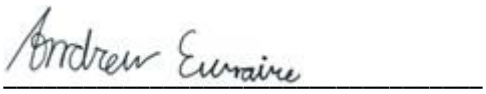
Phase 1 and 2 Summary Report

Oak Park Road Extension Schedule C Municipal Class Environmental Assessment Study

December 2021

Prepared For: City of Brantford

Prepared By:



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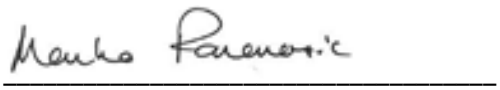

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1	May 3, 2021	Draft
2	December 10, 2021	Final

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PARSONS INC: 2021-11-04

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1. Introduction

The City of Brantford is undertaking a Schedule 'C' Municipal Class Environmental Assessment (Class EA) for the extension of Oak Park Road between the Kramer's Way/Hardy Road intersection and Colborne Street West in the City of Brantford. The extension of Oak Park Road was identified as a project in the 1981 Brantford Corridor Study and is included in the City's Official Plan and Transportation Master Plans.

Schedule 'C' projects have the potential for significant environmental effects and as such, must proceed under the full planning and documentation procedures specified in the *Municipal Class Environmental Assessment* (2015) guidelines, Phases 1 to 4. Schedule 'C' projects require that an Environmental Study Report (ESR) be prepared and submitted for review by the public and review agencies at the conclusion of Phase 4 of the EA Study. If there are no outstanding concerns, then the municipality may proceed to Phase 5 (Implementation).

The intent of this report is to document Phases 1 and 2 of the Municipal Class Environmental Assessment Process, as completed for the Oak Park Road Extension project.

1.1 The Municipal Class EA Process

The Municipal Class EA (*Municipal Engineers Association October 2000, as amended in 2007, 2011 and 2015)* is the guiding process that the City of Brantford is required to follow and complete for public works projects as indicated under the Ontario *Environmental Assessment Act* (EAA). The Municipal Class EA applies to municipal infrastructure projects including roads, water, and wastewater projects. Projects are classified according to the scope of work and are described by the Municipal Engineers Association in four different classification types that are determined by environmental significance and anticipated cost:

Schedule A: Defined as a project that is limited in scale, generally includes emergency operational and maintenance activities, and have minimal environmental effects and therefore are preapproved and do not require formal consultation or documentation.
Schedule A+: Similar scope of work as a Schedule A project, but the public is to be advised of the project prior to the implementation of the project undertakings.
Schedule B: Defined as a project that includes minor expansions and improvements to existing facilities. The undertakings could result in some adverse environmental impacts and therefore the project is subject to a screening consisting of mandatory public and agency consultation and preparation and filing of a project record for public review.
Schedule C: Defined as a project that includes major expansions or new facilities that have the potential to have a significant impact on the environment and are therefore subject to the full Municipal Class Environmental Assessment process. Preparation of an Environmental Study Report (ESR) is required for this type of study.

The Oak Park Road Extension Class EA is being completed as a Schedule 'C' project due to its potential for significant impacts to the environment as defined in the Ontario *Environmental Assessment Act.* Schedule 'C' projects require that all 5 phases of the Municipal Class EA planning process are completed. The first four phases will be completed as part of this EA study; the fifth phase may be initiated following completion of the study for the project to proceed to detailed design and construction. The 5 Phases of the Municipal Class EA process are summarized as follows:

Phase 1 – Identify the Problem and Opportunity Statement;
Phase 2 – Identify and Evaluate Alternative Solutions for the Problem and Opportunity Statement;
Phase 3 – Identify Alternative Design Concepts for the Preferred Solution;
Phase 4 – Prepare Design Plans & Environmental Study Report; and
Phase 5 – Implement Recommended Solution.

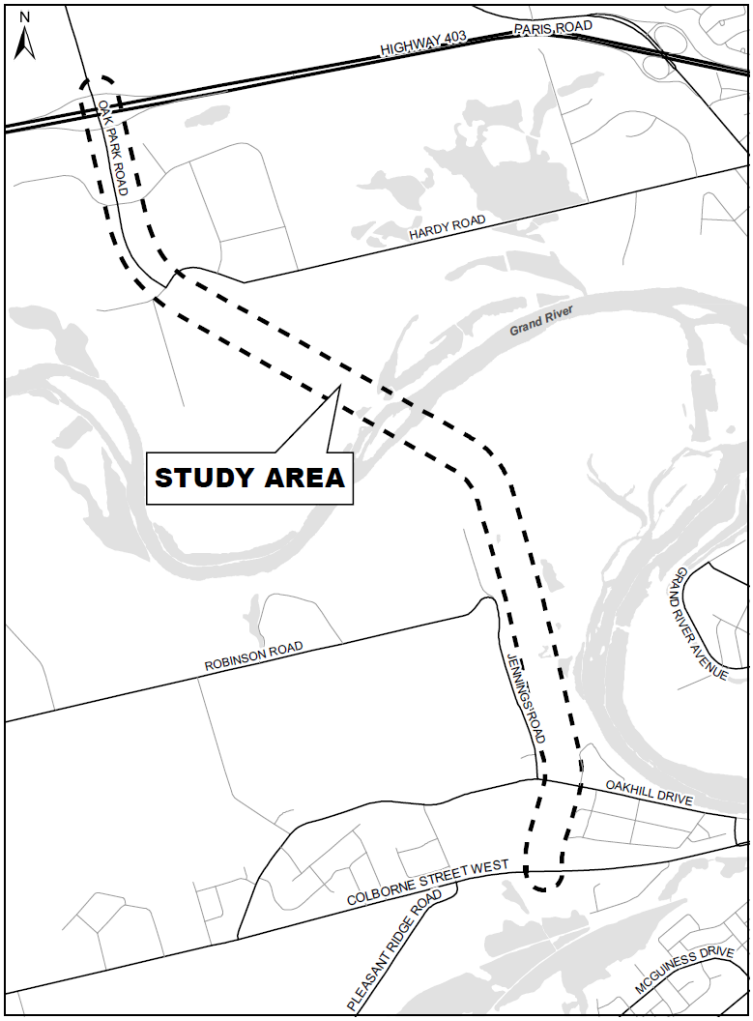
2. Phase 1: Problem and Opportunity Statement

2.1 Study Area Profile

The Study Area for this Environmental Assessment shown in **Figure 1** includes the protected Oak Park Road corridor between the Kramer's Way / Hardy Road Intersection and Colborne Street West. The Transportation Analysis will review traffic operations on Oak Park Road to/from Highway 403, however, improvements to this segment of Oak Park Road resulting from this Environmental Assessment are not anticipated.

The Study Area includes the Oakhill Cemetery, Oakhill Trail, S.C. Johnson Trail, the Grand River and is adjacent to the Brant Conservation Area. The study area crosses the Oakhill Neighbourhood and the Grand River. The study area has a cultural history beginning approximately 10,000 years ago and continues to this day. The Grand River flows within the Haldimand Tract as defined in the Haldimand Proclamation of 1784, and further refined in the Simcoe Patent of 1793. The Haldimand Tract runs through the area known as Treaty No. 3, or the Between the Lakes Treaty of 1792, between the Mississaugas of the Credit and the Crown. A detailed summary regarding the history of Indigenous land use and settlement in the study area is provided in **Appendix A** – Cultural Heritage Assessment Report.

FIGURE 1 – STUDY AREA MAP



2.2 Notice of Study Commencement

At the beginning of the study, a Notice of Study Commencement is issued to announce that a study has been initiated and to provide preliminary details to introduce the study. The Notice also includes information on the Class EA planning process, the study purpose, and key study contacts.

The Notice of Study Commencement for the Oak Park Road Extension was advertised in *The Brantford Expositor* Civic News section on June 4, 2020 and June 11, 2020 and posted on the City of Brantford website and social media channels. The Notice was also sent via regular mail and e-mail to local residents, property owners, businesses and technical agencies between May 29, 2020 and June 5, 2020.

Notice of Study Commencement letters were sent to Mississaugas of the Credit First Nation and Six Nations of the Grand River First Nation via e-mail on June 22, 2020. Copies of the Notice of Study Commencement are provided in **Appendix B.**

2.3 Existing Planning Policies

The following section presents an overview of provincial and local policies which are of direct relevance to the study and are considered during the Environmental Assessment process.

2.3.1 2020 Provincial Policy Statement

The 2020 Provincial Policy Statement (2020 PPS) is issued under Section 3 of the *Planning Act* and came into effect on May 1, 2020. The 2020 PPS provides policy direction on matters of provincial interest related to land use planning and development. The policy statement includes a range of policies related to building strong healthy communities, wise use and management of resources and protecting public health and safety.

The 2020 PPS specifies "planning authorities shall plan for and protect corridors and rights-of-way for infrastructure, including transportation, transit and electricity generation facilities and transmission systems to meet current and projected needs." The 2020 PPS further states "as part of a multimodal transportation system, connectivity within and among transportation systems and modes should be maintained and, where possible, improved including connections which cross jurisdictional boundaries."

2.3.2 2019 Growth Plan for the Greater Golden Horseshoe

The 2019 Growth Plan for the Greater Golden Horseshoe (Growth Plan) provides the foundation for a long-term growth management strategy for Southern Ontario, which includes the City of Brantford as an Urban Growth Centre to accommodate population and employment growth in the Greater Golden Horseshoe. It includes policies that guide decisions on a wide range of issues including transportation, infrastructure planning, land use planning and natural heritage resource protection. The 2019 Growth Plan establishes minimum density targets for growth. In downtown Brantford, there is a minimum density target of 150 residents and jobs combined per hectare.

The 2019 Growth Plan establishes Designated Greenfield Areas to accommodate new development that "supports the achievement of complete communities, supports active transportation and encourages the integration and sustained viability of transit services". In the City of Brantford, Designated Greenfield Areas include lands within the north-west and south-west quadrants of the City. The minimum density target is not less than 50 residents and jobs combined per hectare.

The 2019 Growth Plan states the Transportation System within the Greater Golden Horseshoe will be planned and managed to "provide connectivity among transportation modes for moving people and for moving goods" and "offer multimodal access to jobs, housing, schools, cultural, and recreational opportunities, and goods and services". In "planning for the development, optimization, or expansion of existing and planned corridors and supporting facilities", the plan further states:

- Ensure that existing and planned corridors are protected to meet current and projected needs in accordance with the transportation and infrastructure corridor protection policies in the PPS;

- Demonstrate through an agricultural impact assessment or equivalent analysis as part of an Environmental Assessment, that any impacts on the Agricultural System have been avoided or, if avoidance is not possible, minimized and to the extent feasible mitigated;
- Demonstrate through an Environmental Assessment, that any impacts on key natural heritage features in the Natural Heritage System for the Growth Plan, key hydrologic features and key hydrologic areas have been avoided or, if avoidance is not possible, minimized and to the extent feasible mitigated; and,
- For existing or planned corridors for transportation: i. consider increased opportunities for moving people and goods by rail; ii. consider separation of modes within corridors; and iii. provide opportunities for inter-modal linkages.

2.3.3 2021 Grand River Source Protection Plan

As a requirement of the Municipal Class EA process, proponents are required to include reference to the *Clean Water Act, 2006* and must identify in the process whether a project is, or could potentially be occurring, within a vulnerable area. An objective of the Clean Water Act seeks to stop contaminants from getting into sources of drinking water and the construction work associated with new roads could pose a risk. The study area falls within the Grand River Source Protection Plan prepared under the *Clean Water Act, 2006* and additional information regarding source water protection policies and vulnerable areas within the study area is outlined in Section 2.4.5.

2.3.4 2016 and 2020 City of Brantford Official Plan

The City of Brantford's consolidated 2016 Official Plan is in effect at the time of study initiation, however, policies of the Draft 2020 Official Plan are also considered.

The 2016 Consolidated Official Plan states the City shall "maintain an appropriate road network to accommodate commercial, industrial and private vehicular traffic, incorporating where possible and desirable provision for alternative modes of transportation". The plan also states the City shall "make provisions for linkages in new development areas and where possible, provide similar linkages in developed areas and areas to be redeveloped." The 2016 Consolidated Official Plan designates land use within the study area as Major Open Space, Low Density Residential and General Industrial. Other uses noted in the Official Plan include Specialized Park and Open Space for the Brant Conservation Area, Cemetery, Neighbourhood Park and Open Space. The Oak Park Road corridor between Kramer's Way/Hardy Road and Colborne Street West is identified for Long Term Corridor Protection.

The 2020 Draft Official Plan states long-term corridors "shall be maintained to meet the long-term transportation demands of the City. Final design and construction of the corridors shall be subject to a Municipal Class Environmental Assessment (EA)". Additionally, the plan states "new public roads shall accommodate pedestrian and cycling activity through the inclusion of dedicated cycle lanes, sidewalks, multi-use pathways, or a combination thereof, on both sides of the road." The plan states the City "will ensure that the layout of new Arterial and Collector Roads promotes efficient and direct transit routes within and between neighbourhoods" and " to reduce single occupant automobile trips, traffic congestion and parking supply needs, the City shall promote sustainable transportation choices and encourage various modes of travel." The 2020 Draft Official Plan designates land use within the study area that includes Core Natural Areas, Residential, General Employment and Designated Greenfield. The Designated Greenfield areas in the north-west and south-west quadrants of the City are consistent with the 2019 Growth Plan where minimum density targets are established for residents and jobs per hectare. The Oak Park Road corridor between Kramer's Way/Hardy Road and Colborne Street West is identified for Long Term Corridor Protection.

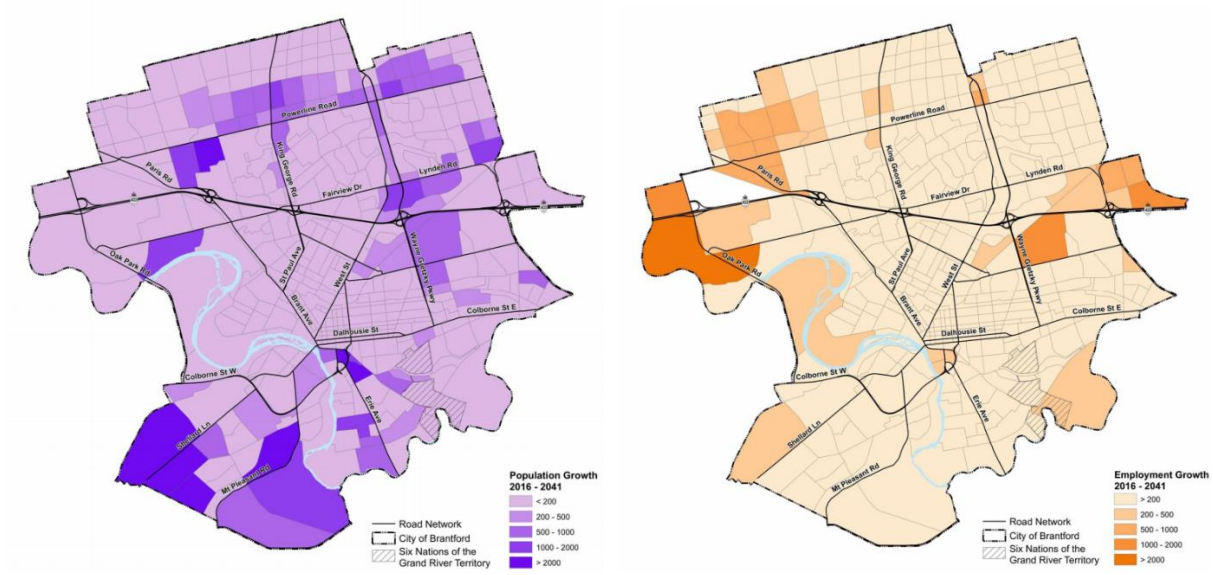
2.3.5 2020 City of Brantford Transportation Master Plan

The City of Brantford's 2020 Transportation Master Plan (2020 TMP) identifies a range of transportation infrastructure improvements and supporting policies to accommodate growth, develop long term capital cost estimates, identify Environmental Assessment requirements and to facilitate early consultation with stakeholders. The 2020 Transportation Master Plan is an update to the City's last 2014 Transportation Master Plan.

The 2020 TMP identifies that significant population and employment growth are expected to occur in the City of Brantford between 2016 and 2041 in the range of 60% and 76% respectively. The TMP identifies a high percentage of employment growth in the City of Brantford is anticipated in the area of Oak Park Road and Hardy Road and high percentage of population growth in the south-west quadrant of the City as shown in **Figure 2**. At the time of report preparation, an amendment to forecast to the 2051 horizon year has not been completed.

The 2020 TMP identifies a four-lane extension of Oak Park Road from Hardy Road to Colborne Street West as an alternative to accommodate long term population and employment growth. The project is envisioned to "address projected road network capacity deficiencies across the Grand River, and significantly relieve the Paris Road/Brant Avenue corridors to and from the central part of the city and the downtown". It would also "connect the southwest development area with the northwest industrial area and Highway 403".

FIGURE 2 – 2016-2041 POPULATION AND EMPLOYMENT GROWTH



Source: 2020 City of Brantford Transportation Master Plan

2.3.6 2010 City of Brantford Waterfront Master Plan

The 2010 City of Brantford Waterfront Master Plan was developed to create a framework for protection of the Grand River and its tributaries "as a fundamental public resource for the residents of Brantford". Key objectives include protection and enhancement of natural features and interpretation of cultural heritage "so that all can understand and appreciate the area's rich history".

The plan calls for trails to be "easily identified and accessed" with the network becoming a "widely recognized destination". A "diversity of places to access the water will be offered, providing for a variety of educational, recreational and leisurely activities that celebrate the Grand River and that will engage residents and visitors alike. Appropriate development on adjacent lands will recognize the significance of these locations; be rooted in best practices in city building; strive for design excellence; and contribute positively to the waterfront and Brantford's image and the Waterfront Master Plan will inspire all residents to embrace this vision for sustainability and become stewards of [its] environment."

The study area is within the Northwest Industrial Area potential development area. Recommendations and design guidelines for this area include protection for an extension of Oak Park Road as a "new road that may cross the Grand River" which "should set a new environmental and design standard for road and bridge design". Other objectives for this potential development area including connecting roads to "reinforce views to natural features and the waterfront" and to "enhance public accessibility to the Grand River".

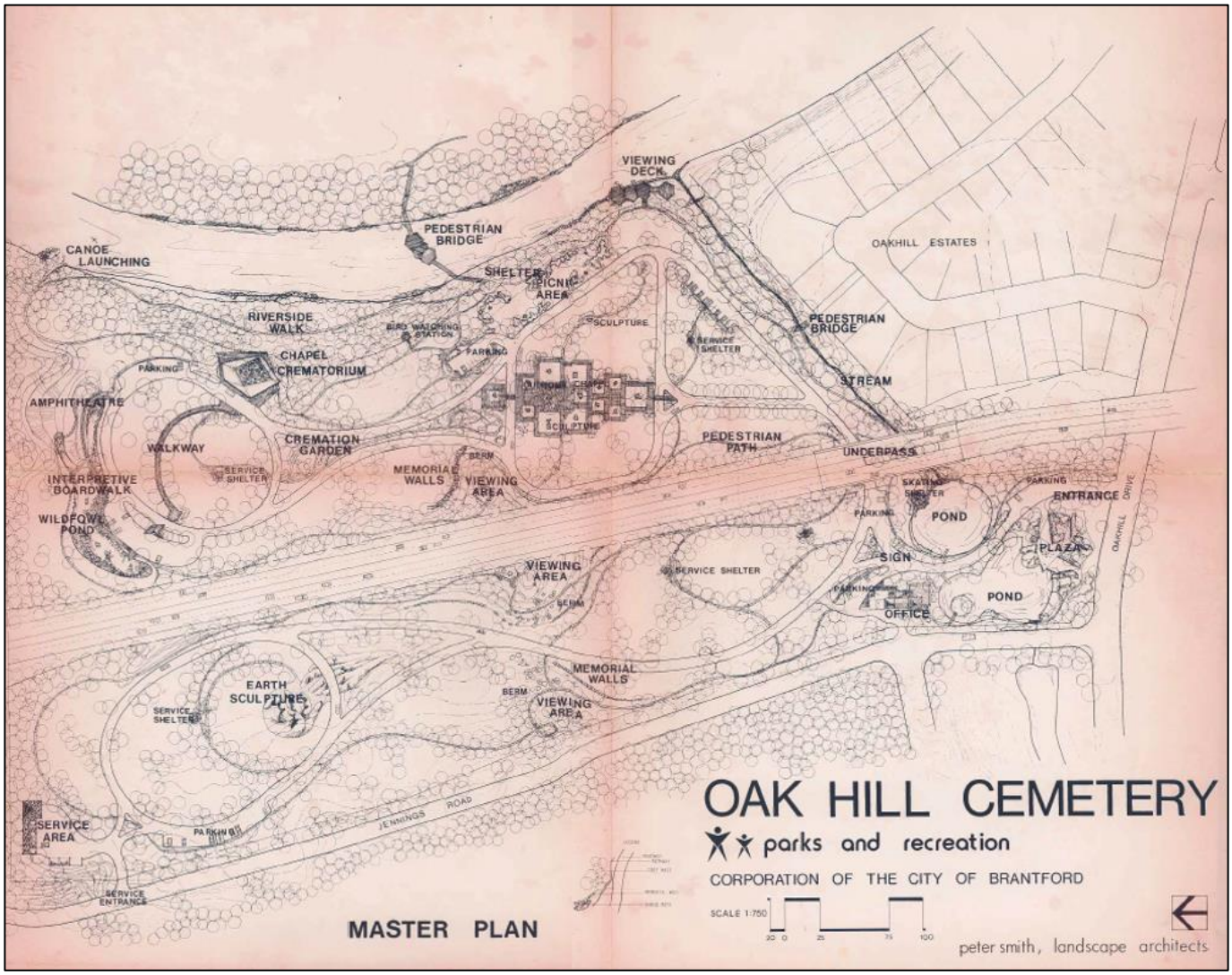
2.3.7 1990 Oakhill Cemetery Master Plan

The 1990 Oakhill Cemetery Master Plan was developed to establish a planning framework for the cemetery. Objectives of the 1990 Master Plan include:

1. To design the cemetery not only as a place of beauty but also a spiritual place which emphasized the natural characteristics of the site.
2. To create a cemetery that will be a landmark for the City of Brantford.
3. To develop future interment areas that will instill a feeling of security and a feeling of personal space for the plot owner.
4. To offer a plan for the orderly development of the cemetery along homogeneous lines to produce an overall efficient and park-like landscape.
5. To create a property that is a significant component of the Brantford open space system.
6. To develop a long-term planting approach to enhance the park-like atmosphere of the grounds and attract wildlife.
7. To promote interaction between the cemetery as a passive recreational land use and the land uses of the surrounding property and community.
8. To make all aspects of the site accessible to the physically challenged.
9. To make the cemetery a community resources for passive recreation, for education and for the enjoyment of nature.
10. To address environmental concerns, to enhance the natural environment and to minimize the impact of any development on the environment.
11. To identify circulation patterns, both vehicular and pedestrian, increasing the efficient of circulation and the aesthetics of both the driving and walking experience.
12. To determine locations for landscape features, memorial features, administration facilities, service facilities, chapel and crematorium.
13. To offer alternative methods of memorialized within the realm of this specific development; and
14. To expand upon an arboretum concept for planning while at the same time maintain the integrity of the Indigenous Southern Ontario Landscape.

The Oakhill Cemetery Master Plan identified a vehicle circulation layout that "consisted of two curved roadways that are connected beneath the proposed service corridor highway." The plan noted the "simplicity of the circulation system minimizes the amount of roadways to be constructed while at the same time maintaining an acceptable carrying distance to the graveside". The service corridor highway is shown as the north-south road Figure 3 and is commonly referred to today as the Oak Park Road Extension. The service corridor is shown to transect the two main land parcels of the cemetery. The future cemetery land use north of the existing access from Jennings Road and north of the entrance pond is not currently utilized.

FIGURE 3 – 1990 OAKHILL CEMETERY MASTER PLAN



Source: 1990 Oakhill Cemetery Master Plan

2.3.8 1981 Brantford Corridor Study

The 1981 Brantford Corridor Study was completed to recommend a preferred alignment for a future roadway connection in the west end of the City of Brantford. The study determined there was need for a future road extension between the north-west and south-west areas of the city. Based on the evaluation outlined in the 1981 report, it was determined that alternative extension "E3" was the preferred alternative which generally follows the existing study area for this Environmental Assessment Study. Following the recommendation, the City of Brantford began to designate lands along the preferred alignment for long-term protection.

2.3.9 2019 Oak Park Road Feasibility Study

Building on the 1981 Brantford Corridor Study 2014 Transportation Master Plan Update, Parsons completed a Feasibility Study in 2019 to determine cross-section requirements, preliminary alternatives and key constraints and challenges associated with an extension of Oak Park Road. The Feasibility Study developed preliminary options for consideration in future stages of analysis, however, the Feasibility Study was developed independent of the Municipal Class Environmental Assessment process for municipal transportation infrastructure projects. Key findings included:

- Large quantities of fill may be required in some areas in order to implement the project;
- The use of engineered slopes and/or retaining walls should be considered to mitigate impacts to adjacent residential properties;
- It is not feasible to provide at-grade intersections at Oakhill Drive and the Oak Hill Cemetery. Structures should be placed at these locations;
- The new structure over the Grand River should be designed to minimize the environmental impact to the surrounding lands;
- Consideration should be given to the potential long-term removal of the existing Gordon Glaves Crossing pedestrian structure; and
- The proposed alignment should match into the existing design work already completed to the north of the Grand River.

A preferred design concept was determined in the 2019 Feasibility Study that generally follows the study area for this Environmental Assessment study.

2.4 Existing Conditions

2.4.1 Engineering Features

The study area falls within two physiographic regions: Norfolk Sand Plain and Horseshoe. The majority of the study area falls within the Norfolk Sand Plain physiographic region, which consists of sands and silts originally deposited as a delta in ancient glacial lakes. The sand plain declines in elevation southward from Brantford to Lake Erie. The southwest end of the study area falls within the Horseshoe Moraines physiographic region, which is characterized by irregular, stony knobs and ridges composed of till, sand, and gravel as well as pitted sand and gravel terraces and swampy valley floors. The moraines in the study area are gradually flattening southward in comparison with the rest of the region.

A preliminary borehole investigation program was completed in 2020 to characterize the subsurface site conditions. A detailed description of topsoil, sand/silt/clay and boulders can be found in the Geotechnical Report prepared for this project under Appendix C. The static groundwater level is estimated at depths on the order of approximately 6 to 8 metres or deeper in the northern portion of the study area, from the intersection of Hardy Road/Oak Park Road to between the Grand River and Robinson Road, and would be expected at shallower depths in the southern portion of the study area, perhaps on the order of 4 to 6 metres, perhaps shallower. However, shallower 'perched' deposits of water should be anticipated. These perched deposits would be expected to be more significant in the wet Spring and Fall months of the year, and less in the dry Summer months.

At the Grand River, the soil conditions encountered generally consist of granular soils comprised of sandy silt/silty sand with varying amounts of cobbles and boulders, as well the possibility of encountered cemented granular layers. Auger refusal at a depth of approximately 8.1 metres on the north side of the Grand River is likely due to presence of such cobbles, boulders, or cemented layers, and should be anticipated. On the south side of the Grand River, clayey silt was encountered below a depth of approximately 4.9 metres, and proven to termination at a depth of approximately 14.3 metres. The static groundwater level is estimated to be at or slightly above the water level of the Grand River, however shallower perched deposits of water have historically been encountered and should also be expected. Such deposits can be significant in volume, and may require multiple pumps or more sophisticated dewatering techniques for deep excavations.

Existing sanitary sewer and watermain utilities and an aerial hydro line are located within the existing protected Oak Park corridor. Subsurface utilities travel southerly from Hardy Road with the watermain turning east at the Brant Conservation Area and the sanitary sewer turning east at Oakhill Drive. Both subsurface utilities use the Gordon Glaves pedestrian structure to cross the Grand River under the pedestrian platform.

As previously noted during the Oak Park Road Feasibility Study in 2019, under existing conditions, the external drainage catchments areas flow from a west to easterly direction towards the Grand River. The drainage from the west portion of the protected Oak Park Corridor, i.e. north of Oakhill Drive including offsite areas to the west, currently flows to a

Stormwater Management Facility and is conveyed under the Oakhill Cemetery access road through a Corrugated Steel Pipe culvert, which is located approximately 150m north of the intersection of Oakhill Drive within the protected Oak Park Corridor. This area drains directly to the Grand River through a ditch system. The rest of the external catchment areas generally drains through overland flow. The existing topography shows a natural low point area just north of Brant Conservation Area entrance between Robinson Lane and Oak Hill Trail which appears to be receiving the drainage from a catchment area of over 40ha.

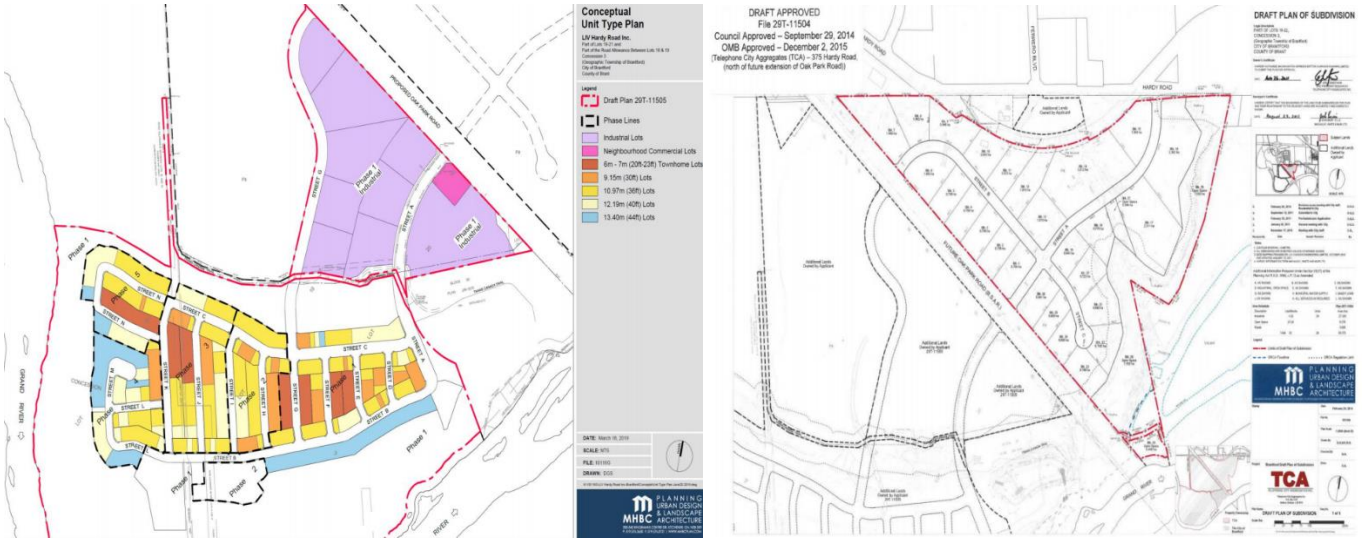
2.4.2 Existing and Future Land Use

The surrounding land use within the study area includes parkland associated with the Brant Conservation Area, Oakhill Cemetery, residential neighbourhoods, industrial buildings, and agricultural fields used for the production of row crops (currently corn). The study area contains designated areas including a Natural Heritage System (NHS), Brant Conservation Area, GRCA Regulation Limit, and environmental policy areas such an Environmental Protection Policy Area (EPPA), Environmental Control Policy Area (ECPA) and Core Natural Areas Designation in the City's 2016 and 2020 Official Plans.

As noted in in Section 2.3.4, within the City of Brantford 2016 Consolidated Official Plan, designated land use within the study area as Major Open Space, Low Density Residential and General Industrial. Other uses noted in the Official Plan include Specialized Park and Open Space for the Brant Conservation Area, Cemetery, Neighbourhood Park and Open Space. The 2020 Draft Official Plan designated land use within the study are includes Core Natural Areas, Residential, General Employment and Designated Greenfield as per the 2019 Growth Plan.

The north limit of the study area between Kramer's Way/Hardy Road and the Grand River is currently undergoing development through the Telephone City Aggregates (TCA) project for industrial and residential lands south of Hardy Road and north of the Grand River. Two sites have been identified which are separated by the protected 60m Oak Park Road Corridor in the City's Official Plan. The TCA development to the west of the protected corridor is located at 395 Hardy Road and includes 522 residential units and 9 commercial lots. The TCA development east of the corridor is located at 375 Hardy Road and is planned to consist of 26 industrial units and 3 open space blocks. Access to these properties would be via two roadway connections to a future Oak Park Road extension as shown in **Figure 4**.

FIGURE 4 – TCA WEST AND EAST DEVELOPMENT SITES



Sources: City of Brantford Staff Report to Committee of the Whole, August 6, 2019 (Left); City of Brantford Staff Report to Committee of the Whole, June 4, 2019 (Right)

2.4.3 Natural Environment

The study area spans approximately 4.5 km in length through a variety of habitats, including the Grand River and naturalized areas associated with the Brant Conservation Area. Naturalized areas within the study area include riparian

habitat surrounding the Grand River, grass and forb meadows, woodlands, unevaluated wetlands, and the Brantford Northwest Provincially Significant Wetland (PSW) Complex. The mix of vegetation communities provides a diversity of wildlife habitat.

Natural heritage features include the Brantford Northwest Provincially Significant Wetland (PSW) Complex, unevaluated wetlands, confirmed deer winter congregation area (stratum 2) and several candidate Significant Wildlife Habitat (SWH) associated with seasonal concentration areas of animals, specialized habitat for wildlife, habitat for Species of Conservation Concern (SoCC) and animal movement corridors. Habitat for Species at Risk (SAR) is also present for both terrestrial and aquatic species. Three SAR were confirmed in the study area during field investigations and include Eastern Meadowlark, Barn Swallow, and Bank Swallow. Of these, only habitat for Eastern Meadowlark was documented in the study area with probable nesting habitat identified in the meadow community east of the Oakhill trail, immediately south of the Grand River.

The study area is located in lower middle Grand River watershed basin. The primary drainage feature identified within the study area that provides fish and aquatic habitat is the Grand River, which bisects the study area. Several aquatic SAR including Eastern Sand Darter, Silver Shiner, Black Redhorse, Wavy-rayed Lampmussel and Rainbow were identified during the background review. Fish community surveys were not completed due to known occurrences of these SAR with suitable habitat confirmed during field investigations. The Grand River is known to support a diverse freshwater mussel assemblage and the study area provides suitable habitat (substrates, flow, known fish hosts) for several species of mussel. A further overview of exiting Natural Heritage features in the Study Area is provided in **Appendix D.**

2.4.4 Designated Areas and Features

Designated Areas are defined by resource agencies, municipalities, the provincial and federal government and/or the public, through legislation, policies, or approved management plans, to have special or unique value. Such areas may have a variety of ecological, recreational, and/or aesthetic features and functions that are highly valued. For this study, designated areas Natural Heritage Systems (NHSs), provincially significant Areas of Natural and Scientific Interest (ANSIs), national, provincial, municipal and/or conservation authority parks, conservation regulation limits and municipal environmental policy areas.

The NHS area dataset from the Ministry of Natural Resources and Forestry shows a portion of the study area within a NHS (undifferentiated) in the area near the Grand River and south of Robinson Road. This NHS (undifferentiated) is based on the Growth Plan for the Greater Golden Horseshoe. The NHS identified in the Growth Plan applies to the Project as the City's Consolidated Official Plan does not have NHS mapping available. It is noted that the City's (2020) draft Official Plan has incorporated the NHS from the Growth Plan into the Core Natural Areas Designation as shown in the Official Plan Schedule 6: Natural Heritage System.

There are no provincially significant ANSIs within the Study Area. The nearest ANSI includes the Brantford Tufa Mounds, a provincially significant Earth Science ANSI located north of the Grand River, approximately 440 m east of the study area. The Brant Conservation Area is located south of the Grand River with a portion extending within the study area near Robinson Road. This conservation area is owned and managed by the Grand River Conservation Authority.

Environmental Protection Policy Areas (EPPAs) and Environmental Control Policy Areas (ECPAs) are identified on Schedule 3-1 - Natural Heritage: Environmental Areas of the City's Consolidated Official Plan. There is an EPPA in the study area on the north bank of the Grand River, associated with the Brantford Northwest PSW Complex. The study area is within an ECPA north of the Grand River that is associated with a steep slope mapped by GRCA and includes a portion of the Brantford Northwest PSW Complex. The study area contains two additional ECPAs associated with unevaluated wetlands near Robinson Road and Brant Conservation Area, as well as the D'Aubigny Creek Swamp PSW south of Colborne Street West. The EPPA and ECPAs within the study area are outlined in **Appendix D.**

Schedule 6: Natural Heritage System of the City's (2020) draft Official Plan shows most of the study area within the Core Natural Areas Designation from Colborne Street West to approximately 260 m north of the Grand River. The area north of the Grand River (i.e., 260 m) that is adjacent to the Core Natural Areas Designation is within the Adjacent Lands Overlay, which is based on an approximate 90 m setback from the boundary of the Core Natural Areas Designation and is

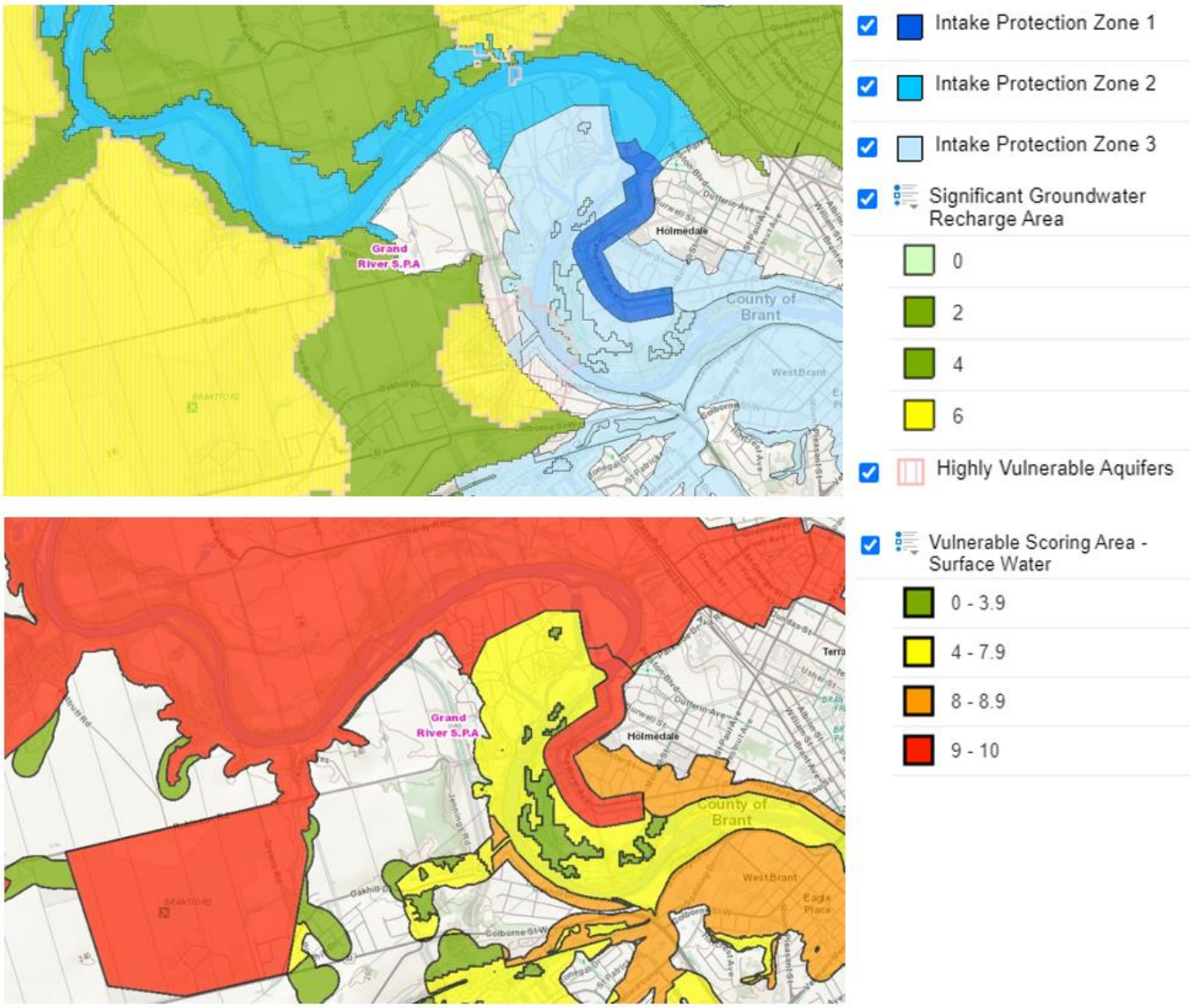
intended to act as a trigger for the completion of an Environmental Impact Study (EIS) when required by the City. A map showing the Core Natural Areas Designation and Adjacent Lands Overlay is provided in **Appendix D.**

2.4.5 Source Water Protection

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 aims to protect existing and future drinking water sources. It ensures that municipal drinking water supplies are protected through prevention by the development of a watershed-based source protection plan. The source protection plans identify vulnerable areas within each municipality such as Wellhead Protection Areas (WHPA) and Intake Protection Zones (IPZ). Source protection plans provide policies to address existing and future risks to Municipal drinking water sources within these vulnerable areas.

Based on the Ministry of Environment, Conservation and Parks Source Protection Information Atlas, the study area for this Environmental Assessment Study is subject to the Grand River Source Protection Area. The Study area is within an Intake Protection Zone (IPZ) level 2 and 3, Significant Groundwater Recharge Area (SGRA) level 2 to 6 and Highly Vulnerable Aquifer (HVA) as shown in **Figure 5**. There are no Wellhead Protection Areas identified in the study area. The vulnerability scores provided for SGRA's ranges from 4 to 9. These values indicate the relative level of susceptibility to activities that can affect drinking water sources.

FIGURE 5 – SOURCE WATER PROTECTION AREAS



Sources: Ministry of Environment, Conservation and Parks Source Protection Information Atlas

The Grand River Source Water Protection Area Protection Plan was recently updated and came into effect on February 2, 2021. Key source water protection policies which are applicable to the City of Brantford and are listed under Chapter 15 of the plan and should be considered during the Environmental Assessment process. These policies include Spill Prevention, Spill Contingency or Emergency Response Plans, Sewage System or Sewage Works, Discharge from a Stormwater Management Facility, the Application of Road Salt and the Handling and Storage of Fuel. A summary of key policies that should be considered are listed in **Table 1.**

TABLE 1 – KEY POLICIES – GRAND RIVER SOURCE WATER PROTECTION AREA PROTECTION PLAN

Grand River Source Protection Plan Policy Number	Summary
CB-NB-1.11	To reduce the risks to drinking water from spills that occur within the Intake Protection Zone (IPZ) along highways, railway lines, or shipping lanes, a. The City shall incorporate the location of Intake Protection Zones into their Emergency Response Plans. b. The Ministry of the Environment, Conservation and Parks, shall provide mapping of the Intake Protection Zones (IPZ) to assist the Spills Action Centre in responding to reported spills along transportation corridors.
CB-MC-3.4	To ensure any existing or new discharge from a stormwater management facility within an Intake Protection Zone where such activity is or would be a significant drinking water threat, the Ministry of the Environment, Conservation and Parks shall review or prepare Environmental Compliance Approvals to ensure that terms and conditions are incorporated that, when implemented, cease to be and/or never become a significant drinking water threat.
CB-MC-3.5	To ensure any future discharge from a stormwater management facility, where such an activity would be a significant drinking water threat, never becomes a significant drinking water threat, and in consideration of applications received under the Planning Act or Condominium Act the City of Brantford shall locate future stormwater management facilities outside of the Intake Protection Zone, wherever possible.
CB-CW-10.2	To ensure the existing and future handling and storage of road salt ceases to be and/or never becomes a significant drinking water threat, where such activities are, or would be, significant drinking water threats, the City shall amend its salt management plan to identify the location of the Intake Protection Zones and to enhance best management practices in these areas.
CB-CW-12.1	To ensure any existing handling and storage of fuel greater than 2,500 Litres, where such an activity is or would be a significant drinking water threat, ceases to be a significant drinking water threat, this activity is designated for the purposes of Section 58 of the Clean Water Act, 2006 and a Risk Management Plan shall be required. The Risk Management Plan shall include the requirements for all storage tanks to comply with the requirements of the Technical Standards and Safety Act and its regulations, for all owners/operators to have an emergency response plan with emergency contact information of the municipality responsible for water services and the Spills Action Centre, and for the owner/operator to call both agencies in the case of a release of fuel.

2.4.6 Social and Cultural Environment

A review of federal, provincial, and municipal registers, inventories, and databases revealed that there are two previously identified features of cultural heritage value within the study area. One additional cultural heritage resource was identified during field review. The three culture heritage resources (CHR) are documented in **Appendix A** and summarized as follows.

CHR 01 – Grand River: The Grand River and its major tributaries - the Conestogo, Eramosa, Nith and Speed rivers - were designated Canadian Heritage Rivers in 1994. The designation recognizes the outstanding human heritage values and excellent recreational opportunities along the rivers. The designation carries no regulatory or legal authority or restrictions.

CHR 02 – Oakhill Cemetery: The Oakhill Cemetery opened in 1993 and is set in a scenic location at Oakhill and Jennings Road on the bank of the Grand River. It Includes a former residential building in the Italianate architectural style which is indicated on the 1916 National Topographic Survey map. The property has potential design, historical and contextual value. As a cemetery property it may have contextual value for supporting the character of the area. Potential heritage attributes include: the residential building with its general form and massing, buff brick exterior, side entrance, window openings including their placement and proportions; the open designed landscape of the cemetery; and mature trees.

CHR 03 – 11 Robinson Lane: This potential cultural heritage landscape is set in a scenic location on the bank of the Grand River. It includes a residential building in the Gothic Revival architectural style which is indicated on the 1916 National Topographic Survey map. The property has potential design, historical and contextual value. Due to the property's location and siting at the Grand River it may have contextual value. Potential heritage attributes include: long driveway, outbuildings, the residential building with its general form and massing; and mature trees.

A Stage 1 Archaeological Assessment was completed for the Study Area. The Study Area is indicative of archaeological potential due to previously identified archaeological sites, water sources (including the Grand River), early historic transportation routes, proximity to early settlements and local histories identifying possible archaeological sites. These criteria are indicative of potential for the identification of Indigenous and Euro-Canadian archaeological resources, depending on soil conditions and the degree to which soils have been subject to deep disturbance. The Stage 1 Archaeological Assessment determined that 117 previously registered archaeological sites are located within one kilometre of the Study Area. The property inspection determined that parts of the Study Area exhibit archaeological potential and will require a Stage 2 assessment during Phase 3 of the Environmental Assessment. Two sites within 20 metres and one site within the Study Area retain Cultural Heritage Value or Interest (CHVI) and require Stage 3 Site-Specific assessments. The Stage 1 Archaeological Assessment is included in **Appendix E.**

2.4.7 Air Quality

The existing and planned future sensitive receptors within the Study Area include existing residential properties in the south end in the areas of Colborne Street West and Jennings Road, sporadically in agricultural areas throughout the north half of the Study Area, and future residential developments in the north end of Study Area. There have not been any existing or future planned critical receptors identified within the Study Area. The existing and planned future air emissions sources within and nearby the Study Area include the existing Highway 403 to the north; the existing and planned future industrial and commercial land uses within and nearby the north end of Study Area in the area of Hardy Road and Oak Park Road; agricultural areas with residential properties throughout the north half of the Study Area; and existing commercial land use within the south end in the area of Colborne Street West.

2.4.8 Noise and Vibration

The existing and planned future noise sensitive areas in the Study Area include existing residential properties in the south end in the areas of Colborne Street West and Jennings Road and sporadically in agricultural areas throughout the north half of the Study Area; an existing campground that provides overnight accommodation in the middle of the Study Area; and future residential developments in the north end. Existing and planned future noise sources within and nearby the Study Area include the existing Brantford Municipal Airport to the west; existing Highway 403 to the north; existing railway lines and corridor to the east; existing and planned future industrial and commercial land uses within and nearby the north end of the Study Area in the area of Hardy Road and Oak Park Road; and existing commercial land use within the south end in the area of Colborne Street West.

2.4.9 Transportation Analysis

A preliminary transportation analysis was completed to determine existing and future traffic volumes within the broader study area and is included in **Appendix F.**

A screenline traffic analysis was conducted for the existing (2019) and future (2041) do-nothing scenarios during the weekday AM and PM peak periods. A screenline is a conceptual line across a map where traffic volumes are recorded at the intersecting point of the roadway corridor and screenline. For the screenline analysis, two east-west screenlines were established. The first is located immediately south of Hardy Road and the second is located immediately north of Colborne Street West. Based on the analysis completed, almost all the locations in the existing (2019) scenario are operating at less than 70% of their capacity, except the southbound direction for Paris Road/Brant Avenue during the AM and PM peak hours, which is experiencing over capacity conditions.

For the future (2041) do-nothing scenario, with the significant increase of travel demand on an annual basis, all directions and peak periods will be approaching capacity, except the southbound direction in the AM peak period. The northbound direction in AM peak and southbound direction in PM peak representing employment travel trends are performing worst, experiencing over capacity conditions. Based on the results of the future (2041) do-nothing lane capacity analysis, the existing roadways would require additional capacity to accommodate 2041 traffic demands at the screenline level.

Under existing (2019) traffic conditions, most intersections are operating at satisfactorily level of service with only a few critical movements at some locations. Under future (2041) do-nothing traffic conditions, the majority of intersections are forecast to operate with a poor level of service during both the AM and PM peak hours, except for intersections along the existing Oak Park Road corridor.

2.4.10 Active Transportation and Transit

The study area includes several shared use trails which offer connectivity to the north and south sides of the study area. Key routes include the S.C. Johnson Trail and Oakhill Trail, including the Gordon Glaves pedestrian bridge over the Grand River. The study area is in proximity to bus routes 8, 11 and 5. Transit users travelling between the north-west and south-west areas of Brantford are required to transfer at the Transit terminal in the City's downtown area.

2.5 Problem and Opportunity Statement

Phase 1 of the Municipal Class Environmental Assessment process requires that a "Problem/Opportunity Statement" be prepared, which identifies the problems and opportunities to be addressed by the study and will guide the selection and evaluation of the preferred alternative solutions and designs. The Problem/Opportunity Statement outlines the need and justification for the overall study and establishes the scope of work for the Environmental Assessment. The following Problem / Opportunity statement builds on the recommendations of City of Brantford's 2020 Transportation Master Plan Update, existing conditions, future conditions including traffic needs in the City and the Oak Park Road Extension Feasibility Study completed by Parsons in July 2019.

Problem and Opportunity Statement:

The City of Brantford's Transportation Master Plan (TMP) update (2020) identifies alternatives to accommodate long term population and employment growth in the City including the Oak Park Road extension corridor. Traffic volumes generated by future growth in the City of Brantford to 2041 will cause an increase in traffic congestion in the downtown core and other roads in the City. Opportunities exist to accommodate growth in the City of Brantford through exploration of a range alternatives for the study area. These include:

1. *Enhancement of the City of Brantford's transportation system including regional and local movement of people and goods;*
2. *Addressing future travel demand associated with population and employment growth in the City, and provide additional roadway capacity and reduce travel times between West Brantford (West Brant), Northwest Brantford and Highway 403;*
3. *Measures to support all modes of transportation (vehicular, active transportation, and transit) based on a Complete Streets approach; and*
4. *Consideration of the unique socio-economic, cultural and natural environments of the study area.*

3. Phase 2: Identification of Alternative Planning Solutions to the Problem and Opportunity Statement

3.1 Development of Alternative Solutions

Following development of the Problem and Opportunity Statement in Phase 1 of the EA process which identifies traffic volumes generated by future growth in the City to 2041 will cause an increase in traffic congestion in the downtown core and other roads of the City, Alternative Solutions were developed that build on the identified opportunities including the enhancement of the City of Brantford's transportation system including regional and local movement of people and goods; addressing future travel demand associated with population and employment growth in the south-west quadrant

of the City; supporting all modes of transportation and consideration of the unique socio-economic, cultural and natural environment of the study area. Alternative Solutions, as shown in **Table 2,** were identified to address the Problem and Opportunity Statement.

Based on feedback received at Virtual Public Information Centre #1, an eighth solution was developed, referred to herein as Alternative 6A which is a combination of Alternatives 2 to 6.

TABLE 2 – ALTERNATIVE SOLUTIONS

No.	Alternative Solution	Description
1	DO NOTHING	Maintain existing conditions – no change to existing transportation network within the south-west quadrant of the City of Brantford.
2	IMPROVE TRANSIT, ACTIVE TRANSPORTATION AND TDM	• Increase transit operations / level of service within the south-west quadrant of the City of Brantford to increase transit modal share. • Improve cycling and pedestrian facilities within the south-west quadrant of the City of Brantford to increase active transportation modal share. • Implement Transportation Demand Management (TDM) measures to reduce auto dependency such as carpooling, working from home or shifting work hours.
3	IMPLEMENT LOCALIZED INTERSECTION IMPROVEMENTS	Implement intersection improvements within key intersections within the south-west quadrant of the City of Brantford such as dedicated turning lanes, new facilities such as traffic signals and/or improvement of existing traffic signal timing to improve traffic operations.
4	IMPROVE ALTERNATIVE ROADWAYS	Improve parallel north-south corridors or provide alternative crossing of the Grand River. This could include improvements to corridors such as West Acres Road, Colborne Street West, Brant Avenue, Hardy Road or Phelps Road.
5	IMPLEMENT LOCALIZED INTERSECTION IMPROVEMENTS AND ALTERNATIVE ROADWAYS	Combination of Alternatives 3 and 4.
6	LIMIT DEVELOPMENT OF SURROUNDING LANDS	Implement planning policies which would limit population and employment growth in the south-west quadrant of the City of Brantford.
6A	COMBINATION OF ALTERNATIVES 2 TO 6	Combination of Alternatives 2 to 6 to improve transit, active transportation, TDM, implement localized intersection improvements, improve alternative roadways and limit development of surrounding lands.
7	CONSTRUCT NEW ROADWAY CROSSING OF THE GRAND RIVER	Implement an extension of Oak Park Road from the Hardy Road/Kraemer's Way intersection from the north limit of the Grand River to Colborne Street West as envisioned in the 2020 Transportation Master Plan.

3.2 Evaluation Criteria and Methodology

The evaluation of Alternative Solutions is a key phase (Phase 2) of the Municipal Class Environmental Assessment Process. For this project, the Alternative Solutions focus on the various technical requirements, opportunities, constraints, and environmental impacts. An Evaluation Matrix was used to determine the Preferred Alternative as it provides a method of objectively evaluating several Alternatives against project specific criteria. The criteria that have been developed for this study are presented in **Table 3** below. The criteria are grouped into eight (8) categories based on the study area characteristics and requirements of the *Municipal Class Environmental Assessment* Manual.

- Transportation;
- Land Use Planning Objectives;
- Natural Environment;
- Social Environment;
- Cultural Environment;
- Economic Environment;
- First Nation and Indigenous Communities; and
- Other.

TABLE 3 – EVALUATION CRITERIA

Criteria		Indicators	Qualifier
Transportation			
1	Existing Transportation Network	a) How will the Alternative accommodate existing traffic volume in the City of Brantford?	• Alternatives which improve capacity of the City's transportation network perform better for this indicator.
2	Future Transportation Network	a) How will the Alternative accommodate projected traffic volume from population and employment growth in the City of Brantford?	• Alternatives which improve capacity of the City's transportation network perform better for this indicator.
3	Connectivity	a) Does the Alternative provide connectivity to the existing road network? b) Does the Alternative provide connectivity to the planned road network?	• Alternatives which provide connections to existing roads in the City perform better for this indicator. • Alternatives which provide connections to future roads in the City perform better for this indicator.
4	Active Transportation	a) How will the Alternative respond to the City of Brantford policies for pedestrian and cycling infrastructure?	• Alternatives that support the development of a comprehensive network of bikeways and trails throughout the City to connect residential, institutional, commercial and industrial areas perform better for this indicator.
5	Transportation Demand Management	a) How will the Alternative accommodate Transportation Demand Management objectives?	• Alternatives which introduce TDM measures to reduce or redistribute the travel demand (e.g. carpooling, workplace changes, road pricing) perform better for this indicator.
6	Transit Services	a) Is the Alternative able to provide facilities that support transit use?	• Alternatives which accommodate buses perform better for this indicator.
Land Use Planning Objectives			
7	Provincial Policies	a) How will the Alternative respond to existing policies related to transportation and growth at the provincial level?	• Alternatives which are consistent with objectives of the 2020 Provincial Policy Statement and 2019 Growth Plan for the Greater Golder Horseshoe perform better for this indicator.
8	Local Policies	a) How will the Alternative respond to existing policies related to transportation and growth at the local level?	• Alternatives which are consistent with the objectives of the 2016 and draft 2020 City of Brantford Official Plan and 2020 City of Brantford Transportation Master Plan perform better for this indicator.
Natural Environment			
9	Aquatic Habitat	a) Will the Alternative impact aquatic habitat/vegetation? b) Will the Alternative impact aquatic species including Species at Risk (SAR)?	• Alternatives that minimize required modifications to existing watercourses will perform better for this indicator. • Alternatives that minimize impacts and/or can accommodate mitigation measures for areas with identified aquatic species or Species at Risk (SAR) perform better for this indicator.
10	Terrestrial Habitat	a) Will the Alternative impact wildlife habitat/vegetation? b) Will the Alternative impact terrestrial species including Species at Risk (SAR)?	• Alternatives that maintain existing wooded and other vegetated areas will perform better for this indicator. • Alternatives that minimize impacts and/or can accommodate mitigation measures for areas with identified terrestrial species or Species at Risk (SAR) perform better for this indicator.
11	Natural Heritage Features	a) Will the Alternative impact designated natural heritage features?	• Alternatives that minimize impacts and/or can accommodate mitigation measures for natural heritage areas or other identified natural areas will perform better for this indicator.
12	Climate Change	a) How will the Alternative address climate change considerations including Greenhouse Gas Emissions and Extreme Weather events?	• Alternatives which minimize and/or can accommodate mitigation measures for impacts from extreme weather events, enhancements to natural

Criteria		Indicators	Qualifier
			features and reduction of emissions will perform better for this indicator.
13	Surface Water	a) Will the Alternative impact an existing watercourse or waterbody including the Grand River and its tributaries?	• Alternatives that minimize required modifications at or within existing watercourses and waterbodies will perform better for this indicator.
Social Environment			
14	Existing Communities	a) Will the Alternative impact residential property and access, community facilities and access, recreational facilities and access, pedestrians and cyclists?	• Alternatives which avoid placement of new facilities which impact residential property and access, community facilities and access, recreational facilities and pedestrians and cyclists will perform better for this indicator.
15	Property Requirements	a) Will the Alternative require private property acquisition?	• Alternatives with the least amount of land acquisition will perform better for this indicator.
16	Noise and Vibration	a) How will the Alternative provide separation between noise and vibration sources and sensitive receivers?	• Alternatives that maximize their separation from existing/future sensitive land uses will perform better for this indicator.
17	Air Quality	a) Will the Alternative result in changes to air quality?	• Alternatives that improve vehicle capacity and maximize separation from existing/future land uses will perform better for this indicator.
18	Aesthetics	a) Will the Alternative impact existing community aesthetics including built form?	• Alternatives which avoid the placement of new facilities which would impact existing community aesthetics and built form will perform better for this indicator.
Cultural Environment			
19	Archaeological Resources	a) Will the Alternative impact existing archaeological resources or areas with archaeological potential?	• Alternatives that minimize impacts on existing archaeological resources or avoid areas of archaeological potential will perform better for this indicator.
20	Built and Cultural Heritage Resources	a) Will the Alternative impact designated, or potential built and cultural heritage resources?	• Alternatives that minimize impacts on or avoid built and cultural heritage resources including the Oakhill Cemetery will perform better for this indicator.
Economic Environment			
21	Existing / Future Land Use	a) How will the Alternative support existing and future land uses?	• Alternatives which improve transportation for existing and future land uses will perform better for this indicator.
22	Capital Cost of Implementation	a) What are the capital infrastructure costs of implementing the Alternative including the need to alter or abandon existing infrastructure?	• Alternatives that minimize construction of new infrastructure/reconstruction of existing infrastructure will perform better for this indicator.
23	Property Costs	a) What are the anticipated property acquisition costs?	• Alternatives that maximize use of existing roadway networks and protected corridors will perform better for this indicator.
24	Operation and Maintenance Costs	a) What are the road and infrastructure maintenance and replacement costs (Life-Cycle Costs)?	• Alternatives with the least amount of new infrastructure will perform better for this indicator.
First Nation & Indigenous Communities			
25	Lands	a) Will the Alternative impact existing First Nation lands?	• Alternatives which avoid transecting existing First Nation lands will perform better for this indicator.
26	Treaty Rights	a) Will the Alternative impact existing treaty rights?	• Alternatives which avoid potential for impacts to treaty rights and avoid changes within treaty areas will perform better for this indicator.

Criteria		Indicators	Qualifier
27	Archaeological Sites	a) Will the Alternative impact existing archaeological resources or areas with archaeological potential?	• Alternatives that minimize impacts on existing archaeological resources or avoid areas of archaeological potential will perform better for this indicator.
28	Land Claims	a) Will the Alternative impact existing land claims?	• Alternatives which do not fall within areas subject to unresolved land claims will perform better for this indicator.
Other			
29	Utility Impacts	a) What effect will the Alternative have on existing utilities?	• Alternatives that minimize modifications to existing utilities will perform better for this indicator.
30	Grading, Drainage and Stormwater Management	a) What effect will the Alternative have on drainage and stormwater management facilities?	• Alternatives that minimize modifications to existing grading and stormwater management requirements will perform better for this indicator.
31	Phasing and Implementation	a) Will the Alternative be able to be phased and incrementally implemented? b) Will the Alternative require traffic diversion during construction?	• Alternatives which provide flexibility for implementation perform better for this indicator. • Alternatives that avoid disturbance to the existing transportation network will perform better for this indicator.

3.3 Evaluation of Alternative Solutions

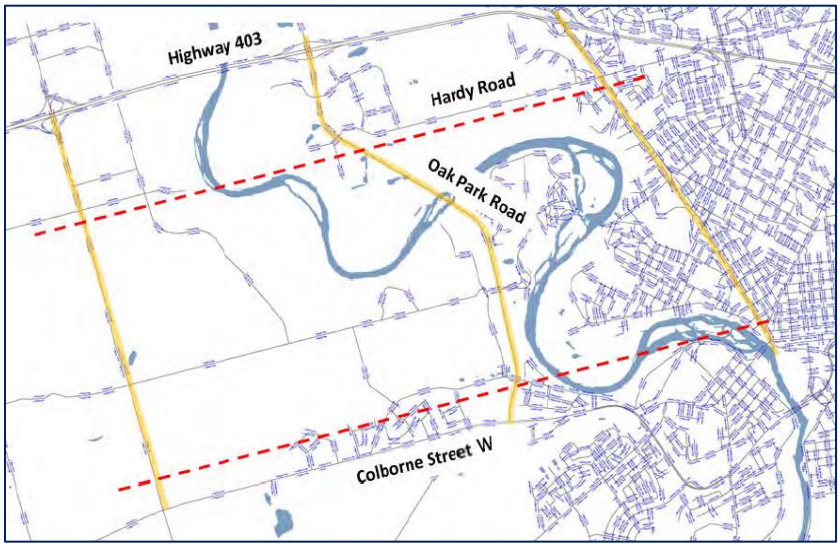
The following section presents a summary of the detailed evaluation of the Alternative Solutions developed to address the problem and opportunity statement. The full evaluation of Alternative Solutions for each of the criteria are presented in **Appendix G – Detailed Evaluation Matrix.**

The evaluation of alternative planning solutions consisted of the following steps:

- Apply the evaluation criteria to each of the alternative planning solutions to identify the potential effects on the environment based on the categories identified;
- Identify reasonable mitigation measures available to avoid or minimize any potential negative environmental effects on the environment (as applicable);
- Identify the net positive or negative effects on the environment; and
- Identify the relative advantages and disadvantages for each alternative solution based on the net environmental effects and ability to address the identified Problem and Opportunity Statement.

The evaluation of alternatives references Screenline Capacity transportation analysis. A screenline is a conceptual line across a map where traffic volumes are recorded at the intersecting point of the roadway corridor and screenline. For the purpose of this analysis, two screenlines were established for the study area, outlined in red within **Figure 6**. An extension of Oak Park Road is illustrated for the purposes of analyzing Alternative 7.

FIGURE 6 – TRAFFIC SCREENLINES

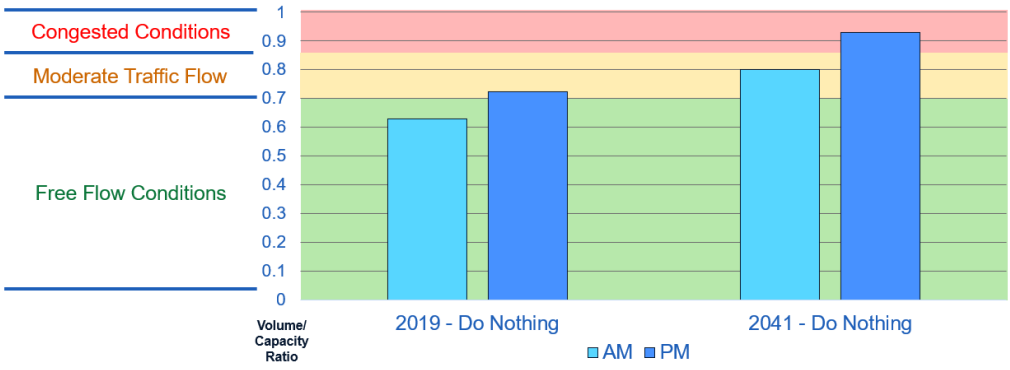


Alternative 1 – Do Nothing

Under this Alternative, the transportation network within the south-west quadrant of the City of Brantford would remain "as is" with no change to the existing transportation network. While this option would not require new capital funding and does not alter the existing natural, cultural or socio-economic environment, congestion experienced through population and employment growth would remain and worsen over time. There would be no opportunity for improving connectivity to the existing and future road network or improvements to Active Transportation and Transit or Transportation Demand Management programs.

As noted in Section 2.4.9, based on the Traffic Assessment for the future (2041) do-nothing scenario, with the significant increase of travel demand on an annual basis, all directions and peak periods will be approaching capacity, except the southbound direction in AM peak period. The northbound direction in AM peak and southbound direction in PM peak representing employment travel trends are performing worst, experiencing over capacity conditions. Based on the results of the future (2041) do-nothing lane capacity analysis, the existing roadways would require additional capacity to accommodate 2041 traffic demands at the screenline level. Under future (2041) do-nothing traffic conditions, most intersections are forecast to operate poorly during both the AM and PM peak hours, with the exception of intersections along the existing Oak Park Road corridor. The screenline transportation capacity under a do-nothing scenario is presented in **Figure 7.**

FIGURE 7 – SCREENLINE LEVEL TRAFFIC FORECAST (DO-NOTHING)



Leaving the road network in the current configuration is inconsistent with the goals and objectives of the City of Brantford's' Official Plan which states that the City shall "maintain an appropriate road network to accommodate

commercial, industrial and private vehicular traffic, incorporating where possible and desirable provision for alternative modes of transportation" and the 2019 Growth Plan which states that the Transportation System within the Greater Golden Horseshoe "will be planned and managed to provide connectivity among transportation modes for moving people and for moving goods". This alternative is also inconsistent with the 2020 Provincial Policy Statement which states planning authorities shall "plan for and protect corridors and right-of-way for infrastructure, including transportation, to meet current and projected needs and as part of a multimodal transportation system, connectivity within and among transportation systems and modes should be maintained, and where possible, improved including connections which cross jurisdictional boundaries".

A "do nothing" approach is **not recommended** as this alternative would not address the problem and opportunity statement.

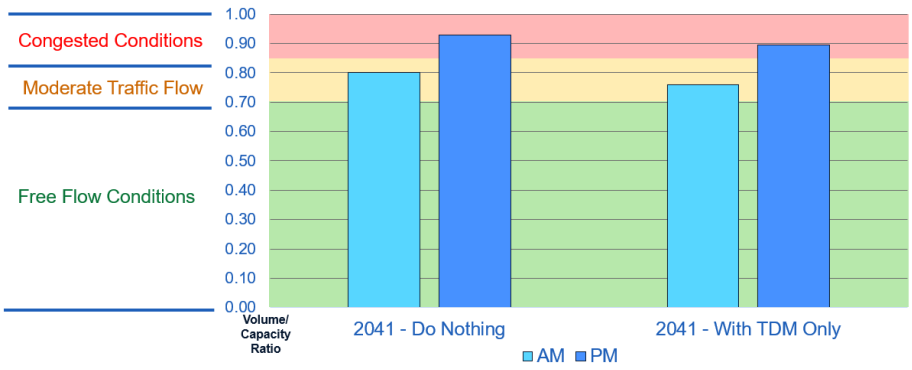
Alternative 2 – Improve Transit, Active Transportation and TDM

Under this alternative, transit service (operations and level of service), active transportation facilities and transportation demand management (TDM) programs would be improved in the south-west quadrant of the City in order to increase transit, active transportation and TDM modal share, however no significant physical changes would be made to the transportation system.

While this option would not result in significant changes to the natural environment and has the potential to improve air quality due to more efficient travel, increased transit service would operate using the existing transportation system which would still experience congestion due to population and employment growth given private vehicular trips are forecast to make up 73.8% of AM Peak Period trips by 2041 as noted in the City's 2020 Transportation Master Plan. This alternative would not adequately accommodate future traffic volume in the City or provide new or adequately improve connections to existing and future roads in the City. As a stand-alone measure, it does not fully adequately satisfy objectives of provincial or local planning policies for accommodating growth.

For the transportation analysis completed for this study, the future (2041) Transportation Demand Management (TDM) scenario simulates the effect of the City's strategies and policies to reduce travel demand, or to redistribute the demand in space or time. These include additional active transportation facilities and the enhancement of transit service which are anticipated to increase the share of non-auto trips. Transportation mode share (type of trip) targets for the TDM measures were assumed as identified in the City's 2020 TMP Update. Transportation analysis results indicate that additional active transportation facilities and the enhancement of transit service would help to reduce the traffic demand within the study area and slightly mitigate deficiencies; however, they are not able to resolve the issues completely. The peak hour directional flows still show near or over capacity conditions. The improvements compared to a "Do-Nothing" scenario are presented in **Figure 8.**

FIGURE 8 – 2041 SCREENLINE CONDITIONS – WITH ALTERNATIVE 2



Improving transit, active transportation and TDM would result in moderate to high costs depending on the level of improvements, both in terms of operating and capital costs, should additional infrastructure, buses and volumes of service be required. The capital costs to 2041 in the City's 2020 Transportation Master Plan for improving transit and

active transportation in the City of Brantford are expected to be $60 million for improving transit operations and $30 million for improving active transportation facilities.

While improving transit, active transportation and TDM performs well across in the overall evaluation of Alternative Solutions, it does not perform well under the Transportation and Land Use Planning Objectives criteria and is **not recommended** as a standalone solution since it would not address the problem and opportunity statement.

Alternative 3 – Implement Localized Intersection Improvements

Under this alternative, intersection improvements are made at key intersections within the south-west quadrant of the City of Brantford such as dedicated turning lanes, new facilities such as traffic signals and/or improvement of existing traffic signal timing to improve traffic operations. The average cost for intersection improvements are estimated to cost at least $1 million per intersection depending on the improvements. Improving intersections would somewhat accommodate existing traffic volume in the City and offer some improvements to the transportation network, however, this alternative does not adequately accommodate future traffic volume in the City or improve capacity of the transportation network. It would also not adequately address existing provincial and local policy objectives for transportation and growth.

Implementing localized intersection improvements is **not recommended** as this alternative would not address the problem and opportunity statement.

Alternative 4 – Improve Alternative Roadways

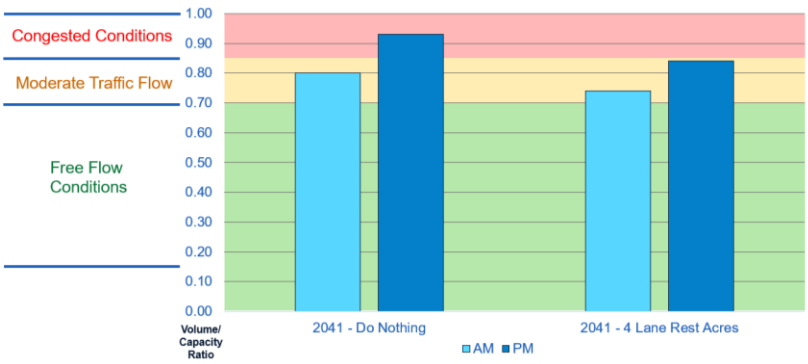
This alternative would improve parallel north-south corridors or provide an alternative crossing of the Grand River to accommodate traffic volume in the City. This could include improvements or widenings to corridors such as West Acres Road, Colborne Street West, Brant Avenue, Hardy Road or Phelps Road.

Rest Acres Road (Highway 24)

As noted in the 2019 Oak Park Road Feasibility Study, opportunities were investigated to determine if additional transportation capacity could be added to Rest Acres Road, which is under the jurisdiction of the Province of Ontario, to mitigate overcapacity issues of the local transportation network. It was noted that a Traffic Impact Study (TIS) report completed for the Brant 403 Business Park development (IBI, 2015) investigated the widening of the Rest Acres Road corridor to 4 lanes south of Highway 403, between Bethel Road and Colborne Street, by 2036.

A sensitivity analysis showed that the expansion of Rest Acres Road to 4 lanes, from Highway 403 to Colborne Street West, would not alleviate capacity deficiencies. However, it could provide flexibility to potentially phase the construction of an extension of Oak Park Road (e.g. a 2-lane cross section versus a full 4 lane cross section). Assigning vehicular trips to a widened Rest Acres Road as an alternative to an Oak Park Road extension (Alternative 7) would still result in congestion on Rest Acres Road by 2041, as demonstrated in **Figure 9.**

FIGURE 9 – 2041 SCREENLINE CONDITIONS – WITH 4-LANE REST ACRES ROAD



The City's TMP notes that a high percentage of trips have origins and destinations within Brantford. Utilizing Rest Acres Road would result in longer travel distances to connect Northwest and Southwest Brantford. Widening Rest Acres Road would present its own property, environmental and cost constraints, such as the crossing of Whiteman's Creek, and may require additional enhancement at key locations such as intersections and interchanges. It is likely to carry a similar cost estimate to an extension of Oak Park Road (Alternative #7).

It also noted that Rest Acres Road is not within the City's jurisdiction, and improvements would require a separate Environmental Assessment through the *Class Environmental Assessment for Provincial Transportation Facilities (2000).*

Paris Road and Brant Avenue

The City of Brantford's 2020 TMP reviewed capacity issues on Paris Road and Brant Avenue which is a major north-south link between north-west and south-west Brantford. The TMP noted that Paris Road, south of Highway 403, is only just approaching capacity and therefore there is no justification at present to add additional capacity. Widening of Paris Road would also have significant impacts on utilities.

The TMP identifies that the transportation capacity of Brant Avenue is strategic in nature, noting the lack of a direct connection between Northwest Brantford (commercial/industrial use) and Southwest Brantford (residential use), the lack of connection to these areas being a main issue. The TMP clarifies a considerable amount of traffic traveling between Northwest and Southwest Brantford is forced to travel east towards downtown in order to cross the Grand River, then travel back to the west to reach intended destinations. The TMP notes the City recently implemented more stringent parking restrictions on Brant Avenue, and other traffic signal system measures to improve its operation.

The City's TMP clarifies that Brant Avenue, between St. Paul Avenue and the Lorne Bridge, is part of the Brant Avenue Heritage Conservation District, and that the widening of Brant Avenue to provide 5-6 lanes would have significant property impacts, and thereby potentially impact a number of properties with Heritage Conservation District designations.

Shellard Lane Extension to Rest Acres Road (Highway 24)

An extension of Shellard Lane to Rest Acres Road in the County of Brant is not within the City's jurisdiction and would result in significant impacts to private property and lands designated as Agriculture in the 2012 Brant County Official Plan. Similar to the analysis for Rest Acres Road, utilizing Shellard Lane to Rest Acres Road would also result in longer travel distances to connect Northwest and Southwest Brantford.

Phelps Road (County Road 18)

Improvements to Phelps Road (County Road 18) are not within the City's jurisdiction and would not address the problem and opportunity statement to provide additional roadway capacity and reduce travel times between West Brantford (West Brant), Northwest Brantford and Highway 403. Improvements to Phelps Road to have it function as a ring-road would result in significant implementation costs. Phelps Road is identified for Transportation System Management improvements in the City of Brantford 2020 Transportation Master plan. The City's 2020 Transportation Master Plan defines Transportation System Management as:

> *"Transportation Systems Management (TSM) is a set of techniques used to increase the capacity / improve the performance of a piece of transportation infrastructure while maximizing the safety and mobility of people and goods without increasing its physical size. In the context of the Brantford TMP, this would include re-allocating/ providing space and amenities within transportation corridors to safely separate and control active modes of transportation, as well as implementing operational improvements along corridors to optimize efficiency. Examples of transportation system management include: providing auxiliary lanes at key intersections, signalizing intersections to improve flow, coordinating traffic signal control along a corridor during critical time periods to benefit peak flows, or introducing roundabout intersection control where feasible".*

Hardy Road

Hardy Road is currently a 2-lane roadway with a rural cross-section and significant woodlot coverage on both the north and south sides. Improvements to Hardy Road would not significantly address underlying capacity constraints that are present on Brant Avenue and Paris Road for trips with destinations between West Brantford, Northwest Brantford and

Highway 403. Hardy Road is also identified for Transportation System Management improvements in the City of Brantford 2020 Transportation Master Plan.

Summary

Improving other alternative roadways including Rest Acres Road, Paris Road/Brant Avenue or other routes do not sufficiently address the Problem and Opportunity Statement for addressing future travel demand associated with population and employment growth in the City, providing additional roadway capacity and reducing travel times between West Brantford (West Brant), Northwest Brantford and the Highway 403 and is therefore **not recommended** as this alternative would not address the problem and opportunity statement.

Alternative 5 – Implement Localized Intersection Improvements and Alternative Roadways

This alternative is a combination of Alternatives 3 and 4. As noted in the analysis of these alternatives, localized intersection improvements does not adequately accommodate future traffic volume in the City or improve capacity of the transportation network. It would also not adequately address existing provincial and local policy objectives for transportation and growth. Additionally, improving other alternative roadways including Rest Acres Road, Paris Road/Brant Avenue or other routes does not sufficiently address the Problem and Opportunity Statement for addressing future travel demand associated with population and employment growth in the City, providing additional roadway capacity and reducing travel times between West Brantford (West Brant), Northwest Brantford and the Highway 403. Therefore, implementing localized intersection improvements and improvements to alternative roadways is **not recommended** as this alternative would not address the problem and opportunity statement.

Alternative 6 – Limit Development of Surrounding Lands

This alternative would implement planning policies to limit population and employment growth in the south-west quadrant of the City of Brantford. This alternative would not accommodate future traffic volume in the City of Brantford or improve capacity of the transportation network. Additionally, this alternative is inconsistent with the 2019 Growth Plan for the Greater Golden Horseshoe for future land use in the City of Brantford including growth within Designated Greenfield Areas. This alternative also does not address existing and planned land uses in the City's Official Plan. Due to inconsistencies with provincial and local land use planning objectives and its inability to address the problem and opportunity statement, this alternative is **not recommended.**

Alternative 6A – Combination of Alternatives 2 to 6

Alternative 6A includes a combination of alternatives 2 to 6. Similar to the score for Alternatives 4 and 5, this solution does not adequately accommodate future traffic volume in the City or improve capacity of the transportation network. This alternative somewhat addresses provincial policy objectives but is inconsistent with the 2019 Growth Plan for the Greater Golden Horseshoe for future land use in the City of Brantford. Due to inconsistencies with provincial and local land use planning objectives and its inability to address the problem and opportunity statement, this alternative is **not recommended.**

Alternative 7 – Construct New Roadway Crossing of the Grand River

This alternative includes construction of a new roadway crossing of the Grand River by implementing an extension of Oak Park Road from the Hardy Road/Kraemer's Way intersection from the north limit of the Grand River to Colborne Steet West as envisioned in the City's 2020 Transportation Master Plan. Constructing a new crossing of the Grand River best accommodates existing and future traffic volumes in the City, significantly improves capacity of the transportation network, provides new and improved connections to existing and future roads in the City, supports development of an active transportation network to connect residential, institution, commercial and industrial areas as per the City's planning policies and provides facilities that support transit use in the City with improved connections for buses.

Construction of a new roadway crossing the Grand River best addresses provincial policy objectives for transportation and growth including protection for future transportation corridors to meet current and project needs. Further, this

alternative best addresses the City's existing policy objectives for maintaining an appropriate road network to accommodate commercial, industrial and private vehicular traffic.

There are potential for significant changes to aquatic habitats and natural heritage features through implementing this alternative, including Species at Risk and the Grand River. These impacts can be mitigated during Phase 3 of the Municipal Class EA process by identification of measures such as aquatic and terrestrial habitat offset areas, wildlife crossing culverts and wildlife exclusion fencing. An increased roadway footprint and induced demand would require mitigation of Climate Change impacts through tree planting and efficient use of materials and stormwater management features, however, travel distance is reduced.

Implementing this alternative has the potential for impacts to:

- Residential property and access, community facilities and access, recreational facilities and access and pedestrians and cyclists, including temporary disruption to the Oakhill Trail and S.C. Johnson Trail.
- Land acquisition which can be reduced depending on the alignment selected during Phase 3 of the EA process.
- Noise or vibration impacts to existing or future sensitive land uses including residential areas requiring mitigation.
- Changes to Air Quality requiring mitigation, however reduced congestion in the City which would reduce emissions.
- Significant impacts to existing community aesthetics or built form requiring mitigation through context sensitive design and analysis during Phase 3 of the Municipal Class EA Process.
- Archaeological resources or areas with potential resources requiring mitigation and further investigation through Stage 2 and Stage 3 investigations in Phase 3 of the Municipal Class EA process.
- Significant impacts to built or cultural heritage resources including the Oakhill Cemetery requiring mitigation.

Constructing a new crossing of the Grand River and extending the transportation corridor to Colborne Street West significantly improves transportation conditions for existing and future land uses. There is potential for high capital costs in the range of $100 million as per the 2019 Oak Park Road Feasibility Study, however, the cost of implementation will be developed along with the preferred alternative design concept in Phase 3 of the EA process. There is potential for high amount of new operational costs related to road operations in the range of $340,000 per year as noted in the 2019 Oak Park Road Feasibility Study.

This alternative is expected to result in impacts to lands or bodies of water within the Haldimand Tract and, specifically, to the Grand River.

This alternative would likely impact existing utilities and require relocation including sanitary and water systems within the study area and would result in impacts to drainage and require stormwater management facilities. This alternative would allow for some flexibility in implementation from a design and construction perspective such as phases and would require some traffic diversion or disruption during construction, however a phased construction approach would allow construction to occur outside of existing transportation corridors for a longer duration with reduced disruptions.

Although this alternative has potential for significant impacts to the natural environment, social environment and cultural environment, impacts can be mitigated during Phase 3 of the Municipal Class EA process. **This alternative best addresses the Problem and Opportunity Statement for addressing travel demand associated with population and employment growth in the City, providing additional roadway capacity and reducing travel times between West Brantford (West Brant), Northwest Brantford and the Highway 403; and is therefore recommended.**

3.4 Selection of Preferred Alternative Solutions

Based on the detailed evaluation of Alternative Solutions against the evaluation criteria and Problem and Opportunity Statement developed during Phase 1 of the EA process, it is recommended to proceed with Alternative 7, Construct New Roadway Crossing of the Grand River. It is also recommended to incorporate Active Transportation, Transit and TDM per Alternative 2 as this would align with the City's multi-modal objectives for transportation.

Based on the transportation analysis completed, a combined TDM and infrastructure scenario offers greater screenline capacity improvements compared with the TDM only or infrastructure only scenarios. In particular, under the two-lane per direction extension of Oak Park Road, all of the capacity deficiency issues are resolved at the screenline level as shown in **Figure 10**, and the corridor level conditions are improved as well. However, the Paris Road and Brant Avenue corridors still show over capacity conditions during the PM peak hour in both the directions as shown in **Figure 11**. The full transportation assessment accommodating an extension of Oak Park Road and TDM measures is provided in **Appendix F.**

FIGURE 10 – SCREENLINE LEVEL CAPACITY IMPROVEMENTS – WITH OAK PARK ROAD EXTENSION

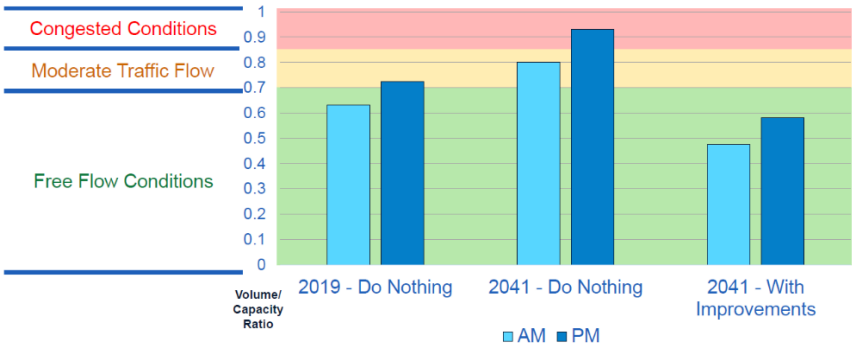
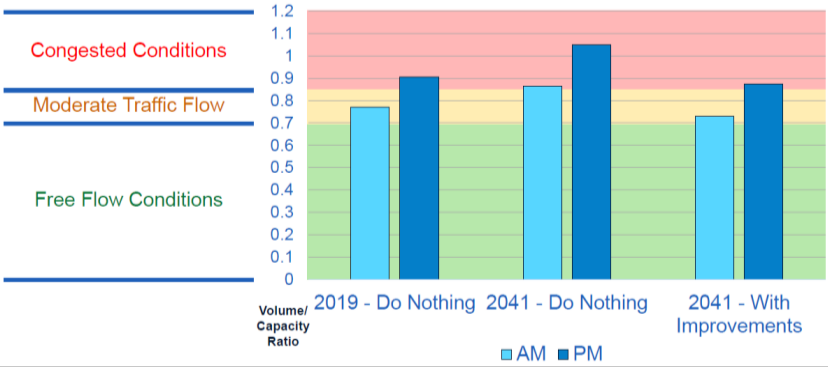


FIGURE 11 – BRANT AVENUE – NORTH OF COLBORNE STREET WEST



Constructing a new crossing of the Grand River improves the Vehicle Hours Travelled (VHT) by approximately 21%- 23% under the future (2041) infrastructure and TDM scenario with 2 lanes for the OPRE compared to a do-nothing scenario. Similarly, Vehicle Kilometres Travelled (VKT) is also improved by approximately 4%-6%. Overall, the results indicate the network-wide travel time expenditure is expected to show a substantial reduction with the Oak Park Road extension in place as the additional capacity and connectivity provided by the new corridor reduces the congestion from the current levels and provides better connectivity for the travel demands and travel patterns expected with the future growth.

It is recommended to proceed with Alternatives 2 and 7 for the development of Alternative Design Concepts in Phase 3 of the Municipal Class Environmental Assessment Process.

3.5 Mitigation Measures for the Preferred Alternative Solutions

Mitigation measures for the preferred alternative solution have been developed a preliminary level and will be detailed further in Phase 3 of the EA process for the development of Alternative Design Concepts for the Preferred Solution. Based on the detailed evaluation of alternative solutions and feedback received at Public Information Centre #1, a range of preliminary mitigation measures will be considered:

Transportation

From a Transportation perspective, temporary impacts to the existing trail system resulting from construction activities will be considered, including impacts to side-streets and current transportation networks. Impacts to the broader transportation network including Colborne Street West will be considered, including the potential for improvements associated with the extension of Oak Park Road. The use of roundabouts to improve traffic flow will be considered.

Natural Environment

An extension of Oak Park Road will fragment wildlife habitat and can be mitigated to the greatest extent possible. Alternative design concepts should incorporate wildlife passages and linkages as much as possible to minimize the risk of road mortality, particularly where there are naturalized areas on both sides of the road. Such areas include the Brantford Northwest PSW Complex, the Grand River, the Brant Conservation Area trail, and the woodland between Oakhill Drive and Colborne Street West in the south end of the study area. Wildlife exclusion fencing and animal crossing signage may be installed in areas where wetlands and woodlands are present, including areas surrounding the deer winter congregation area (stratum 2) north of the Grand River (east of the trail and associated with the Brantford Northwest PSW Complex) and south of Robinson Road, immediately west of the study area limits.

Should the project restraints and alternative design concepts require the need for in-water piers within the Grand River, the large mid-channel island could provide an opportunity to place support piers on the island area outside the normal wetted channel of the Grand River. This would avoid permanent impacts to the riverbed and limit the potential for impacts to fish habitat. The placement of piers on the island would reduce the potential impacts to areas of fish habitat which flood seasonally or during high flow events and may only be used periodically. The need for terrestrial and aquatic habitat offset areas will also be considered. Climate Change impacts will be considered through tree planting and efficient use of materials and stormwater management features.

Roadways are a common pathway for the introduction of invasive species, even after construction is complete. Vehicles are capable of transporting seeds and vegetation long distances and dispersing vegetative material while in motion. Opportunities for enhancement and preservation of natural habitats are recommended throughout any required construction, including management and restoration of areas dominated by European Common Reed and Reed Canary Grass. Giant Hogweed was also observed in the island east of the pedestrian bridge in the Grand River. Native plantings, with a focus on pollinator species and promoting Monarch habitat is also recommended in open meadow communities.

Noise and Air Quality

The existing background air quality for the majority of existing and future planned sensitive receptors are not expected to be significantly impacted by existing traffic-related air pollution sources, however it is anticipated that if required, feasible mitigation measures in limited locations can help achieve the applicable criteria if they are not already exceeded by existing ambient air quality conditions. The existing background noise levels for the majority of existing and future planned noise sensitive areas are expected to not be significant, which increases the potential significance of the noise impact of the Project, however it is anticipated that with feasible mitigation measures in limited locations the applicable criteria can be achieved. There have not been any existing or future planned vibration sources identified within or adjacent to the Study Area that may significantly impact vibration sensitive receivers, and operational vibration of the Project is not anticipated to be significant.

Social and Cultural Environment

Construction activities and staging should be suitably planned and undertaken to avoid unintended negative impacts to identified Built Heritage Resources and Cultural Heritage Landscapes including the Oakhill Cemetery. Avoidance measures may include, but are not limited to: erecting temporary fencing, establishing buffer zones, issuing instructions to construction crews to avoid identified cultural heritage resources or the use of landscaped berms or noise walls. If the Grand River riverbed will be impacted as a result of piers, the Ministry of Heritage, Sport, Tourism and Cultural Industries Criteria for Evaluating Marine Archaeological Potential checklist should be consulted to determine whether the proposed impacts are within an area considered to have marine archaeological potential.

Archaeological Resources

As noted in Section 2.4.6, the Stage 1 Archaeological Assessment determined that 117 previously registered archaeological sites are located within one kilometre of the Study Area. The property inspection determined that parts of the Study Area exhibit archaeological potential and will require a Stage 2 assessment during Phase 3 of the EA process. Two sites within 20 metres and one site within the Study Area retain Cultural Heritage Value or Interest (CHVI) and require Stage 3 Site-Specific assessments.

4. Consultation

The following section presents an overview of consultation to-date during Phases 1 and 2 of the Municipal Class Environmental Assessment Process. As noted in Section 2.2, a Notice of Study Commencement was advertised in *The Brantford Expositor* Civic News section on June 4, 2020 and June 11, 2020 and posted on the City of Brantford website and social media channels. The Notice was also sent via regular mail and e-mail to local residents, businesses and technical agencies between May 29, 2020 and June 5, 2020. Notice of Study Commencement letters were sent to Mississaugas of the Credit First Nation and Six Nations of the Grand River First Nation via e-mail on June 22, 2020.

4.1 Virtual Public Information Centre #1

The first Virtual Public Information Centre (PIC) in the form of a walk-through video and presentation slides was held online beginning on November 27, 2020 to present the Municipal Class Environmental Assessment process being followed, study background, existing conditions of the study area and the preliminary evaluation of alternative solutions. A presentation video providing responses to frequently asked questions received from the PIC was uploaded to the City's website on December 18, 2020 following review of comments received.

The following steps were taken to notify the public and interested stakeholders of Virtual PIC#1. In addition to publications, e-mail and regular mail, notification was also provided on the City's social media accounts.

Publications

- Brantford Expositor Civic News Section – November 19, 2020 and November 26, 2020.
- Two Row Times – November 18, 2020 and November 25, 2020.
- Additional publication within Turtle Island news.

Via Email

- Technical Agencies / Local Interest Groups / Utilities. – November 19, 2020.
- Stakeholders, including residents and businesses on the project contact list – November 19, 2020.
- Mississaugas of the Credit First Nation and Six Nations of the Grand River First Nation – November 19, 2020.

Regular Mail

- Local residents, businesses and technical agencies within the study area – November 19, 2020.

After the PIC display boards and video were posted on the City's website on November 27, 2020, approximately 117 email comments were received. General comments on the project included questions regarding engagement and consultation with Indigenous communities, concerns regarding the potential high cost of project construction, concerns with potential decrease of property value and increased taxes and request for additional information regarding Alternative 7 (Construct new crossing of the Grand River and extend transportation corridor to Colborne Street West). Concerns regarding impacts to the Oakhill cemetery, abutting properties, Cultural heritage and Archaeological sites were also noted.

The most commonly received feedback regarding the alternative solutions included questions regarding the methodology to select the preferred alternative solutions, concerns regarding the travel times saved in Alternative 7 and concerns regarding the evaluation criteria and other potential solutions. Other inquiries were made regarding an extension of Oak Park Road to Shellard Lane and a request for alternatives 2 and 6 to be considered as a single solution.

Concerns regarding the environmental impacts of the project included the increase of noise, air, light and vibration pollutions, questions regarding impacts to drinking water supply and impacts resulting from construction such as contamination, pollutants and litter. Concerns were noted regarding the protection of the Tufa Mounds ANSI, Perched Fens and Davisville Swamp Provincially Significant Wetland. Concerns regarding long term impacts of climate change on a new crossing of the Grand River and high impacts to wildlife, wildlife habitat, migratory birds, Provincially Significant Wetlands and woodlands were also noted.

Virtual Public Information Centre #1 provided the project team with several comments related to the study area, evaluation of alternative solutions and key considerations which will aid in the detailed evaluation of alternative solutions and identification of the preferred alternative solutions. Additional information can be found in the PIC#1 Summary Report in **Appendix H.**

4.2 Virtual Public Information Centre #2

The second Virtual Public Information Centre (PIC) was held in the form of a live video presentation on March 31, 2021 from 6:00pm to 8:00pm with slides posted online. A Question and Answer period was held following the video presentation where participations were able to register in advance to ask a live question to the project team. The presentation was livestreamed on the City's YouTube Page and had approximately 800 views at the time of comment period closing. PIC#2 presented the detailed evaluation of Alternative Solutions, recommended Alternative Solutions and next steps in the project.

The following steps were taken to notify the public and interested stakeholders of Virtual PIC#2. In addition to publications, e-mail and regular mail, notification was also provided on the City's social media accounts.

Publications

- Brantford Expositor Civic News Section – March 18, 2021 and March 25, 2021
- Two Row Times – March 17, 2021 and March 24, 2021
- Additional publication within Turtle Island news March 17, 2021 and March 24, 2021.

Via Email

- Technical Agencies / Local Interest Groups / Utilities – March 23, 2021.
- Stakeholders, including residents and businesses on the project contact list – March 23, 2021.
- Mississaugas of the Credit First Nation and Six Nations of the Grand River First Nation – March 18, 2021

Regular Mail

- Local residents, businesses and technical agencies within the study area – March 22, 2021.

Following Virtual Public Information Centre #2 approximately 100 comments were received through e-mail and the City's Let's Talk Brantford Website. Comments received included concerns regarding environmental impacts of the project and mitigation measures, suggested other alternatives, lack of support of the project, questions regarding consultation, impacts to the Oakhill cemetery and abutting properties, questions regarding engagement and consultation with Indigenous communities and concerns regarding the potential high cost of project construction. Additional information can be found in the PIC#2 Summary Report in **Appendix I**.

4.3 Consultation with the General Public and Project Stakeholders

This section provides an overview of comments received outside of the Public Information Centre comment periods. Following the Notice of Study Commencement, several comments were received from members of the public regarding:

- Concerns regarding increased traffic flow resulting from the extension and the overall improvements to traffic conditions in the City;
- Concerns with potential impacts to existing residential properties;
- Concerns with potential impacts to the natural environment and wildlife;
- Consideration of aboriginal and treaty rights;
- Consideration of project funding requirements; and
- General concerns related to noise, light and visual impacts, roadway drainage, and climate change considerations.

A detailed account of public comments received to-date is provided in **Appendix J.** An initial Stakeholder Advisory Group (SAG) meeting was held on March 23, 2021 which included members of the Brantford Ecoist Society, Pleasant Ridge Neighbourhood Association, Brantford-Brant Chamber of Commerce, Brant Waterways Foundation and Brant Cycling Club. The purpose of the initial meeting was to establish a SAG for the study, provide an update on the project status, present and gather feedback on the detailed evaluation of alternative solutions and mitigation measures under consideration prior to virtual Public Information Centre #2 and discuss next steps in the Environmental Assessment (EA) process. For the purposes of establishing a Stakeholder Advisory Group (SAG), stakeholders were considered to be groups and organizations in Brantford which may have a specific interest in the project or have previously provided information to the project team where participation outside of the Public Information Centre (PIC) setting would offer an opportunity for further discussion and input on the project. A summary of the discussion is provided below. Minutes are provided in **Appendix J.**

- Concerns from the Brantford Ecoist Society (BES) included the protection and enhancement of the environment and as concerned citizens.
- Concerns from the Pleasant Ridge Neighbourhood Association (PRNA) included how an extension of Oak Park Road would run through the neighbourhood.
- Interests of the Brant Waterways Foundation (BWF) included opportunities to construct an alternative trail location.
- BES noted that is it difficult to see why improving Rest Acres Road would not be an option and inquired what percentage of traffic is going to use the road to get to Highway 403.
- BES suggested Rest Acres Road be improved now, and Oak Park Road in the future. BES suggested to use existing infrastructure and enhance it the best we can.
- BES suggested to model the City's growth around what is already in place and there is no reason to grow Brantford in the south-west direction. BES suggested other alternatives such as a High-Speed Train to Toronto could be considered.
- BES inquired why the Road did not go ahead in the 1980s and noted there was a previous report regarding issues when drilling into the rock when the sewer system crossing of the Grand River was first attempted. Parsons noted that geotechnical conditions will be reviewed as part of this study, and that generally harder sub-surface geological conditions could offer superior conditions for placement of bridge foundations.
- BES inquired how an extension of Oak Park Road would include a nice bridge. BES also inquired regarding tree planting. Parsons noted tree restoration and replacement would be considered in Phase 3 of the EA process.
- BES inquired how Colborne Street West would function, how would people get to the Oak Park Road Extension. Parsons noted that improvements to Colborne Street West would be considered as part of the project leading up to the road.

- PRNA inquired if property impacts have been considered and noted they should be considered as the project moves forward. Parsons noted property impacts have been considered and will be considered further during Phase 3 of the EA.
- PRNA inquired how and when noise walls would be considered. Parsons noted that these will be considered in Phase 3 of the EA process and information on noise walls and other mitigation measures will be presented at Public Information Centre #3.
- BES inquired how the Project Team can forecast traffic projections for use of the Oak Park Road Extension. Parsons clarified that traffic modelling software considers future growth areas and assigns a predicted number of trips to and from these areas.
- BWF clarified the installation of the Gordon Glaves Bridge was an example of a problem that turned into an opportunity and could be considered as an example to keep in mind for this project.
- BWF inquired if the new road would have facilities for pedestrian and cyclists. BWF noted that a new trail along the road is a different aesthetic than the current pastoral setting. BWF noted that alternative routes for the trail may exist such as a connection to Waterworks Park per other Master Plans. From a pedestrian perspective, a new trail crossing at this location would connect south-west Brant to the Homedale area.

Additional meetings with project stakeholders will be held during the remaining phases of the EA.

4.4 Consultation with Agencies and Utilities

At the onset of the study, the project team compiled a list of technical agencies that may have an interest in the study. These agencies were first contacted through the Notice of Study Commencement. Initial meetings were held with key technical agencies in July 2020 to discuss the project scope and identify specific issues that should be addressed throughout the study. Initial meetings were held with Brant County, Ministry of Transportation (MTO), Ministry of Environment, Conservation and Parks (MECP), Grand River Conservation Authority (GRCA) and Brantford-Brant Chamber of Commerce. Additional meetings were held with GRCA and MTO in August 2020 and September 2020, respectively. An initial Technical Advisory Committee (TAC) meeting was held on March 18, 2021.

Comments received from key technical agencies and utilities are summarized in **Table 4**. Minutes documenting specific meetings held during the study are included in **Appendix J**.

TABLE 4 – SUMMARY OF CONSULTATION WITH AGENCIES AND UTILITIES

Agency	Point of Contact / Date	Description
All	May 29, 2020 to June 5, 2020	Notice of Study Commencement.
Brantford-Brant Chamber of Commerce	June 6, 2020	The Chamber of Commerce Brantford-Brant would like to be an interested party in the development of this EA for the Oak Park Road Extension.
Brant County	June 15, 2020	The County of Brant Development Services Department is interested in this project, and we would like to be kept informed of the project.
Grand River Conservation Authority	June 15, 2020	GRCA provides confirmation of their interest to participate in the study. GRCA noted a series of features of interest to the GRCA exist within the study area. These features include the Grand River and associated floodplain as well as wetlands, steep slopes and a tributary of the Grand River. The Grand River Conservation Authority is interested in continuing their involvement in the project and look forward to an opportunity to review and provide comment on the proposals for the solutions, design concepts and mitigation measures.
Transport Canada	June 16, 2020	Transport Canada clarified they are requesting project proponents self-assess if their project will interact with a federal property and/or waterway and require approval and/or authorization under any Acts administrated by Transport Canada. A summary of typical approvals required was provided, including those under the Canadian Navigable Waterways Act.

Ministry of Environment, Conservation and Parks	June 17, 2020	MECP provided a recommended list of Indigenous Communities to be contacted, an overview of the proponent's Duty to Consult and requested review of the Draft Environmental Study Report. MECP also clarified that climate change adaptation, identification and mitigation of Species at Risk (SAR) Impacts and identification of permits and approvals are expected during the EA process.
Ontario Ministry of Transportation Brant County	July 20, 2020	Meeting held to present an overview presentation of the project background, work completed to date, key considerations and next steps in the Environmental Assessment Process. A summary of the discussion is provided below: • The City and County discussed the potential obstacles to co-ownership of the roadway were it to cross boundaries, including but not limited to cost-sharing for construction, maintenance and coordination of responsibilities. • MTO noted that the capacity needs at existing interchange at Oak Park Road should be identified in the Traffic Impact Study This information is necessary for when improvements to left turn lanes, right turn lanes, or alternation of ramp terminals may be required.
Ministry of Environment, Conservation and Parks Grand River Conservation Authority	July 21, 2020	Meeting held to provide an overview presentation of the project background, work to be completed, key considerations, consultation efforts, and next steps in the Environmental Assessment Process. A summary of the discussion is provided below: • GRCA's Property Department will need to be consulted with based on the study's proximity to Brant Conservation Area. • GRCA's largest concern (area of interested) is related to the Grand River crossing. • MECP concerns include ensuring that proper mitigation measures and best management practices are applied to the Grand River Crossing. The significance of the Grand River was emphasized as it is also seen as a resource and contributes to the drinking water supply. • MECP requested that the project team consults with the environmental agencies once they have developed the full list of evaluation criteria. Agencies will then be given some time to review and confirm that the criteria meet agency requirements and that they are satisfied with the level of detail.
Ministry of Natural Resources and Forestry	July 22, 2020	MNRF confirmed receipt of the Notice of Study Commencement and noted it is the proponent's responsibility to be aware of and comply with all relevant federal or provincial legislation, municipal by-laws or other agency approvals. MNRF provided background information related to the Natural Heritage and Endangered Species Act, Petroleum Wells, Oil, Gas and Salt Resource Act and Public Lands Act and Lakes and Rivers Improvement Act. The MNRF would appreciate the opportunity to review any draft reporting completed in support of the EA when it becomes available.
Grand River Conservation Authority	July 23, 2020	GRCA provided additional technical background information and requirements for the project, including previous reporting and data sources for species at risk.
Brantford-Brant Chamber of Commerce	July 30, 2020	Meeting held to provide an overview presentation of the project background, work to be completed, key considerations, consultation efforts, and next steps in the Environmental Assessment Process. A summary of the discussion is provided below: • The Chamber of Commerce inquired on how the EA Study aligns with the County of Brant's Transportation Master Plan. Parsons noted that the project team is currently only focusing on City of Brantford Policies at this stage of the study but will take this back for further consideration. • The Chamber of Commerce inquired about the design components of the roadway and whether they would match existing roadway designs in the surrounding area. The City of Brantford confirmed that it is anticipated to be a four-lane road suitable for vehicular and active transportation modes, as well as trucks as outlined in the Transportation Master Plan. • The Chamber of Commerce asked if there would be any impacts to the existing trail and watermain in the study area. Parsons noted the watermain and trail requirements are being considered and could include reconstruction within the right of way as a part of the project completion. It was noted the 2019 Oak Park Feasibility Study considered leaving the existing Grand River crossing structure in-place. • The Chamber of Commerce inquired regarding the potential mitigation factors for the residential areas adjacent to the study area. Parsons noted that the road grade could increase as the extension approaches Colborne Street West, resulting in an elevated or grade-separated roadway adjacent to the properties along Oak Hill Drive. Noise, visual, property, and minor air quality impacts will need to be addressed. • It was noted there have been new environmental requirements placed on EA projects since the right-of-way was set aside by the city in the 1980's, thus the alignment of the extension may need to shift slightly to accommodate for new constraints and/or regulations. Whether an alignment would stay within the protected right of way has not been confirmed at this stage of the project.

		• The City of Brantford noted that preliminary alternative alignments, environmental impacts, and connections were considered as a part of the Oak Park Feasibility Study completed in 2019. • The Chamber of Commerce inquired regarding Indigenous concerns that may arise throughout the project. It was noted the City's legal department has been involved in Indigenous consultation efforts to-date and consultation will continue throughout the EA Study. The City also noted that concerns from Indigenous communities may be received and that Indigenous concerns may also coincide with public concerns as many live within the City.
Grand River Conservation Authority	August 5, 2020	Meeting held to discuss technical requirements for the EA. A summary of the discussion is provided below: • GRCA to forward their latest Hec-Ras Model to Parsons for use in hydraulic modeling. • GRCA indicated that they did not have any explicit concerns with the geotechnical investigations doing boreholes in the floodplain. That said, GRCA indicated that there may be geotechnical information complete for a sanitary sewer crossing project of the Grand River and suggested that Parsons review this information to supplement any planned geo-tech work • GRCA indicated that a 100-year meander belt and/or fluvial geomorphology study will not be required for this study. • GRCA indicated that their main concern with the bridge location was that the crossing "worked" from the perspective of minimizing impacts to the Grand River and wetland areas in the vicinity. • GRCA would want to minimize the number of piers if possible and utilize the island in the middle of the river if at all possible. Parsons to follow up on what, if any, ice jamming history there is in this location and past study information, although GRCA indicated that ice jamming was not a major concern for this area of the Grand River. • GRCA indicated that a main criterion for any bridge structure would be that it not raise water levels upstream. • GRCA asked that Parsons consider bank stability measures on each side of the river as part of the preliminary design.
Ontario Ministry of Transportation	September 29, 2020	Meeting held to provide an overview presentation of the project background, work to be completed, key considerations, consultation efforts, and next steps in the Environmental Assessment Process. A summary of the discussion is provided below: • Interim interchange improvements to Highway 403 and Oak Park Road are underway and will be finalized in 2020. • The "gold plan" ultimate interchange improvements have been designed but is not being considered at the moment with no programming, and is understood to be pending successful negotiations with the City of Brantford regarding cost sharing. • The ultimate interchange design is currently only warranted once developments north of Highway 403 have been agreed to and approved. The timing of these developments is unknown. The gold interchange design would require additional property in the NE quadrant and hence agreements with developers. • Parsons indicated that the transportation analysis has only considered the interim designs that are currently being completed, since there is no timeline for the implementation of the gold design. All parties agreed that this was the correct assumption.
Grand River Conservation Authority	October 14, 2020	Meeting held to provide an overview presentation of the project background, work to be completed, key considerations, consultation efforts, and next steps in the Environmental Assessment Process. GRCA indicated that they would like the following items considered by the study once it advances to Phase 3 and the development of design alternatives: • Accessibility to the Conservation Area, both during construction and after, and specifically during summer months; • That the existing trail system is maintained to the furthest extent possible, trails are an important feature for the Conservation Area although they don't run through the park itself; • Concerns about wildlife crossings of the new roadway and consideration of features to help with safe wildlife movements; and • Consideration of the potential revenue impacts to Brant Conservation Area. GRCA indicated that there are estimates the Area brings over >$1 million per year to local business in Brantford.
Ministry of Heritage, Sport, Tourism and Culture Industries	December 3, 2020	MHSTCI clarified the proponent is required to determine a project's potential impact on cultural heritage resources. Recommendations and requirements were provided for identifying cultural heritage resources, archaeological resources, built heritage resources and cultural heritage landscapes. All technical cultural heritage studies and their recommendations are to be addressed and incorporated into EA projects. MHSTCI requested to be advised whether any technical cultural heritage studies will be completed for this

		EA project, and to provide them to MHSTCI before issuing a Notice of Completion or commencing any work on the site.
Ministry of Environment, Conservation and Parks	February 24, 2021	Draft detailed evaluation criteria that will be used to complete the evaluation of Alternative Solutions was shared with MECP via e-mail. MECP responded on February 25, 2021 noting the criteria appear to be broad in scope and cover off the full range of impacts that each alternative should be judged against. For SAR, MECP clarified the project team is strongly encouraged to contact the SARB once the project team has developed the various alignments of the extension that will be evaluated. MECP also clarified that it is the practice of the ministry to review all Schedule "C" ESRs and would request that a draft ESR be provided for review with a minimum of 30 days for review and comment. This review will cover off the following: SAR considerations, climate change mitigation/adaptation considerations, sourcewater protection, water resource protection, air quality impact assessment and public consultation with emphasis on Indigenous Consultation efforts and results.
Technical Advisory Committee Meeting (including Brant County, GRCA, MECP, MTO and Bereavement Authority of Ontario).	March 18, 2021	A Technical Advisory Committee (TAC) meeting was held where an overview presentation of the detailed evaluation of solutions for Phase 2 of the EA Study was presented, following by an open discussion period. A summary of the discussion is provided below: • The Bereavement Authority of Ontario (BAO) requested more information with regards to the road layout as compared to the Right of Way (ROW) that was originally set aside. Parsons clarified the ROW would not be expanded, and that the proposed roadway would not in fact extend right to the edge of the ROW and that a significant buffer between the ROW limits and edge of pavement would be provided. However, preliminary designs are yet to begin. • BAO requested information on the distance between the roadway and nearest graves that exist. Parsons clarified the alignment is being reviewed in that area and the number can be provided to BAO during Phase 3 of the EA process where alternative alignments and designs will be developed. • BAO clarified that one of their main concerns is how close the roadway would be to existing grave sites and concerns that the new roadway may create impacts such as erosion. BAO inquired if the road would result in flooding of the cemetery areas. Parsons noted the project would be looking at pre-post water stormwater management (including storm sewers) and that any new roadway would contain all of the stormwater run-off generated by the roadway within the ROW and conveyed to a proper outlet elsewhere. • BAO noted grave sites would need to be taken into consideration from both sides of the corridor, including the area that is not used but planned for future use • BAO noted there can be future discussions regarding offsets, however, current setback guidelines are typically a minimum of 15 feet, depending on the type of alignment that would be coming through. Ideally, the offset should be much more than 15 feet. BAO would like additional information on roadway height, the use of berms or other engineered features. • BAO clarified they have received concerns from internment holders and BAO wants to ensure their internment rights will not be impacted. Further discussions with BAO will need to occur once there is a better understanding of the impacts. • BAO requested Brantford Cemetery Staff include the proposed roadway in brochures. It was noted by BAO that individuals who have purchased internment rights did not know about the project. • The Grand River Conservation Authority (GRCA) requested if impacts to Brant Conservation Area have been considered as a business. Parsons noted that impacts to the park have been considered under property (criteria #14). GRCA will review the information presented. • GRCA noted that if the project team is looking into land requirements, further discussion with GRCA will be required. The City noted more detailed discussions on land needs will be required in future stages of the study.

4.5 Consultation with Indigenous Communities

Consultation with Indigenous Communities is on-going throughout the Environmental Assessment. The Project Team has engaged with the Six Nations of the Grand River and Mississaugas of the Credit First Nation communities on this project. Three (3) meetings have been held thus far with both representatives of the Six Nations of the Grand River and Mississaugas of the Credit First Nation. A summary of these discussions is noted in **Table 5**. Minutes from all meetings are included in **Appendix J.**

The project team has committed to regular meetings with representatives from both Six Nations of the Grand River and Mississaugas of the Credit First Nation throughout the course of the study to keep their respective communities updated on study progress and findings and has agreed to share all relevant technical reports with them for their review and their inputs.

TABLE 5 – SUMMARY OF CONSULTATION WITH INDIGENOUS COMMUNITIES

Indigenous Community	Point of Contact / Date	Description
Six Nations of the Grand River	June 22, 2020	Notice of Study Commencement letter distributed.
Six Nations of the Grand River	September 16, 2020	Meeting held to provide an overview presentation of the project background, work to be completed, key considerations, consultation efforts, and next steps in the Environmental Assessment Process. A summary of the discussion is provided below: • SNGR prefers to have reports and information shared without the need for request. Parsons and the City to share information and reports with SNGR as they become available. • SNGR identified a strong interest in the project and requested to be consulted throughout, especially during the decision-making processes. • SNGR noted that there were agreements signed with the City of Brantford regarding sewage crossings in 1997. These agreements should be revisited to and considered during the EA for a crossing of the Grand River. SNGR to provide any available information regarding these agreements to the City of Brantford. • SNGR asked how this project tied in with other initiatives occurring within the City of Brantford. The City of Brantford noted there is coordination occurring between multiple initiatives and this EA. The project is also supported by the City's Transportation Master Plan and Master Servicing Plan. • SNGR noted a main concern is the protection of all species that may be impacted by this project, not just Species at Risk. • SNGR inquired about existing background information the Project Team has regarding Archaeological resources in the study area. Parsons notes that the Stage 1 Archaeological Assessment has been conducted and the report is currently being drafted, which will be circulated to SNGR when ready. The Stage 1 AA indicated that there is high archaeological potential in this area. Parsons also noted SNGR will be consulted prior to and after the Stage 2 AA is conducted. • It was noted ancestors of the SNGR have settled within the boundaries of the City of Brantford and have been present on the Banks of the Grand River for thousands of years, thus it is likely that there will be high potential for Archaeology.
Six Nations of the Grand River	September 16, 2020	Follow-up questions to the meeting from September 16th were provided to Parsons regarding the 2019 Feasibility Study. Responses to questions received are provided below which were sent on September 17, 2020: **Q:** Section 2.5: Cultural Heritage. This section states that a 1999 Draft Plan and Environmental Protection Plan for the Northwest Industrial Area identified a previous Stage II assessment that included 25 prehistoric sites and 7 prehistoric find spots. Are you able to provide Tanya Hill-Montour a copy of all reports associated with these archaeology finds? **A:** We are in the process of completing the draft Stage 1 Archaeological Report which should incorporate findings from past studies completed in the Study Area, including the one you've identified. Once the draft report is completed we will circulate this to stakeholders, including Six Nations, for review and comment. Going forward, we will consult with Six Nations on any and all required Stage 2 Archaeological work once a preferred alternative and alignment for the Oak Park Road Extension has been selected. **Q:** Section 2.6 Natural Environment: This section states that the proposed alignment will extend through two small unevaluated wetlands which may require field investigations and Ministry of Natural Resources and Forestry (MNRF) consultation. The previous paragraph states that the Grand River "provides habitat for thousands of species of birds, fish and other wildlife including approximately 80 Species at Risk (SAR). More than 90 species of fish are found in the river system, about half of all species in Canada." My question/concern is, will these wetlands be evaluated as part of the Environmental Assessment (EA)? If not, what is the rationale? **A:** All environmentally sensitive areas, including wetlands, will be part of our evaluation for any alternative solution or design option, including quantifying impacts (if any) and mitigation and/or compensation measures. MNRF as well as MECP and DFO are being consulted as part of this study. **Q:** Outlined in purple is the Area of Natural and Scientific Interest (ANSI) and more specifically where the Brantford Tufa Mounds are located. From a quick internet search, I found that tufa mounds are

		considered rare in Canada and may have been formed shortly after the glacial retrieval period in the area. It appears as though the proposed road extension is going to go directly through this area. This is concerning. Is it safe to assume that the ANSI and Brantford Tufa Mounds will be a significant part of the EA Report? **A:** As described above, the ANSI and Tufa Mounds and impacts to either (if any) will be fully identified and documented as part of our study.
Six Nations of the Grand River	November 16, 2020	Meeting held to provide the SNGR with a preview of the Public Information Centre presentation materials in advance of the virtual PIC going "live" on December 4, 2020. A summary of the discussion is provided below: • SNGR requested that a copy of the PIC boards be forwarded to them for review and records. • SNGR indicated for the record that they have not formally agreed nor objected to the proposed Oak Park Road Extension project. • SNGR asked about general comments received to date from other stakeholders. Parsons and the City indicated that, to date, comments have been mostly general questions about traffic, noise/air/ cemetery impacts and project cost. • Parsons clarified that Alternative 7 for a new Oak Park Road Extension, accommodates future traffic growth in addition to removing traffic from Brant Avenue. • SNGR asked if utilities were being considered as part of the evaluations. Parsons said that they were. SNGR then indicated that any move of utilities from the existing Gordon Glaves bridge crossing to the new bridge would require a new agreement with SNGR. • SNGR asked to review the Natural Environment Report and Geotechnical Reports prepared for this study. Parsons will forward when they are completed. • SNGR asked if either report would reference the Tufa Mounds and whether these reports and other pertinent information would be shared with the public. Parsons indicated that the Tufa Mounds are currently outside the study area, but that they are referenced in the reports and that all reports will be shared with the public. • Parsons indicated that Stage 2 Archaeological work may begin in early 2021. Once this is confirmed Parsons and City will reach out the SNGR for site coordination.
Six Nations of the Grand River	November 19, 2020	Notice of Virtual Public Information Centre #1 letter distributed.
Six Nations of the Grand River	March 15, 2021	Meeting held to share information to be presented at Public Information Centre #2 on March 31, 2021. The City indicated that there would still be an opportunity to update the PIC display boards following the meeting, pending feedback received. A summary of the discussion is provided below: • SNGR asked about funding for the project. The City noted there may be a need for provincial and/or federal grants for the project, however it is anticipated that the majority of the project would be funded through development charges. • Parsons noted the project area does not appear to fall within an area subject to an unresolved land claim. SNGR noted the 28 documented land claims are only those accepted by the Government of Canada and there are additional land claims in the project area. • It was noted by SNGR that it may not be clear how projects can proceed if there are litigation issues related to unresolved land claims against the Crown. It was suggested a more accurate depiction for the Land Claim criteria were to state the areas are subject to unresolved land claims against Canada and the Crown. • It was noted that all alternatives, including a Do-Nothing, would still affect lands under a claim. It was suggested that Alternative 7 (construct new crossing of the Grand River and extension of the transportation corridor to Colborne Street West) would have a higher impact than others. • SNGR clarified that court cases are related to all land uses, such as lands that have not received compensation, and that SNGR has a claim for components of the Grand River that have never been surrendered. • SNGR clarified that the evaluation completed by the Project Team should not imply SNGR has agreed to the project nor the conclusions of the study. SNGR requested continued reviews of information before it is sent for public review, however SNGR does not want any perception that by doing so, it has agreed to the project. The City clarified a note will be added to the detailed evaluation that refinement of the evaluation and assessment would occur with further review with First Nations and there will be no implication made that SNGR is agreeing with the assessment. • SNGR noted they have not been satisfied with the City's consultation efforts in regard to prior archaeological assessments in Brantford. • SNGR asked if there would be a path along the Road. Parsons clarified a multi use pathway would likely be provided, although preliminary designs have yet to begin.

		• SNGR noted a roadway through a cemetery does not make sense from their perspective. The City acknowledged that feedback regarding impacts to the Oakhill Cemetery are being received and considered. Parsons indicated that no planned plots or existing graves would be impacted by the road and a further assessment of impacts (e.g. setbacks) would be completed in Phase 3 of the EA Study. • SNGR noted that their preferred compensation for impacts to trees is a replacement ratio of 10:1 minimum. SNGR would like to be engaged regarding any large, old tree removals and requested archaeological test pits be completed in areas where those trees are eventually proposed for removal. • The City and Parsons noted the project team would re-connect with SNGR in advance of Stage 2 and Stage 2 Archaeology Work to discuss field work and coordination.
Six Nations of the Grand River	March 18, 2021	Notice of Virtual Public Information Centre #2 letter distributed.
Six Nations of the Grand River	April 29, 2021	Meeting held to provide an overview of Public Information Centre #2, comments/questions received and next steps in the Environmental Assessment, including further field work and assessment in Summer 2021. • It was noted that there could be opportunities in the future for additional, larger scale consultation with the Six Nations community and enhanced consultation in general such as a live Q and A. • It was noted that a site visit could be held in the future in advance of Public Information Centre #3 to review the Tufa Mounds. • The City clarified that decisions about the project have not been made at this time. • SNGR clarified that rights to build across the river were never given up. • SNGR noted that more dialogue with the City is required when making plans. • The City noted agreements would be needed in the future between the City and SNGR. • Parsons clarified that plans for the road would be detailed in Phase 3 of the EA. • SNGR noted that project is significant and a concern in the broader Brantford community. • SNGR inquired on the project benefits to the SNGR community and if there are no benefits, there could be opportunities for other initiatives that benefit the SNGR community.
Mississaugas of the Credit First Nation	June 22, 2020	Notice of Study Commencement letter distributed.
Mississaugas of the Credit First Nation	August 31, 2020	Meeting held to present an overview of the project background, work to be completed, key considerations, consultation efforts and next steps in the Environmental Assessment Process. A summary of the discussion is provided below: • MCFN clarified they currently participate in archaeological and natural heritage field investigations, and occasionally participates in other surveys conducted during environmental assessments. • MCFN requested to review environmental reports prepared for this EA study. • MCFN noted that there is very high archaeological potential and a history of significant archaeological resources in the study area. The study area is also located near the Davisville Village Site along the North Shore of the Grand River, east of the study area. • MCFN asked that given the high potential for encountering archaeological resources within the project limits, that options for avoidance and protection be discussed as study progresses, such as alternative routes. • It was noted ancestors of the Mississaugas of the Credit as well as other Indigenous communities have been present on the banks of the Grand River for thousands of years. MCFN emphasized the high potential for Archaeology.
Mississaugas of the Credit First Nation	November 19, 2020	Notice of Virtual Public Information Centre #1 letter distributed.
Mississaugas of the Credit First Nation	December 14, 2020	Meeting held. Parsons provided an overview presentation of the Public Information Centre #1 material that was presented to the public on Friday, November 27th, 2020. A summary of the discussion is provided below: • MCFN indicated that they have not reviewed the ASI draft Stage I Archaeological report that was forwarded on November 11, 2020. • MCFN re-iterated from the initial meeting, that their main concern is recognition by the Study that this area has high archaeological potential and a history of significant archaeological resources. • MCFN asked if, prior to commencement of Stage 2 Archeological Assessment field investigations (anticipated for Spring 2021) if the City has completed its internal reviews and MCFN request of

		reimbursement for field investigation as an accommodation under the Crown's Duty to Consult and Accommodate. City of Brantford is still having the Standard Field Liaison Representative Participation Agreement and Technical Review Agreement reviewed and will respond to MCFN. • MCFN requested that the Natural Heritage Report be forwarded for their review upon completion.
Mississaugas of the Credit First Nation	March 18, 2021	Notice of Virtual Public Information Centre #2 letter distributed.
Mississaugas of the Credit First Nation	March 22, 2021	Meeting held. Parsons provided an update on the project status and overview presentation. The presentation provided an overview of the detailed evaluation of Alternative Solutions and information to be presented at PIC#1 on March 31, 2021. A summary of the discussion is provided below: • MCFN confirmed the Stage 1 Archaeology Assessment Report was reviewed in December 2020. • MCFN noted that participation in the Stage 2 Archaeological Assessment is mandatory for this project. • MCFN is looking forward to participating in the Stage 2 for this area of the project since it is a highly significant area. • MCFN noted Field Liaison Representatives are required for the environmental field work, in addition to the Stage 2 Archaeological Assessments. • Parsons noted the project team is currently reviewing dates for spring amphibian surveys and will coordinate further with MCFN. • The City suggested to have a follow up meeting with MCFN in late April/early May 2021 to discuss field activities and timelines.

5. Next Steps

This report has documented Phases 1 and 2 of the Municipal Class Environmental Assessment Process completed for this project. Based on the detailed evaluation of Alternative Solutions against the evaluation criteria and Problem and Opportunity Statement developed during Phase 1 of the EA process, it is recommended to proceed with Alternative 7, Construction of a New Roadway Crossing of the Grand River and extension of the transportation corridor to Colborne Street West. It is also recommended to incorporate Active Transportation, Transit and TDM per Alternative 2 as this would align with the City's multi-modal objectives for transportation. Although this alternative has potential for significant impacts to the natural environment, social environment and cultural environment, impacts can be mitigated during Phase 3 of the Municipal Class EA process.

Mitigation measures for the preferred alternative solution have been developed at a preliminary level and will be detailed further in Phase 3 of the EA process for the development of Alternative Design Concepts for the Preferred Solution.