# County of Brant

## Proposed Bishopsgate Road/Highway 403 or Maple Avenue North/Highway 403 Interchange Class Environmental Assessment

## Study Design

Revision 2

August 2016

BT Eng Project 15-026



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## 1.0 Introduction

### 1.1 Preface

The County of Brant has initiated this Class Environmental Assessment (Class EA) for the planning of a new interchange at Bishopsgate Road (or Maple Avenue North) and Highway 403 and the realignment of Bishopsgate Road (or Maple Avenue North) to Puttown Road through Falkland. These roadway improvements are identified in Brant County's 2008 Transportation Master Plan. The proposed improvements will provide access to the County road network, serve generators of heavy truck traffic from existing and proposed area gravel pits, and improve access to planned development growth in the Southwest Paris Settlement area.

This report is the initial public document for the Harmonized Class Environmental Assessment for Provincial Transportation Facilities (2000) and the Municipal Class Environmental Assessment (Class EA) processes, under the Province of Ontario's Environmental Assessment Act for the proposed roadway improvements to the Bishopsgate Road crossing over Highway 403. It presents a blueprint of the Work Plan and Study Process for this future transportation project.

The Study Design is intended to define the key aspects required to complete the study and outlines the Class EA planning and design process and specific tasks required to ensure all environments with potential impacts are considered. It will be circulated at the initiation of the study to various provincial and federal stakeholders responsible for Class EA reviews, to obtain input from these groups on what Class EA requirements must be met. The Study Design will be presented to the general public by identifying it is available on the County's web site (in the Study Commencement Notice) and at the first Public Information Centre (PIC).

This Class EA study will complete all phases of the Provincial Class EA for Highway Projects and Municipal Class EA. It will establish the need and justification for the project, complete environmental inventories to establish a baseline to compare alternatives, consider all reasonable alternatives and proactively involve the public in defining a recommended plan for improvements. It will meet the higher requirement of either Class EA. The County of Brant is the proponent for this undertaking and MTO will be actively consulted on this project.

This study is being initiated in parallel to a complementary but distinct Class EA study for operational improvements to the Rest Acres Road/ Highway 24 interchange to the east. This parallel Class EA is also circulating a public Study Design for review by the public and agencies.

### 1.2 Background

The need for this new interchange was identified in the "Brant 403 Business Park Long-Term Traffic Impact Study" that was previously completed for the County of Brant. The traffic study assessed the long term impacts of anticipated traffic from the expansion of the business park and the opening of several new gravel pits in the area



as well as future development in the Southwest Paris Settlement Area.

The County Transportation Master Plan (2008) identified several projects that will support better transportation service for trucking in the County. Two projects, which are illustrated on **Figure 1,** include a new interchange at Bishopsgate/ Highway 403 and a realignment of Bishopsgate Road to the intersection of King Edward Street (County Road 2 and Puttown Road) in Falkland. Based on feedback received from the public at PIC No. 1, the project scope was extended to include the realignment of Bishopsgate Road to the north. This approach will avoid "piecemealing" the two projects, and ensures that the alignment of Bishopsgate Road to the north is not prejudged by the location of the interchange.


**Figure 1: Individual projects identified in the 2008 Transportation Master Plan.**

The County Transportation Master Plan (2008) identified Bishopsgate Road as the preferred location for a new interchange on Highway 403, because "it provides a continuous north-south connection, while Maple Avenue North is discontinuous north of Highway 403". Based on comments received at PIC No. 2, the study area was expanded to include an alternative interchange location on Maple Avenue North, and the realignment of Maple Avenue North to Puttown Road. This alternative is considered to be a reasonable alternative for truck traffic, has equal or less effects/capital cost than other alternatives being carried forward, and will bypass the Falkland settlement area.

### 1.3 Study Area

The project location is illustrated in **Figure 2** and the Study Area in **Figure 3**. This study area is bound by: Maple Avenue North to the west; Bishopsgate Road to the east; Governors Road to the north; and Golf Links Road/Bethel Road to the south.

Bishopsgate Road and Maple Avenue North are located west of Rest Acres Road/ Highway 24 and the gravel pits are scattered north and south of Highway 403 in the area of interest.

Bishopsgate Road and Maple Avenue North are both rural 2-lane County roads travelling north-south through the County of Brant. The roads cross provincial Highway 403 at underpasses.

Bishopsgate Road currently carries an AADT of approximately 3500 vpd, and Maple Avenue North carries an AADT of approximately 1000 vpd. Both underpasses are 2-lane bridges without sidewalks or bike lanes, constructed as two-span, cast-in-place, post-tensioned concrete structures. Highway 403 runs east-west through the County of Brant. It is a 4-lane divided freeway carrying an AADT of approximately

21,600 vpd at Bishopsgate Road/Maple Avenue North.

The area surrounding Bishopsgate Road and Maple Avenue North in the area of interest is mostly wooded areas and farmland. Bishopsgate Road and Maple Avenue North are two of the routes that are available for area farms to move equipment across Highway 403.

A provincially significant wetland (PSW), part of the Whiteman's Creek Wetland Complex, is located immediately to the west of Bishopsgate Road.

The Study Area will include the footprint of all alternatives considered for the realignment of Bishopsgate Road or Maple Avenue North to Puttown Road through Falkland and the proposed interchange. This will include all lands within 500 m of the interchange. The technical investigations, such as the traffic analysis, will consider the broader regional network that will utilize this transportation connection.

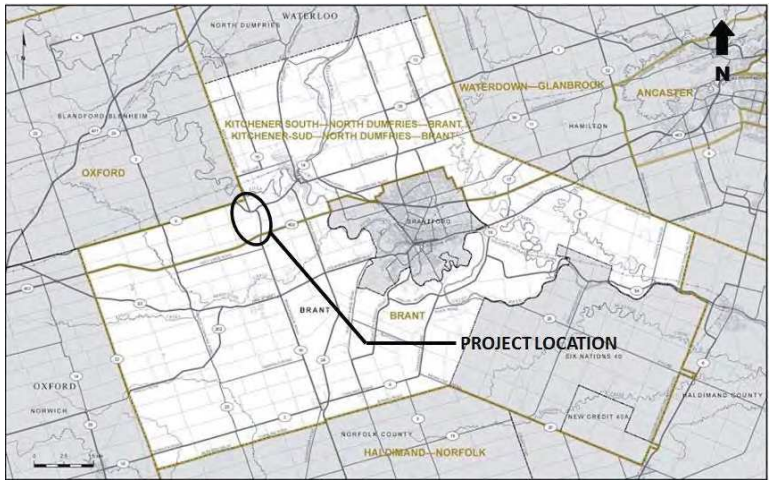



**Figure 2: Project Location**




**Figure 3: Study Area**

## 2.0 Study Approach

### 2.1 Guiding Principles

The study approach will include the MOECC's five guiding principles for Class EA studies, namely:

- Consider all reasonable alternatives;
- Provide a comprehensive assessment of the environment;
- Utilize a systematic and traceable evaluation of net effects;
- Undertake a comprehensive public consultation program; and
- Provide clear and concise documentation of the decision-making process and public consultation program.

### 2.2 Environmental Assessment Act Requirements

The Environmental Assessment will follow a harmonized Class EA process meeting the requirements of both the Municipal Class EA (amended 2011) and the Provincial Class EA for Provincial Transportation Facilities (amended July 2000).

Based on the range of anticipated effects and capital cost of the project, the study is being initiated as a Municipal Schedule C or Provincial Group B project. The County of Brant will be the proponent of the project and will consult with the MTO in regard to all aspects of the Preliminary Design/ Class EA. MTO is the regulatory agency and has Corridor Control within 400 m of the freeway.

This Schedule C/Group B project will include four PICs and a harmonized ESR/TESR report. The process will follow the higher requirement of either Class EA. Following this harmonized approach the public will be provided a 30 day review period. As the initial step in the harmonized Class EA process this Study Design is being made available to the public as the discretionary Step 1.2 in the Municipal Class EA process illustrated in **Figure 4**. The public and agencies will have this opportunity to comment on this approach. The corresponding Provincial Planning and Design process is illustrated in**Figure 5**.

As part of this consultation the County is also initiating and circulating a Study Design for an adjacent and separate project for operational improvements at the Rest Acres Road/Highway 24 & Highway 403 Interchange. These minor operational improvements are separate and distinct from the larger Regional requirements for a new interchange at Bishopsgate Road or Maple Avenue North. These improvements are being initiated concurrently but will be completed as two separate Class EAs.

**EA Phases**

The following is the specific breakdown of tasks by phase for this Group B/ Schedule C project:

**Phase 1: Identify the Problem**

Step 1: Identification and description of the problem or opportunity.

Step 2: Public consultation at Public Information Centre (PIC) No. 1.

**Phase 2: Alternative Solutions**

Step 1: Identification of alternative solutions to the problem.

Step 2: Identify the study area and a general inventory of the natural, social and cultural environments.



Step 3: Identification of the net positive and negative effects of each alternative solution.

Step 4: Evaluation of Alternative Solutions and preliminary recommendation of a preferred solution.

Step 5: Public consultation at PIC No. 2/2B.

Step 6: Selection of the preferred solution, following public and agency review.

**Phase 3: Alternative Design Concepts for the Preferred Solution**

Step 1: Identification of alternative designs.

Step 2: Preparation of a detailed inventory of the social and economic environments.

Step 3: Identification of the potential impacts of the alternative designs.

Step 4: Public consultation at PIC No. 3.

Step 5: Evaluation of the alternative designs.

**Phase 4: Harmonized Environmental Study Report (TESR/ESR)**

Step 1: Completion of the Harmonized TESR/ESR.

Step 2: Public Consultation at PIC No. 4.

Step 3: File the Harmonized TESR/ESR and Notice of Completion.

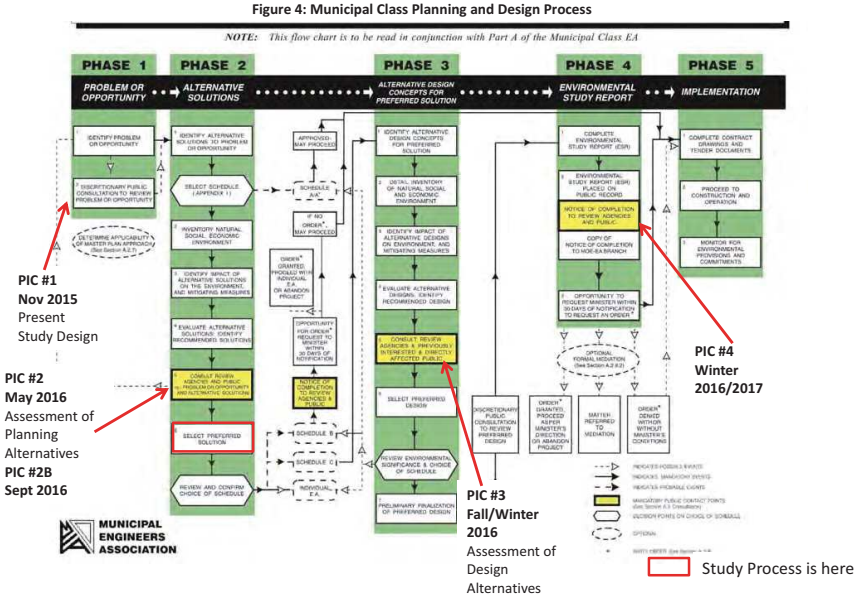
**Phase 5: Implementation**

Future phase after this study.

The Planning and Design Process for the Municipal Class EA is illustrated in detail in **Figure 4.**

This Study Design document represents the Phase 1 discretionary public consultation.

**Figure 4: Municipal Class Planning and Design Process**




**PIC #1**
**Nov 2015**
Present
Study Design

**PIC #2**
**May 2016**
Assessment of
Planning
Alternatives
**PIC #2B**
**Sept 2016**

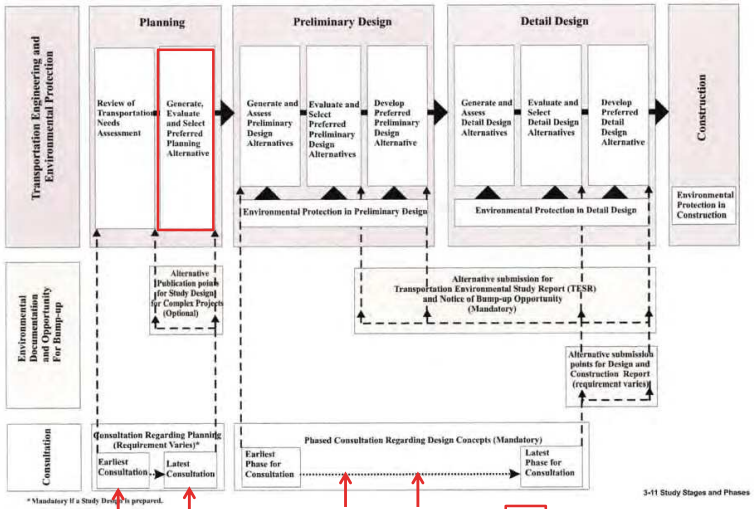
**PIC #3**
**Fall/Winter**
**2016**
Assessment of
Design
Alternatives

**PIC #4**
**Winter**
**2016/2017**

Study Process is here



**Figure 5: Provincial Class Planning and Design Process for Group B Projects.**




PIC #1
Nov 2015

PIC #2/2B
Spring/Fall
2016

PIC #3
Fall/Wint
er 2016

PIC #4
Winter
2016/2017

Study Process is here

### 2.3 Procurement of Formal Environmental Approvals and Bylaw Exemptions

The County will, in consultation with the approving agencies, identify and obtain all necessary formal applicable environmental approvals and by-law exemptions. These approvals are anticipated to include work permits for construction within regulated areas from the Grand River Conservation Authority (GRCA); clearances for stormwater management/ species at risk from the Ministry of Natural Resources and Forestry (MNRF); and archaeological and cultural heritage from the Ministry of Tourism, Culture and Sport (MTCS). Clearances regarding federal Species at Risk (SAR) may also be necessary. Permits from the Ministry of the Environment and Climate Change (MOECC) for a Permit to Take Water (PTTW) may be required.

Noise by-law exemptions may be required from the County of Brant for any proposed construction activity that does not comply.

The revised Canadian Environmental Assessment Act was repealed when the new *Canadian Environmental Assessment Act*, 2012 (CEAA 2012) came into force on July 6, 2012. Projects such as these no longer require a CEAA Screening even if a former 'federal EA trigger' exists. However, projects will still be subject to relevant federal laws, regulations and standards as applicable and CEAA 2012 still requires that before federal authorities make any decision that would allow a project to proceed, they must determine whether a project is likely to cause significant adverse environmental effects. Therefore, the potential need for any federal approvals for the project will be determined and (at least) agreement-in-principle obtained during the preliminary design/EA study with the proponent initiating a self-assessment.

## 3.0 Need and Justification

Current and expected increases in traffic in the Region necessitate transportation improvements to the surrounding infrastructure. A large component of the traffic demand for the new interchange and corridor realignment will be commercial vehicles associated with several gravel pit operators in the area. In addition, long-term increases in traffic demand are forecast from future development in the Southwest Paris Settlement Area located east of Cleaver Road and north of Powerline Road to the north, and east of Rest Acres Road/Highway 24 to the south. The provision of an interchange and corridor realignment will provide improved access for emergency vehicles.

Highway 403 is a Class 1 Freeway with the function of moving people and goods safely, efficiently and sustainably. This coupled with the expected increase in residential and industrial traffic stemming from the aforementioned developments in the area has led the County to investigate the addition of a new interchange to provide access to the County Road network. Typical interchange spacing on the freeway system ranges from 3 to 8 km for urban and rural areas. The current interchange spacing from Middle Townline Road to Rest Acres Road/Highway 24 is approximately 11 km and results in out-of-way travel for vehicles to reach the provincial road network. A new interchange



would reduce travel times. The current interchange spacing on Highway 403 is illustrated in **Figure 6**.

Roadway realignment of the Bishopsgate Road intersection with King Edward Street (County Road 2 and Puttown Road) in Falkland, or Maple Avenue North to Puttown Road will provide improved intersection safety, and alternate access from Highway 403 to Paris and the surrounding areas. The realignment will also help to accommodate the increase in traffic along Bishopsgate Road resulting from the proposed interchange.

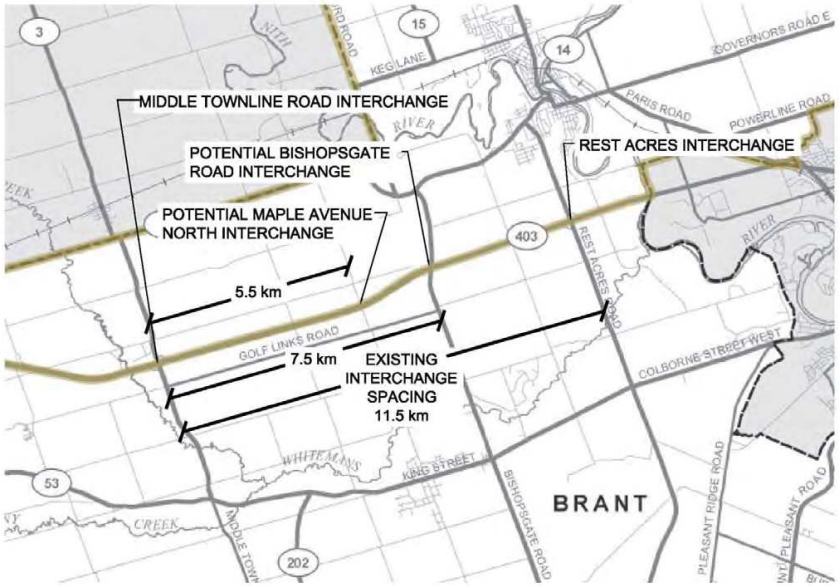



**Figure 6: Interchange Spacing on Highway 403**



## 4.0 Study Issues

Key issues which the study will resolve include:

- The evaluation of the condition (remaining service life) of existing infrastructure **(Photo 1)**

**Photo 1: Existing Bishopsgate Road Structure**

- Traffic operations and accommodating wheel tracking of heavy vehicles
- The condition and geometry of Bethel Road. The current restriction of truck traffic on Bethel Road is expected to be maintained.
- The provision of an interchange at Bishopsgate Road (or Maple Avenue North) and Highway 403 may reduce the potential for truck traffic on Bishopsgate Road to utilize Bethel Road as a means to access Highway 403 at Rest Acres Road/ Highway 24.
- Traffic safety (stopping site distances)
- Requirement and considerations for heavy truck traffic for established and newly developed gravel pits (**Photo 2**)
- Emergency vehicle access to freeway

**Photo 2: Truck Traffic from Gravel Pit Operations**

- Farm operations and activity requiring movement of farm equipment crossing Highway 403
- Surrounding agriculture lands
- Potential property requirements and utility conflicts
- Archeological, Cultural and Natural Heritage, Noise, and Hydrogeological resources
- Potential effects to the Provincially Significant Wetland (PSW) located west of the Bishopsgate Road and Highway 403 underpass and north of King Edward Street **(Photo 3)**

**Photo 3: Provincially Significant Wetland**

- Potential economic effects to local businesses from the infrastructure

recommendations and the potential staging of construction **(Photo 4)**

**Photo 4: Local Area Farm Operations (Businesses)**

- Potential effect on area Cultural and Heritage resources
- Fisheries impacts
- Potential Species at Risk
- Access Management **(Photo 6)**

**Photo 5: Proximity of Existing Entrances**

- Consideration of active modes of transportation as part of any infrastructure improvements
- Duration of construction with the potential impacts this will have on traffic movements and local farm operations
- Cost of improvements
- Increased traffic demands through Falkland
- Traffic operations through Falkland and the potential benefits of a direct connection between Bishopsgate Road and Puttown Road or Maple Avenue North and Puttown Road

## 5.0 Study Process

### 5.1 Public Consultation Process

The public consultation approach reflects the identified study issues. It will use several techniques to proactively involve the public including Public Information Centres (PIC's), and meetings with external agencies that may include: Ministry of Transportation (MTO), Ministry of Environment and Climate Change (MOECC), Ministry of Natural Resources and Forestry (MNRF), Ministry of Tourism, Culture and Sport (MTCS) and Grand River Conservation Authority (GRCA). The Technical Advisory Committee will include the County, MTO and Consultant staff. It will act as the decision-making group making all technical decisions and completing the analysis and evaluation exercise. Other key stakeholders that will be contacted and consulted include interest groups, major property owners, the Paris BIA and Utility Companies.

The use of separate meetings with external agencies and interest groups will ensure the highest level of communication with the community on issues and alternatives.

With respect to public involvement, the work program proposes the following key elements:



- Study Commencement Notice and PIC notice in local papers and mailed to agencies, First Nations and Utilities
- Posting the Study Design online on the County's website
- PIC No.1 will present the Study Design (Work Plan) and seek public/agency input. A session will be scheduled to present information to agencies and elected officials in advance of the public.
- Maintaining and updating a study mailing list
- PIC No. 2 will present the project goals, problem and opportunity statement, Study Design (Work Plan), assessment of Alternative Planning Solutions, environmental inventories, traffic analysis, assessment of Alternative Planning Solutions, design criteria for roads and structures under study, preliminary coarse screening of Design Alternatives (alignment, cross section and structure types) and seek public/agency input. A session will be scheduled to present information to agencies and elected officials in advance of the public.
- PIC No. 3 will present the evaluation of alternatives with a Technically Preferred Plan (recommended design) and seek public/agency input. A session will be scheduled to present information to agencies and elected officials in advance of the public.
- PIC No.4 will present the Harmonized Environmental Study Report (TESR/ESR) and seek public/agency comment during the 30 day review period. A session will be scheduled to present information to agencies and elected officials in advance of the public.

It is essential that there be involvement and interaction with the regulatory agencies and interest groups.

### 5.2 First Nations Consultation

The following First Nations groups as a minimum will be contacted throughout the project and will be notified of the Class EA Commencement, the PIC and Study Completion.

- Six Nations of the Grand River
- Mississaugas of the New Credit
- Metis

### 5.3 Work Program

The major elements of our technical work program include the following:

**Task 1: Project Start-Up**

Upon initiation of the project, we will meet to review study scope, budget and schedule, establish membership and meeting dates, and determine the role of the Technical Advisory Committee.

**Task 2: Information Gathering and Generation of Alternatives**

The second task involves the collection and organization of the data necessary for the remaining analysis, evaluation and design activities. Activities will include:

- Assembly and preliminary review of study materials;

- Collection of background reports identifying County transportation planning and roadway or cycling network improvements and timing;
- Gather County traffic, municipal servicing and development studies and land use planning studies for review;
- Obtain digital mapping, photographs and associated drawings;
- Gather existing utility information to evaluate potential conflicts and create utility composite plans;
- Collect Official Plan, Official Plan Amendments and Secondary Plans;
- Undertake supplemental natural/social environmental inventories, geotechnical investigations, structural condition update and review; and
- Collect or gather traffic data (turning movements, ATR counts and collision history) from the County.

**Task 3: Study Design**

The Study Design (this report) is a document that describes, at the outset of the study, the intended approach to complete the Class EA assignment. The Study Design document will help establish the foundation for all of the remaining environmental planning and public consultation processes. PIC No.1 will occur at the outset of the study to provide an opportunity for the public to review the Study Design and identify concerns. This document will be posted on the County website and sent to external agencies as a draft for public review and comment. The Study Design allows the early identification of the major issues and concerns, a preliminary identification of planning solutions and in addition, recognizes areas of consensus or agreement.

**Task 4: PIC No.1**

Public Information Centre No. 1 will present the Study Design at the outset of the study to provide an opportunity for public consultation.

The PIC will include coloured graphics and text boards to describe the process and opportunities for the public to provide comment. In addition, we will hold an initial viewing and briefing of the materials for elected officials and external agencies before opening the meeting to the public.

**Task 5: Infrastructure Assessment**

The initial infrastructure review will include a reconnaissance of Bishopsgate Road/Maple Avenue North and bridge structure. This reconnaissance will review the current infrastructure's capacity, condition, previous rehabilitations and remaining service life. This review will utilize both in-field work and review of previous OSIM Inspection reports.

**Task 6: Inventory of Natural, Social and Cultural Environments**

**Social Environment**

Areas of investigation include existing and proposed land uses, land use policies and regulations, aesthetics, and pedestrian and cycling linkages. Existing and future sound levels will be forecast with and without the undertaking considering the proximity of noise sensitive land uses.



**Business Environment**

The assessment of business, operations, activities and potential effects will include consideration of heavy truck traffic and the effect of the existing and proposed aggregate operations scattered adjacent to the study area. The requirements of farm equipment traffic, given the proximity to local farm operations will be evaluated.

The assessment will also consider the Brant 403 Business Park, the Falkland Settlement Area and the future residential construction in the Southwest Paris Settlement Area.

**Phase 1 ESA**

A Phase 1 Environmental Site Assessment (ESA) of the Study Area will be conducted in accordance with the principal components of the Canadian Standards Association standard CSA Z768-01.

**Natural Habitat Assessment**

This non-fisheries natural environment assessment will investigate and categorize the natural and near-natural habitats of the Study Area and identify their supporting ecological functions. In the course of this, assisted by pertinent data gathered in advance from the Ontario Ministry of Natural Resources and Forestry (MNRF), targeted investigations for specific significant features will be conducted. Particular attention will be paid to the provincially significant wetlands located west of the Bishopsgate Road and Highway 403 overpass and designated Species at Risk (SAR).

The initial input to the study will utilize background data and then be supplemented with a single spring/summer 2016 field investigation. This ecological site information will be utilized to complete the evaluation of alternatives and define future work (subject to the selection of the preferred alternative.

**Fisheries Assessment**

Existing fisheries data will be assembled from the GRCA as well as the Ministry of Natural Resources and Forestry to support the fisheries report on existing fish habitat conditions, potential impacts and necessary mitigation measures. A spring 2016 reconnaissance investigation of crossings within the Study Area will then be undertaken. This review will document physical conditions including physical dimensions, bottom substrate and other characteristics, together with an appraisal of fish habitat quality. The proper documentation of this information will be important to the County in order to obtain DFO/GRCA/MNRF approval of fish habitat mitigation measures. A DFO Request for Review may require development as a result of an analysis of road improvement impacts and mitigation measures if it appears that serious impacts to fish habitat cannot be avoided. A submission package will be prepared for each of the agencies in order to obtain the necessary work permits.

**Cultural Heritage**

A cultural heritage evaluation report and heritage impact assessment will be completed for the Study Area. The scope of work for the cultural heritage component of the project involves undertaking historical research of the early settlement of the study area and the past ownership of the

properties. This is to determine if there are any significant associations that have heritage value. This background work is complemented by field work to identify the location and type of cultural landscape and built resources that have heritage value. This inventory work is the foundation for an evaluation process that ranks the contributions of each of the identified resources to the significant heritage of the study area and their sensitivity to impacts of the proposed works.

**Archaeological Assessment**

A Stage 1 archaeological assessment will be undertaken for this project in accordance with the Ministry of Tourism and Cultures Standards and Guidelines for Consultant Archaeologists (2010).

The objectives of the Stage 1 archaeological assessment are to develop an inventory of archaeological resources in the proposed area; to determine the presence of any archaeological sites in the area; and, to recommend appropriate strategies for future planning consideration. This will be accomplished by conducting detailed documentary research of the land use, archaeological history, and present condition of the property. This information will be gathered by reviewing the National Archaeological Site Registration Database. The data gathered will define the location, type, and significance of registered archaeological sites for a typical radius of one kilometre around the subject property. Reviewing the registered archaeological site database will identify significant heritage resources on or adjacent to the study area, and will summarize the form and extent of previous cultural heritage investigations undertaken within the general project vicinity.

**Task 7: Technical Investigations**

**Transportation Analysis**

The transportation analysis will build upon previous studies of the proposed interchange and roadway corridor. This will involve a review of the existing and future traffic volumes, roadside safety, collision history, emergency routes, deliveries, AODA requirements as well as pedestrian and bicycle demand. The study will recognize the importance of Bishopsgate Road as an access route for heavy truck traffic generated by existing and proposed area gravel pits. Activities will include:

- A road safety review of the study area
- A review of forecast travel demands including the need and justification for the proposed interchange
- Analysis of the performance of each alternative (traffic operation and safety)
- Consideration of all transportation modes including bicycle and pedestrian traffic
- Identification and evaluation of temporary measures to mitigate traffic impacts during construction. This could include:
    - Preliminary recommendations for advanced traffic signage, and
    - Construction staging opportunities



**Geotechnical/Pavement**

A preliminary geotechnical and pavement design report will be completed based on an initial desktop review of available information on the subsurface conditions in the study area. This will include a review and compilation of geological maps (including bedrock topography if available).

A field program will be tailored based on these findings of the desktop review and the preliminary identification of a technically preferred alternative.

**Drainage and Hydrology**

The drainage and storm water management design criteria will be confirmed with the County. Hydrologic calculations will be performed to determine the flows for the 5 to 100 year return period rainfall events and to establish capacities of the existing system. As the various alternatives are developed, the corresponding drainage and storm water design will be prepared at a conceptual level of detail, sufficient to permit identification of constraints and prepare preliminary cost estimates.

**Other Considerations**

These would include traffic signal and illumination requirements for the preferred options, constructability and staging.

**Task 8: Assessment of Alternative Planning Solutions**

The evaluation of alternatives is being completed in a two-step process. The initial step is to consider alternative planning solutions.

**Planning Alternatives**

Municipal transportation alternatives assessed in specific projects vary depending on the location, type and complexity of the project. The level of complexity usually relates to the nature of the study objectives, environmental sensitivities (natural, social, economic, cultural) and external interest or concern. For this study, the following "Alternative Planning Solutions" are proposed to be considered:

- The “Do Nothing” Alternative
- Limit/Defer Growth (to reduce future traffic growth)
- Transit Improvements (to reduce traffic growth)
- Transportation Systems Management (TSM) System improvements that can improve capacity (for this study this will include system operational improvements to provide access to Rest Acres Road/ Highway 24 interchange or to Middle Townline Road interchange.
- Transportation Demand Management (TDM) (improvements to other active transportation modes to increase cycling and pedestrian usage or other techniques to reduce auto trips such as work at home, flexible work hours or carpooling)
- Improve Existing Bishopsgate Road/New interchange connection to Highway 403
- Improve accessibility of Bishopsgate Road and the ease of truck movements with a direct connection to Puttown Road

**Task 9: PIC No. 2/2B**

Public Information Centre No. 2/2B will present the needs analysis, assessment of planning alternatives, environmental inventories, long list of design alternatives, traffic analysis, and coarse screening of alternatives.

The PIC will include coloured graphics and text boards to describe the process and opportunities for the public to provide comment. In addition, we will hold an initial viewing and briefing of the materials for elected officials and external agencies before opening the meeting to the public.

**Task 10: Development, Analysis and Evaluation of Design Alternatives**

The design alternatives will be generated through discussions with the County, Technical Advisory Committee, agencies and the general public, during the preparation of the Study Design. The list will be confirmed with the public, as required as part of the Class EA process, including the "Do Nothing" option.

A preliminary list of interchange alternatives will include the use of roundabouts and conventional intersections with the following interchange configurations:

- Parclo A4 (MTO standard design for freeway arterial road interchange)
- Parclo A2 (design shall accommodate future expansion to Parclo A4 if required for future traffic volumes)
- Parclo AB
- Realigned Parclo A
- Diamond
- Parclo A / Diamond
- Realigned Diamond

Alternatives for the realignment of Bishopsgate Road(or Maple Avenue North) through an intersection with King Edward Street (County Road 2) and Puttown Road to provide a connection to Puttown Road in Falkland include:

- Realign Puttown Road to the east
- Realign Bishopsgate Road to the west
- A combination of realigning both Puttown Road and Bishopsgate Road
- Maintain the existing alignments
- Realign Maple Avenue North to Puttown Road

**Design Criteria**

The geometric design alternatives will be developed based upon the following Preliminary Design Criteria:

- Bishopsgate Road/Maple Avenue North Design Speed 100 km/h and Posted Speed 80 km/h (high speed rural arterial)
- Highway 403 Design Speed 120 km/h and posted Speed 100 km/h (Rural Freeway)

The design criteria will follow MTO's Geometric Design Standards for Ontario Highways and include the following:

- Parclo A2/A4
  - Standard (controlling) radius for first curve on exit ramp = 250 m
  - Inner loop radius = 75 m desirable
  - Outer ramp radius = 250 m
- Parclo B2/B4
  - Inner loop radius = 90 m
  - Exit to inner loop from freeway by "mini-collector" deceleration ramp



  - Outer ramp radius (from freeway) = 250 m
  - Outer ramp radius (from arterial) = 250 m
- Roundabouts (at ramp terminals)
  - Radius to accommodate WB20.5 truck turning template
- Diamond
  - Standard (controlling) radius for first curve on exit ramp = 250 m min

**Evaluation of Alternatives**

This study will include a systematic, traceable analysis and evaluation of the needs in the study area, the generation, analysis and evaluation of alternative design concepts within the corridor and a comprehensive public consultation programme in the development of a recommended plan for staged implementation of the project.

The identification of evaluation criteria will include potential factors such as the duration of business impacts, roadway level of service, property impacts, noise, natural environment and cost.

This analysis will include sensitivity testing of the Evaluation Committees weights (value judgements) of competing criteria.

**Task 11: PIC No. 3**

Public Information Centre No. 3 will present the technical evaluation of alternatives and recommendation for a Preferred Plan.

The PIC will include coloured graphics and text boards to describe the process and opportunities for the public to provide comment. In addition, we will hold an initial viewing and briefing of the materials for elected officials and external agencies before opening the meeting to the public.

**Task 12: Documentation Preparation of the Environmental Study Report**

The preparation of the draft and final Harmonized Environmental Study Report (TESR/ESR) will follow the format and content accepted by MOECC on previous projects by our team. The Harmonized Environmental Study Report (TESR/ESR) will document the study methodology, findings, public involvement and recommendations. Draft versions of all reports will be submitted to the County and MTO for review prior to the preparation of the final document.

The public will be notified of the availability of the TESR/ESR for public review. Update letters/emails will be forwarded to individuals requesting direct contact through the study.

**Task 13: Preliminary Design**

The preliminary design will be prepared for the Recommended Plan that will include, but not limited to, a General Arrangement Plan of the bridge, plans and profiles of the interchange configuration and typical cross sections for the road design.

**Task 14: PIC No.4**

Public Information Centre No. 4 will present the Harmonized Environmental Study Report (TESR/ESR) or Project File/ESD during the 30 day review period.

The PIC will include coloured graphics and text boards to describe the process and opportunities for the public to provide comment. In addition, we will hold an initial viewing and briefing of the materials for

elected officials and external agencies before opening the meeting to the public.

## 6.0 Project Schedule

A preliminary Project Schedule has been prepared and a summary is available for review as **Table 1**. This schedule reflects the limitations of seasonal inventories beginning in spring 2016 with project start-up. The PIC meetings will be scheduled to avoid the Christmas and summer vacation periods.



**Table 1: Preliminary Study Schedule Summary**

| Task | Date |
|---|---|
| Project Start-Up | August 2015 |
| Information Gathering | August - September 2015 |
| Generation of Alternatives | August – September 2015 |
| Study Design | August - March 2016 |
| Public Information Centre (PIC) No. 1 | November 2015 |
| Environmental Inventories:<br>Natural Environment, Archaeology, Fisheries, Land Use, Cultural, Noise | November 2015 - June 2016 |
| Technical Investigations:<br>Transportation Analysis, Structural and Drainage/Storm Water Management | September 2015 – May 2016 |
| Assessment of Alternatives to the Undertaking | December 2015 |
| Public Information Centre (PIC) No. 2 | May 2016 |
| Public Information Centre (PIC) No. 2B | September 2016 |
| Development, Analysis and Evaluation of Design Alternatives | Fall 2016 |
| Public Information Centre (PIC) No. 3 | Fall/Winter 2016 |
| Selection of Technically Preferred Alternative | Fall/Winter 2016 |
| Refinements to Technically Preferred Alternative (if required) | Fall/Winter 2016 |
| Preliminary Design Report | Fall/Winter 2016 |
| Draft Environmental Study Report | Winter 2016 |
| Final Harmonized Class EA (TESR/ESR) submission | Winter 2016/2017 |

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| Public Information Centre (PIC) No. 4 | Winter 2016/2017 |
| Public Review Period | Winter 2016/2017 |



**Glossary of Terms**

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| • **AADT** | Annual Average Daily Traffic – the average 24-hour, two-way traffic per day for the period from January 1st to December 31st. |
| • **Advisory Committee** | The Advisory Committee will include the County and Consultant. It will act as the decision-making body for the study recommendations. |
| • **Alignment** | The vertical and horizontal position of a road. |
| • **Alternative** | Well-defined and distinct course of action that fulfils a given set of requirements. The EA Act distinguishes between alternatives to the undertaking and alternative methods of carrying out the undertaking. |
| • **Alternative Planning Solutions** | Alternative ways of solving problems or meeting demand (Alternatives to the Undertaking). |
| • **Alternative Design Concepts** | Alternative ways of solving a documented transportation deficiency or taking advantage of an opportunity. (Alternative methods of carrying out the undertaking). |
| • **Alternative Project** | Alternative Planning Solution, see above. |
| • **ANSI** | Area of Natural or Scientific Interest |
| • **Berm** | Earth landform used to screen areas. |
| • **BMP** | Best management practice. |
| • **Bump-Up** | The act of requesting that an environmental assessment initiated as a class EA be required to follow the individual EA process. The change is a result of a decision by the proponent or by the Minister of Environment to require that an individual environmental assessment be conducted. |
| • **Bypass** | A form of realignment in which the route is intended to go around a particular feature or collection of features. |

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| • **Canadian Environmental Assessment Act (CEAA)** | The CEAA applies to projects for which the federal government holds decision-making authority. It is legislation that identifies the responsibilities and procedures for the environmental assessment. |
| • **Class Environmental Assessment Document** | An individual environmental report documenting a planning process which is formally submitted under the EA Act. Once the Class EA document is approved, projects covered by the class can be implemented without having to seek further approvals under the EA Act provided the Class EA process is followed. |
| • **Class Environmental Assessment Process** | A planning process established for a group of projects in order to ensure compliance with the Environmental Assessment (EA) Act. The EA Act, in Section 13 makes provision for the establishment of Class Environmental Assessments. |
| • **Compensation** | The replacement of natural habitat lost through implementation of a project, where implementation techniques and other measures could not alleviate the effects. |
| • **Consortium** | A group of businesses or organizations allied to take on a project. |
| • **Corridor** | A band of variable width between two locations. In transportation studies a corridor is a defined area where a new or improved transportation facility might be located. |
| • **Criterion** | Explicit feature or consideration used for comparison of alternatives. |
| • **Cumulative Effects Assessment** | Cumulative Effects Assessment assesses the interaction and combination of the residual environmental effects of the project during its construction and operational phases on measures to prevent or lessen the predicted impacts with the same environmental effects from other past, present, and reasonably foreseeable future projects and activities. |
| • **Decibel (dB)** | A logarithmic unit of measure used for expressing level of sound. |



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| • **dBA** | 'A' weighted sound level; the human ear cannot hear the very high and the very low sound frequencies as well as the mid-frequencies of sound, and hence the predicted sound levels, measured in dBA, are a reasonable accurate approximation of sound levels heard by the human ear. |
| • **Detail Design** | The final stage in the design process in which the engineering and environmental components of preliminary design are refined and details concerning, for example, property, drainage, utility relocations and quantity estimate requirements are prepared, and contract documents and drawings are produced. |
| • **DFO** | Department of Fisheries and Oceans. |
| • **EA** | Environmental Assessment |
| • **EA Act** | Ontario Environmental Assessment Act (as amended by S.O. 1996 C.27), RSO 1980. |
| • **Environment** | • Air, land or water,<br>• Plant and animal life, including human life,<br>• The social, economic and cultural conditions that influence the life of humans or a community,<br>• Any building structure, machine or other device or thing made by humans,<br>• Any solid, liquid, gas, odour, heat, sound, vibration or radiation resulting directly or indirectly from human activities, or<br>• Any part or combination of the foregoing and the interrelationships between any two or more of them, in or of Ontario.<br>• |
| • **Environmental Effect** | A change in the existing conditions of the environment which may have either beneficial (positive) or detrimental (negative) effects. |
| • **Environmentally Sensitive Areas (ESA's)** | Those areas identified by any agency or level of government which contain natural features, ecological functions or cultural, historical or visual amenities which are susceptible to disturbance from human activities and which warrant protection. |

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| • **Equivalent Sound Level (Leq)** | The level of a continuous sound having the same energy as a fluctuating sound in a given time period. In this report Leq refers to 24-hour, 16 or 18-hour averages. |
| • **ESR** | Environmental Study Report. The final documentation for Schedule C project, defining the project, consultation process, preferred solution and mitigation measures. |
| • **Evaluation** | The outcome of a process that appraises the advantages and disadvantages of alternatives. |
| • **Evaluation Process** | The process involving the identification of criteria, rating of predicted impacts, assignment of weights to criteria, and aggregation of weights, rates and criteria to produce an ordering of alternatives. |
| • **External Agencies** | Include Federal departments and agencies, Provincial ministries and agencies, conservation authorities, municipalities, Crown corporations or other agencies other than MTO. |
| • **General Arrangement** | Structural plan of the bridge and proposed works including elevations and cross-sectional views of the bridge. |
| • **GRCA** | Grand River Conservation Authority. |
| • **Factor** | A category of sub-factors. |
| • **HADD** | Harmful Alternation, Disturbance or Destruction of fish habitat. |
| • **Harmonized EA Process** | Harmonized planning process for this project that will meet both the Provincial and Federal EA requirements. |
| • **Individual Environmental Assessment** | An environmental Assessment requiring the submission of a document for approval by the Minister, pursuant to the EA Act and which is neither exempt from the EA Act nor covered by a Class EA approval. |
| • **Mitigating Measure** | A measure that is incorporated into a project to reduce, eliminate or ameliorate detrimental environmental effects. |



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| • **Mitigation** | Taking actions that either remove or alleviate to some degree the negative impacts associated with the implementation of alternatives. |
| • **MNRF** | Ministry of Natural Resources and Forestry. |
| • **MOECC** | Ministry of the Environment and Climate Change. |
| • **MTCS** | Ministry of Culture, Tourism and Sport. |
| • **MTO** | Ministry of Transportation Ontario. |
| • **Noise Attenuation** | A mitigation measure used to lessen the intensity of the noise level (dBA) where the noise level is increased in a noise sensitive area greater than 5 dBA 10 years after completion. |
| • **NSA** | Noise Sensitive Area is a noise sensitive land use, which has an outdoor living area associated with the residential unit. |
| • **OLA** | Outdoor Living Area is the part of an outdoor amenity area provided for the quiet enjoyment of the outdoor environment. |
| • **ORCA** | Otonobee Region Conservation Authority |
| • **Planning Alternatives** | Planning alternatives are “alternative methods” under the EA Act. Identification of significant transportation engineering opportunities while protecting significant environmental features as much as possible. |
| • **Planning Solutions** | That part of the planning and design process where alternatives to the undertaking and alternative routes are identified and assessed. Also described as “Alternative Project” under the federal EA Act. |
| • **PIC** | Public Information Centre |
| • **Prime Agricultural Areas** | Prime agricultural areas as defined in municipal official plans and other government policy sources. |

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| • **Project** | A specific undertaking planned and implemented in accordance with the Class EA including all those activities necessary to solve a specific problem. |
| • **Project File** | The final product of a Schedule B project. This is a completion of all data/reports produced for the project. |
| • **Proponent** | A person or agency that carries or proposes to carry out an undertaking, or is the owner or person having charge, management, or control of an undertaking. |
| • **Public** | Includes the general public, interest groups, associates, community groups, and individuals, including property owners. |
| • **Realignment** | Replacement or upgrading of an existing roadway on a new or revised alignment. |
| • **Recommended Plan** | That part of the planning and design process, during which various alternative solutions are examined and evaluated including consideration of environmental effects and mitigation; the recommended design solution is then developed in sufficient detail to ensure that the horizontal and vertical controls are physically compatible with the proposed site, that the requirements of lands and rights-of-way are satisfactorily identified, and that the basic design criteria or features to be contained in the design, have been fully recognized and documented in sufficient graphic detail to ensure their feasibility. |
| • **Route Alternatives** | Location alternatives within a corridor. |
| • **SADT** | Summer Average Daily Traffic – the average 24-hour, two-way traffic for the period from July 1st to August 31st including weekends. |
| • **Screening** | Process of eliminating alternatives from further consideration, which do not meet minimum conditions or categorical requirements. |
| • **Sub-factor** | A single criterion used for the evaluation. Each sub-factor is grouped under one of the factors. |



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| • **Traceability** | Characteristics of an evaluation process which enables its development and implementation to be followed with ease. |
| • **Undertaking** | In keeping with the definition of the Environmental Assessment Act, a project or activity subject to an Environmental Assessment. |