes on Mountain Road at 10th Line, so traffic can go around vehicles turning onto 10th Line. I've seen cars go in the ditch at that corner.*** • ***Major concern with 10th Line and Mountain Road that no short terms solution to prevent traffic back up with no left hand turn lane for south bound turns from Mountain Road onto 10th Line.*** • ***If Mt Rd. west is not to be rebuilt for many years after this study area, consideration should be given for making the turn lane at Mt Rd./Kells much safer. This could include widening the through and turning lanes at Mt Rd/Kells.*** • ***Turn lanes on Mountain Rd. and 10th Line.*** • ***What would improve the flow of traffic at this intersection is a left hand turn lane for both east and west on Mountain Road. With the extensive anticipated construction of both residential and commercial in this quadrant of Collingwood, a traffic circle would only exacerbate the problem.*** • ***There is a need for two left hand turn lanes going west and east on Mountain Road so that when cars or trucks are turning north or south on 10th Line, they can safely be maneuver around, thus assisting the flow of traffic.*** • ***Awareness needs to be made regarding the Mountain Road section between 10th Line and the Estelle entrance to Mair Mills. The corner in this area of road is poorly banked thus drawing cars into the ditch, especially on snowy / icy days. Rather than a round-a-bout, attention needs to be directed towards repaving Mountain Road going west from 10th Line to 19-21 and adding two left hand turn lanes.*** RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS: The connection to Thomas Drive is outside the scope of this study. Although the existing traffic analysis indicated an overall acceptable level of service for the intersection of Mountain Road and Tenth Line with existing traffic volumes, it is acknowledged that west to south left turns can impede the flow of through traffic. The proposed improvements will address this.
ROUNDABOUTS
• ***If roundabouts are incorporated in the plan, some kind of activation signal for the crosswalks would make sense. No doubt the roundabout at Mountain Road and Tenth Line will be extremely active and the safety of cyclists and pedestrians is of paramount importance.*** • ***Roundabouts – do not help cyclists nor pedestrians. The 4 way stop on 10th and 6th is proving to allow traffic to turn and for pedestrians to be able to cross safely. 4 way stops are good/better than lights because the cars slow and stop (not speed up to get through the light) plus keep moving allowing turns and people to cross.*** • ***Roundabouts are dangerous to both pedestrian and vehicular traffic; people do not know/understand how to yield. We take our lives in hand even trying to negotiate them.*** • ***The traffic that is going to be increased on Mountain Rd. and Tenth Line will make it harder for people to turn onto Mountain Rd. from Tenth due to the fact that people do no yield at***

NOTICE OF PIC NO. 2
SUMMARY OF COMMENTS AND HOW ADDRESSED DURING CLASS EA PROCESS

roundabouts they simply follow the car in front of them. Crossing the road on a bike will most likely be impossible. Why not 5 lanes with stop lights, turning lanes, and turning signals just like First and High St - works there with all the traffic. No other option is being presented to us. It seems that this is what is happening with our input or not

- ***Roundabout good.***

- ***A roundabout would be horrendous at 10th Line and Mountain Road because there are multiple industrial establishments (Town of Collingwood dump, Lafarge cement plant, and Agnora plant) that involve large trucks to travel these roads. The growth of businesses and developments along Mountain Road and 10th Line will bring in more trucks.***

- ***Mountain Road is the main thoroughfare to Blue Mountain and there is lots of bus traffic, cars and trucks. It would be nearly impossible for any pedestrian or bicycle rider to safely negotiate this traffic circle due to the high volume of cars and trucks in the vicinity.***

- ***Traffic circles on the 10th Line at Mountain Road and Sixth Street would be disastrous for our area. I hate to say this but I can anticipate severe accidents just waiting to happen at both these intersections.***

- ***If future traffic did warrant a change, a traffic signal could be installed making the intersection safer than if a roundabout where to be created. There is very high pedestrian & cycling traffic at Mountain Rd. & 10th Concession.***

- ***The only safe crossing currently for pedestrians traveling into town or down 10th Concession to the trail is the traffic light at Mountain Rd. & 10th Concession. I can't see how a crosswalk at a roundabout would provide safe passage for these people. During the two peak seasons it's almost impossible to safely leave our development, we need a traffic light. If a roundabout were constructed there would be nothing to stop the flow of traffic and would only add to the existing problem.***

- ***Roundabouts must have regard for heavy/large truck movements, specific construction with Agnora which has very specific/special shipping and receiving requirements. It is understood that Agnora may be planning "large" equipment upgrades.***

- ***Roundabout design and construction layout "must" be and remain on centre line of right of way. Any deviation, for example Poplar Side road at High Street west to east movement R.O.W acquisition seemed to have been compromised.***

RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS: A signalized intersection was reviewed and presented at the first PIC. Both types provide similar capacity levels, however the roundabout option was chosen as the preferred option as it has some factors that are more favourable as presented at the PIC.

Roundabouts are circular intersections in which vehicles travel counter clockwise around a central island. Traffic approaching the roundabout is deflected and separated from on-coming traffic with a splitter island and are designed to cause vehicles to slow down on the approach and within the roundabout. Vehicles entering the roundabout must yield to vehicles already in the roundabout and proceed into available gaps.

Roundabouts virtually eliminate the potential for some of the most severe type collisions such as right angle (T-bone) and head-on collisions that can occur on signalized and stop controlled intersections. Potential conflicts at roundabouts are less severe due to the slower speed and angular merging of vehicles therefore making them safer. Pedestrian and cyclists will only have to cross one approaching traffic stream at a time as

NOTICE OF PIC NO. 2
SUMMARY OF COMMENTS AND HOW ADDRESSED DURING CLASS EA PROCESS

the lanes are separated with the splitter island which provides refuge for the pedestrian.

Roundabouts are also the most environmentally friendly type of intersection. This is due to their visual aesthetics with the landscaped inner island and reduced emissions from less idling and less wasted fuel. Noise levels will be lower compared to signalized and stop controlled intersections because of the smoother flow through roundabouts, reduced braking and reduced accelerating. Operation and maintenance costs for a roundabout are lower since there is no signal to maintain and consume electricity.

Within the region and surrounding Collingwood there are 4 roundabouts and others in the planning stages by the Ministry of Transportation. Roundabouts are being employed in the GTA and motorists are becoming familiar with the proper usage of them.

Both roundabouts will be constructed with approach lanes aligned with the centre of the roundabout. Approach lanes will not be offset resulting in a tangential alignment of the approaches. Roundabouts will be designed to accommodate trucks. Ainley group has also contacted Agnora who utilize some of the largest trucks to travel through the study area and we are working together to ensure that Agnora's trucks are accommodated in our design.

SIGNALIZATION AT OTHER INTERSECTIONS

- ***The exit for Mair Mills residence is going to be bad regardless of what is done at 10th Line. Would it be feasible to widen Mt Rd. at the entrance/exit of Mair Mills? As it is now, the turn lanes east and west are far too narrow and as traffic increases potential for accidents will increase. Stop signals will eventually be required at that intersection.***

- ***Increase of traffic on Mountain Road will mean Mair Mills residents will be unable to turn left onto Mountain Road. A roundabout at Tenth and Mountain Road will mean traffic will be constant. We need traffic lights at Kells Crescent and Mountain Rd.***

- ***The dangerous curve just west of 10th line - spend our money fixing that corner and the road so further deaths will be avoided. I've seen several accidents at that corner.***

- ***Major concern with no stop light at Kells Crescent.***

- ***Consideration should be given to putting an entrance/exit across from Banff Ski/Landscape into Mair Mills Village to alleviate significant traffic delays expected at Kells/Mt Rd.***

- ***Very concerned with roundabout at 10 and Mt. Road. Continuous flow (the stated purpose) will make it very difficult and dangerous to enter and exit Kells Cres. in Mair Mills. There will be little/few gaps in traffic Mt Road. westbound resulting in few opportunities to exit from Kells west bound. Compounding the problem is using Thomas/Kells as the second exit from the new Mair Mills Village. Need a traffic light at Kells/Mt Rd.***

- ***Consideration for alternate exit from Mair Mills Village to Mountain Rd. (Not Thomas Dr.)***

- ***Are any turning lanes part of the plans for: Fisher Field, Linksview/Georgian Meadows, Blue Mountain Golf Course, Red Maple, Mair Mills Village, or Agnora?***

RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS: Improvements at Kells Cres. are outside the scope of this study. Current analysis indicated that roundabout vs signalized intersection of Mountain Road and Tenth Line will not have a significant differing impact on the traffic from Kells Cres. At the present time a traffic signal is not warranted at this location. The connection to Thomas Dr. is outside the scope of this study.

NOTICE OF PIC NO. 2
SUMMARY OF COMMENTS AND HOW ADDRESSED DURING CLASS EA PROCESS

SNOWMOBILE TRAIL

- ***Multi-use trail crossing Mountain Rd south to north after 10th line safety is a must to keep the trails inked for long term use. Multi-use trails meeting roundabouts how do we manage the auto traffic vs. the pedestrian traffic?***

- ***Realignment of Black Ash trail at Mountain Road crossing and curve must accommodate industrial grooming equipment as per towns plan to groom winter trails for ease of use in winter.***

- ***Tenth Line at Taylor Creek redesign how will traffic (multi-use trail) cross tenth line and snowmobile trails from golf course parking lot to Taylor Creek the east side or west side of the tenth.***

- ***The 3 month use for snowmobiles is important to local business and shop that rely on snowmobile traffic to get into town, via the golf course and across tenth line to Taylor Creek, and on the Black Ash trail to Mountain Road. The town of the Blue Mountains multi use trail will be connecting to Collingwood via mountain road. North or south side how will this roundabout effect trail use I the future?***

RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS: Multi-use trail west of Tenth Line is outside the scope of this study. If the snowmobile is on the multi-use trail the crossing of each roundabout leg can be accomplished similar to pedestrians and how snowmobiles negotiate other intersections. Similar to pedestrian and cyclists, snowmobiles will only have to cross one approaching traffic stream at a time as the lanes are separated with the splitter island. We will review the required geometric design. In the meantime, if you could provide the details i.e. dimensions of any grooming equipment that you propose. The detail design will incorporate curb cuts to facilitate crossing Tenth Line in the Vicinity of Taylors Creek. The snowmobile club will have to coordinate the best route from adjacent properties as to how to get to the crossing.

ACTIVE TRANSPORTATION AND TRAIL CONNECTIVITY

- ***Request bike lanes are extended on Mountain Rd. from Cambridge to High Street.***

- ***Need plan extended to include bike lanes west of 10th on Mountain Rd. Blue Mountains.***

- ***Need traffic lights installed crossing Mountain at Black Ash now (ASP). Critical with increased traffic volume that a bike lane is provided connecting Blue Mountain to High Street on both east and west bound.***

- ***Bike lanes good on Mountain Rd. and 10th Line.***

- ***Bike Lanes extended from 10th Line to Mair Mills subdivision.***

- ***Can roundabout safely move heavy bicycle and pedestrian movements? There did not seem to be any regard for planning at the PIC.***

RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS: Extending the bike lanes from Cambridge to High Street is outside the scope of this study. Bike lanes west of Tenth Line are outside the scope of this study. Multi-use trail west of Tenth Line is outside the scope of this study. The proposed improvements being planned for Mountain Road include the installation of a pedestrian traffic signal.

Roundabouts through their geometric design vehicles to slow down on the approach and within the roundabout. Pedestrian and cyclists will only have to cross one approaching traffic stream at a time. It also

NOTICE OF PIC NO. 2 SUMMARY OF COMMENTS AND HOW ADDRESSED DURING CLASS EA PROCESS
reduces the number of potential conflict points vs a signalized intersection for both pedestrians and vehicles. Cyclists travelling in the proposed bike lane will have the option to circulate within the roundabout or to transfer at the proposed curb ramp onto the sidewalks, dismount and cross as a pedestrian.
NOISE
• ***At the present time a chain link fence exists at the rear of properties along the 10th line. Perhaps consideration of a noise abatement alternative to the chain link fence would be included in the final plan/approval.*** • ***Privacy/security/sound fence along east side of Tenth Line and Georgian Meadows subdivision – due to increased vehicle traffic, pedestrian and bike traffic. At no cost to Georgian Meadows residents.*** RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS: We carried out a review of potential noise predictions and conclude that no mitigation is required. The predicted future noise changes are less than 5dBA and are not to exceed 65dBA which are the current thresholds above which mitigation would be considered. Although the curbs are moving closer to the property line, they are not being used by traffic as they are bike lanes. Also, the centre line of the road is actually moving slightly further west than the existing centre line. The overall conclusion is that with the improvements and the growth in traffic volume, noise levels are predicted to be below the threshold for requiring any noise mitigation measures. The potential noise level change is less than 5dBA and less than 65dBA during the design horizon of 2037.
TRAFFIC
• ***The volume of traffic along the 10th line increases yearly and as time goes by will be one of the busiest in town. The speed limit of 50km does not have a positive effect on the traffic with vehicles travelling at +70km on average. Hopefully when this project commences safety relating to speed issues will be given a top priority. In the meantime I would suggest the Town invest in solar powered speed radar devices that post oncoming traffic speeds. I believe traffic does respond positively to these.*** • ***You estimated in the future upwards of 10,000 vehicles a day will travel on this stretch of the Tenth Line. What safety measures will be incorporated in your plans? Currently the posted speed limit is 50km. I can truthfully tell you that very few drive that slow, +70km would be more accurate. It would be reassuring to see some traffic calming measures in this project.*** • ***Long range traffic patterns: must have regard for Collingwood area tourist destination and residential growth. Also suggest comprehensive traffic study update of 2012 be included in EA recommendations.*** • ***I'm not convinced that a proper traffic study from Town of Blue Mountain's end of Mountain Road has been done.*** RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS: The Tenth Line speed is posted at 50 km/h. If excessive speeding becomes an issue then other mitigating measures may be introduced and or increased enforcement required. The Town will consider the use of an interactive speed sign. The traffic growth rates for the study area were adjusted to reflect the growth and potential traffic from The Town of the Blue Mountains. The County of Grey Transportation plan was also reviewed which provided traffic projections for the year 2036 on Mountain Road. Traffic volumes also include a percentage of trucks. The Town is proposing an update to the Collingwood Transportation Study in 2019.
GENERAL PROJECT

NOTICE OF PIC NO. 2 SUMMARY OF COMMENTS AND HOW ADDRESSED DURING CLASS EA PROCESS
• ***Expect that 80% of costs are growth related and as such recoverable through municipal development charges. This should be identified in last D.C study and current D/C by-law. Recommend update to more accurately identify real estimated costs not bench mark costing.*** • ***No real time line has been provided.*** RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS: Implementation of the improvements is subject to development progress and the Town's Capital Works Budget. Project funding will be partially through development. The current Development Charges By-Law's expire after 5 years. It is anticipated that the current DC's will require updating in 2019.

10.0 MITIGATION

The following sub-sections outline the mitigation measures that are to be considered in the development of the detailed design for the site and during construction. The mitigation measures as discussed are preliminary and may be refined or modified during the detailed design phase to reflect design changes made at that time.

10.1 Natural Environment

10.1.1 Fish and Fish Habitat

The following mitigation measures are recommended to minimize impacts to both Black Ash Creek and Taylor Creek and associated fish and fish habitat.

- All in-water work must occur 'during the appropriate in-water timing window of July 1-September 30.
- Work at the Black Ash Creek location is to ensure that the fish passage structure downstream of the bridge is maintained post-construction. Depending on the extent of road widening/bridge replacement proposed, the fish passage structure may need to be retrofitted to ensure it functions as intended post-construction.
- Diligent application of sediment and erosion controls is to be installed prior to all construction activities occurring in proximity to the watercourses to minimize the extent of accidental or unavoidable impacts to fish habitat, and alleviate the risk of sediment entering the watercourses.
- Sediment and erosion controls must be maintained throughout construction and until vegetation is re-established post-construction.

- All maintenance of machinery required during construction must be conducted 30 m away from the watercourses to prevent accidental spillage of deleterious substances that may harm the aquatic environment.
- Snow fencing or equivalent (*i.e.*, silt fencing) should be installed at the limit of the work area to prevent the accidental intrusion of machinery operations into adjacent undisturbed natural areas.
- At this time, the need for dewatering and/or bypass pumping of the construction area is unknown. If dewatering is required, all water should be pumped to a filter bag (*i.e.*, envirobag or equivalent) prior to being released into any drainage feature. Filter bags should be placed a minimum of 30m from the drainage features on stable, vegetated ground to allow fines to settle out of the water. Monitoring of dewatering operations is to occur throughout the construction process to ensure water is free of fines before entering the drainage features. Should bypass pumping be required, pumps are to be adequately sized to accommodate storm flows in order to maintain flow quantity and quality around the work area.

10.1.2 Vegetation

Given that the study area is of a developed nature, with large extents of manicured lawns bordering Mountain Road, there is limited existing vegetation. Given that reconstruction along Tenth Line will be confined to the existing right-of-way, there is a low potential to impact existing vegetation. The following measures will assist in keeping impacts to a minimum:

- All areas disturbed during construction should be restored as soon as possible following the completion of earthworks.
- The limits of construction should be defined with fencing to minimize intrusion into unnecessary areas.

10.1.3 Wildlife and Species at Risk (SAR)

The terrestrial analysis determined that work proposed will generally not result in a negative impact to potential SAR in the area if proper mitigation measures are applied. Proposed mitigations are intended to further reduce potential impacts to candidate SNHF as outlined in Section 5.2.6 of this report.

- **Turtle Nesting** - While there is no legislative requirement, it is recommended that in areas where turtle nesting may occur that silt fencing be installed along the limits of the

ROW/work area on both sides of the roads in a configuration that would prevent turtles from moving out of the water body and into roadside gravel shoulders within the work area to nest. Fencing should be erected prior to May 15 of any given year and inspected daily during the nesting season (*i.e.*, May 15 to June 30 of any given year) and immediately repair any damage that would allow turtles access to the work area.

- **Migratory Breeding Birds and Threatened Birds** - Migratory birds, nests, and eggs are protected by the *Migratory Birds Convention Act (MBCA)*, and the *Fish and Wildlife Conservation Act (FWCA)*. To avoid impacts to birds (including SAR birds), the removal of vegetation shall be avoided between April 15th and August 31st. If vegetation removal is required within this period, a screening by an ecologist with knowledge of bird species present in the area is to be undertaken within 48 hours of the planned vegetation removals to ensure that the affected vegetation is free of nests prior to clearing. Should vegetation clearance activities be delayed and not occur within the 48 hour period, an additional screening shall be completed by an ecologist to confirm that there are no nests present. In addition, care should be taken when clearing vegetation and/or working on bridge structures that all works respect the window for Migratory Breeding Birds. This will ensure that birds potentially utilizing the habitat will not be killed or harmed as a result of the works.

- **Endangered Bat Species** - The proposed road improvements are likely requiring tree removals. Given that any trees may provide inconsistent habitat for Species at Risk bats in the form of day roost, care should be taken when clearing vegetation. Construction activities involving the removal of trees should not be undertaken between April 1st to October 31st. This will ensure that no bats actively roosting in trees will be killed or harmed as a result of clearing activities. If removal of large areas of woodland is proposed, a bat snag assessment is to be undertaken to determine if maternity roosting habitat is present

Other mitigation measures relate to worker training and that employees are trained to ensure no contraventions of the ESA. These include:

- When working on culverts which are identified in areas with potential SAR or SAR habitat in the area, care should be taken due to the potential presence SAR birds (Barn Swallow, Bank Swallow, Eastern Meadowlark, Bobolink, Chimney Swift), which receive species and habitat protection under the ESA.
- The contractor shall make certain that personnel working on the site are aware of potential SAR that could be encountered (i.e. Barn Swallow and Endangered Bat Species (Little Brown Myotis, Northern Myotis, and Tri-coloured Bat)) and that the species are protected

by law. Individuals working on site shall ensure that SAR are not harmed during construction or killed by heavy machinery, vehicles, or other equipment.

- If a SAR is encountered during construction, all works in the immediate area must cease and the Contract Administrator and the SAR Biologist at the Ministry of Natural Resources and Forestry Midhurst District office should be contacted immediately. Harassment to SAR should not occur during construction activities.

10.1.4 Surface Water

During construction there is the potential to impact surface water through the accidental spillage of harmful substances from refueling and/or equipment maintenance. It is anticipated that impacts to surface water during construction will be minimal provided the standard measures for working in and around water are followed. The following mitigation measures will assist in minimizing impacts:

- It is recommended that detailed design give consideration to implementing Low Impact Development measures, where possible, to assist in improving water quality.
- Silt controls are to be installed and monitored to ensure that exposed soils are not susceptible to erosion following precipitation events.
- Erosion and sediment control measures must be maintained throughout construction and until vegetation is re-established post construction.
- Stockpiled material should be stored a minimum of 30 m from a waterbody with adequate sediment and erosion controls installed.
- OPSS 805 Construction Specification for Temporary Erosion and Sediment Control Measures.

10.1.5 Groundwater

As per the South Georgian Bay Lake Simcoe Region Source Protection Plan and the Nottawasaga Valley Source Protection Area Approved Assessment Report the he project is not located within an area sensitive to contamination such as a Wellhead Protection Area or Intake Protection Zone. Provided that proper mitigation is implemented during construction, this project is not expected to significantly impact groundwater. The following measures will assist in minimizing impacts to area groundwater during construction:

- The contractor will be required to complete water taking (groundwater) in accordance with the requirements of the Ontario Water Resources Act and the Environmental Protection

Act. The Contractor must complete an EASR registration if the amounts taken are greater than 50,000 L/day but less than 400,000 L/day as per S. 7 (5) of the Act. If amounts exceed 400,000 L/day the contractor will be required to complete a Category 3 Permit to Take Water (groundwater).

- If submersible pumps are used within the trench to control surface water and localized groundwater, the pumps within the trench must discharge via a temporary pipeline to a pre-treatment system (e.g. Enviro-tank, or equivalent) to control contaminants of concern to acceptable levels.
- OPSS 518 – Control of Water from Dewatering Operations
- OPSS 180 – General Specification for the Management of Excess Materials

10.1.6 Air Quality

As this project involves a reconstruction of an existing corridor the potential to impact air quality is not expected to be significant. The following standard mitigation measures will assist in reducing impacts in this regard:

- The Contractor should utilize best management practices during construction to maintain air quality and include no unnecessary idling of vehicles during construction.
- Stockpiles of soil, sand and aggregate should be covered.
- Construction sites and access road shall be regularly cleaned to remove debris and dust caused by construction.
- Appropriate dust suppressants shall be applied to control dust generated by construction activities.

10.2 Socio-Economic Environment

10.2.1 Land Use & Property Impacts

It will be important to minimize impacts to area residences and businesses during construction by maintaining traffic flow and property access. The following measures will assist in keeping impacts to a minimum:

- Construction shall utilize traffic management measures (i.e. construction staging, detours etc.) to minimize impacts to local traffic and to maintain access during construction.

- Operational private and commercial entrances should be included in the contract documents requiring the contractor to maintain access during construction to all entrances. The contractor shall also be required to restore all entrances prior to shutting down at the end of the day.
- Construction staging should be utilized to ensure that traffic movement is maintained and consist of single lane closures.

10.2.2 Noise

The main noise sensitive areas are the residential properties located on east side of Tenth Line. There is the potential for increased noise during the construction period; however, this will be temporary and can be minimized through implementation of the following measures:

- Construction should adhere to the municipality's noise by-law. The contractor should be restricted from working during the weekends or on holidays.
- Equipment should be maintained in an operating condition that prevents unnecessary noise, including but not limited to non-defective muffler systems, properly secured components, and the lubrication of moving parts.
- The idling of equipment should be restricted to the minimum necessary to perform the specified work.

10.2.3 Servicing and Utilities

During detailed design additional discussions with affected utilities will be required to confirm the location of existing utility infrastructure and to ensure that service can be maintained during the construction period. Municipal servicing requirements will incorporate the needs and recommendations from the Town's Master Servicing Plan currently under review.

10.2.4 Contamination and Waste Management

The following measures will assist in addressing contamination and waste management during the period of construction:

- The removal and movement of soil should follow the recommendations as outlined in the *Management of Excess Soil – A Guide for Best Management Practices* document prepared by the MOECC.

- Excess material will require proper management (removal, storage and disposal). Materials shall be managed in accordance with OPSS 180 – General Specification for the Management of Excess Materials.

10.3 Cultural Environment

10.3.1 Archaeological Resources

While the project study area has been subject to previous extensive disturbance the following should be incorporated into the Contract Documents to provide direction in the event that deeply buried archaeological material is encountered during construction:

- In the event that previously unknown or unassessed deeply buried archaeological resources are uncovered during construction, the contractor shall immediately notify the Contract Administrator. Work shall remain suspended within the subject area until otherwise directed by the Contract Administrator in writing. The CA will contact the Town of Collingwood representative who will confirm the need to engage a licensed consultant archaeologist to carry out any archaeological fieldwork, in compliance with Section 48 (1) of the Ontario Heritage Act.
- In the event that human remains are encountered during construction, the contractor shall immediately notify the Contract Administrator. Work shall remain suspended within the subject area until otherwise directed by the Contract Administrator in writing. The CA will contact the Municipal representative who will notify the police, coroner and the Registrar of the Bereavement Authority of Ontario.

10.3.2 Built Heritage Resources

Since construction will be confined to within the existing right-of-way there will be no direct impacts. There is a low potential to impact existing cultural heritage resources. The following mitigation will assist in keeping impacts to a minimum.

- Staging and construction activities should be suitably planned to avoid impacts to an adjacent identified resource.
- Establish no-go zones adjacent to all identified cultural heritage resources and issue instructions to construction crews in order to prevent impacts to existing resources.

11.0 CLIMATE CHANGE

Climate change concerns relate to the increased concentration of greenhouse gases in the atmosphere which can result in a rise in the global mean surface temperature. Increased temperatures worldwide are creating changes in climate that is resulting in extreme weather events. The rise of greenhouse gas emissions is influencing climate patterns, hydrology, ecosystems and ocean chemistry.

There are two approaches to address climate change. These include reducing a project's impact on climate change (climate change mitigation) and increasing the local ecosystem's resilience to climate change (climate change adaptation). However, before a mitigation or adaptation strategy can be established, the potential for the project to impact climate change and the potential impact that climate change may have on a project must be considered. This section of the report will discuss the aforementioned aspects in relation to this project utilizing a qualitative approach.

11.1 Potential for Project to Impact Climate Change

The current undertaking is a small scale project involving the reconstruction of an existing corridor. As it is a transportation project the impacts to climate change relate to vehicular greenhouse gas emissions. The reconstruction will maintain an adequate level of service post construction with minimal delays and it is not expected that the emission of greenhouse gases will significantly increase over existing conditions.

Inclusion of active transportation elements such as bike lanes, sidewalks and multi-use trail could potentially decrease vehicular use and result in a reduction in vehicular greenhouse gas emissions. One tool to assist in reducing greenhouse gas levels is through carbon sequestration. Vegetation can assist in removing carbon dioxide from the atmosphere. Both Mountain Road and Tenth Line are being reconstructed with a new cross-section that maximizes the boulevard width for streetscaping and therefore allows for the planting of street trees. The interior of roundabouts will incorporate landscape elements and during the detail design other opportunities will be explored. While it is not a significant amount of vegetation, it is a positive step forward in this regard and will be an improvement.

11.2 Potential for Climate Change to Impact this Project

Climate change has the potential to result in increased storm events that can lead to flooding. New stormwater infrastructure is going to be constructed as part of this project together with grading and directing major flows to outlets will assist in reducing impacts. This undertaking is expected to make the area less vulnerable to climate change. The project is not expected to result in a disruption to lands or waters associated with Indigenous cultural resources.

12.0 PERMITS AND APPROVALS

During detailed design permits and approvals will need to be acquired from the following agencies:

- Nottawasaga Valley Conservation Authority (NVCA): A work permit will need to be acquired for any work in proximity to Black Ash Creek and Taylor Creek.
- Department of Fisheries and Oceans (DFO): The need for DFO Review will need to be confirmed once the extent of in-water and near-water work is determined.
- Ministry of the Environment, Conservation and Parks (MECP); Permits required for the construction of waste water infrastructure (storm and sanitary sewers), watermains and permission to take water (PTTW).

13.0 MONITORING

Information pertaining to required mitigation and monitoring will be incorporated into the Construction Documents once the detailed design has been finalized. Monitoring will be conducted by on-site construction staff to make certain that environmental protection measures are being implemented and are effective. The Contract Administrator will make certain that environmental protection measures and monitoring as identified are implemented during construction and that any repairs to protection measures will be made in a timely fashion. Monitoring following construction will be completed, as required.

14.0 REFERENCES

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