Executive Summary

This Environmental Study Report (ESR) was developed to document Phase 3 and Phase 4 of the Municipal Class Environmental Assessment (Municipal Engineers Association, October 2000, amended 2007) process as part of the Hamilton Road Widening from Commissioners Road/Old Victoria Road to Veterans Memorial Parkway Class Environmental Assessment and Preliminary Design Project. The widening of Hamilton Road at this location and associated intersection improvements was identified in the City of London Transportation Master Plan (Earth Tech and IBI Group, 2004) and confirmed in the 2012 Transportation Master Plan (AECOM).

A notice of study commencement was published in February 2010 at the beginning of the study and the notice of study commencement with associated correspondence was mailed to homeowners, the general public, businesses, municipalities, external agencies and interest groups. Two Public Information Centres (PICs) were held during the study to make sure that the consultation plan provided timely, user-friendly opportunities for input by the public. Additional meetings were held with stakeholders as requested. The final formal point of contact will occur during Detail Design. A Notice of Study Completion and review period for the Environmental Study Report (ESR) will be advertised for this study.

The purpose of this study is to implement roadway improvements to Hamilton Road between Commissioners Road/Old Victoria Road and Veterans Memorial Parkway. The addition of sidewalks to accommodate pedestrians, and improvements to the Commissioners Road/Old Victoria Road intersection and underground infrastructure, where required, are also included as part of the study.

This ESR documents the following details for the improvements to Hamilton Road:

- A description of the environmental considerations and impacts;
- The generation and evaluation of alternative design concepts leading to the selection of a preferred plan;
- A description of the consultation process and an explanation of how concerns raised by the public and review agencies have been addressed in developing the project; and
- A description of the environmental mitigation measures which will be undertaken to minimize environmental effects and commitments to future work.
- A description of the design elements proposed under the preferred plan.
To satisfy Phase 3 and 4 of the Municipal Class EA process, it was necessary to examine different intersection and road widening alternatives that would be able to address future transportation demands while minimizing impacts to existing property owners and environmental features. Two Corridor Alternatives and three Intersection Alternatives for the Hamilton Road/Commissioners Road/Old Victoria Road intersection were considered during the study:

- Corridor Alternative 1 – Widen the existing corridor from two to four lanes;
- Corridor Alternative 2 – Maintain the existing corridor with two lanes of traffic;
- Intersection Alternative 1 – maintain existing alignments with four lanes centered on the right-of-way (ROW);
- Intersection Alternative 2 – provide a roundabout with four lanes centered on the right-of-way (ROW); and
- Intersection Alternative 3 – north/south alignment improvements with four lanes centered on the right-of-way (ROW).

**Figure E 1: Study Area**
A preferred alternative was developed based on the two Corridor Alternatives and three Intersection Alternatives presented to the public at the two Public Information Centres (PICs). The following elements are included with the preferred plan:

- Roadway Widening
  - Widen Hamilton Road from two lanes to four lanes
- Intersection Improvements
  - Preferred alternative includes a roundabout at the intersection of Hamilton Road / Commissioners Road / Old Victoria Road
  - Additional traffic signals warranted in long term at Venture Gate
  - Additional turning lanes at Venture Gate and on Hamilton Road at Veterans Memorial Parkway
  - Full illumination at the intersections and along the corridor
- Horizontal and Vertical Alignments
  - Maintain horizontal and vertical alignment on Hamilton Road
  - Revise horizontal and vertical alignment on Old Victoria Road to accommodate the roundabout approach
• Revise vertical alignment at roundabout to accommodate approaches on Hamilton Road and Commissioners Road

• Access
  o Include sidewalks on both sides connecting Commissioners Road to Veterans memorial Parkway
  o Entrance relocations proposed to improve access to properties at the intersections.

• Property Acquisition
  o Additional property required to accommodate road widening
  o Recommended Plan minimizes property impacts at intersection
  o Construction working easements will be required to accommodate minor grading operations

• Local Servicing
  o Curb and gutter with storm sewer from Commissioners Road to Veterans memorial Parkway
  o Replace aging infrastructure as warranted
  o Relocate hydro poles and adjust watermain location/depth as required

The preferred alternative received positive comments and is being brought forward as the Recommended Plan to proceed into detailed design, followed by construction. The recommended plan includes the above roadway improvements, is represented in the below figure, and has been included in full in Appendix 3.4.
The implementation of the Recommended Plan will be phased into short term and long term needs. The short term needs include the intersection improvements at Hamilton Road / Commissioners Road / Old Victoria Road, along with interim stormwater measures and utility relocations to accommodate the roundabout. Based on traffic volume counts, the short term improvements are scheduled for construction in 2016. The long term needs include the widening of Hamilton Road to four lanes, urbanizing Hamilton Road, and additional turning lanes on Hamilton Road at the intersections of Venture Gate and Veterans Memorial Parkway. An interchange at Hamilton Road and Veterans Memorial Parkway has been proposed as a potential long term solution to the access management of Veterans Memorial Parkway through the Veterans Memorial Parkway Interchange Class EA and Official Plan Amendment. The long term needs are projected to be implemented beyond the 20 year horizon.

Scheduling of the Recommended Plan will be reviewed with the recommendations of the 2012 Transportation Master Plan and prioritized in the Development Charges Background Study.
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1.0 Introduction and Background

The City of London retained Stantec Consulting Ltd. to prepare this Environmental Study Report (ESR) as part of the Hamilton Road Widening from Commissioners Road/Old Victoria Road to Veterans Memorial Parkway Class Environmental Assessment and Preliminary Design Project. The widening of Hamilton Road at this location and associated improvements were identified in the City of London’s Official Plan (2008) and the Airport Road South Area Study (2004). Along with the road widening, the study has also included a review of potential municipal infrastructure requirements and upgrades, including the addition of sidewalks to accommodate pedestrians and improvements to underground infrastructure, where required.

A list of acronyms used in this report includes:

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Meaning</th>
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</thead>
<tbody>
<tr>
<td>BMP</td>
<td>Bicycle Master Plan</td>
</tr>
<tr>
<td>EA</td>
<td>Environmental Assessment</td>
</tr>
<tr>
<td>ESR</td>
<td>Environmental Study Report</td>
</tr>
<tr>
<td>MEA</td>
<td>Municipal Engineering Association</td>
</tr>
<tr>
<td>MTC</td>
<td>Ministry of Culture, Tourism and Sport</td>
</tr>
<tr>
<td>MNR</td>
<td>Ministry of Natural Resources</td>
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<tr>
<td>MOE</td>
<td>Ministry of the Environment</td>
</tr>
<tr>
<td>PIC</td>
<td>Public Information Centre</td>
</tr>
<tr>
<td>TMP</td>
<td>Transportation Master Plan</td>
</tr>
<tr>
<td>ARS</td>
<td>Airport Road South Area Study</td>
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1.1 ENVIRONMENTAL ASSESSMENT PROCESS

The Ontario Environmental Assessment Act (EA Act) identifies two types of environmental assessment planning and approval processes: Individual Environmental Assessments (Part II of the EA Act), and Class Environmental Assessments (Part II.1 of the EA Act). Class Environmental Assessments (Class EAs) are projects that are approved subject to compliance with an approved class environmental assessment process for a specific class of undertakings or projects (MEA, 2007).
1.1.1 Municipal Class Environmental Assessments

The Municipal Engineers Association developed Class EAs for municipal road, water, and wastewater projects, which have been approved under the Ontario *EA Act* since 1987. A review and update of the Municipal Class EAs took place in 1993. In 2000, the Class EAs for municipal road, water, and wastewater projects were consolidated and updated, and subsequently approved under Part II.1 of the Ontario *EA Act*.

Following a 5-year review of the 2000 Municipal Class EA, the MEA proposed a number of amendments which were subsequently approved and included in the amended Municipal Class EA document - October 2000, as amended in 2007 & 2011. The Hamilton Road Widening Project Class EA has been undertaken in accordance with the latest version of the Municipal Class EA.

1.1.2 Planning and Design Process

A Class EA is a document which sets out the planning and design process that a proponent must follow in order to meet the requirements of the *EA Act* for a class or category of study or project. In the case of the Hamilton Road widening, the class or category is Municipal Roads.

1.1.2.1 Project Categories

The Class EA recognizes that certain undertakings require different degrees of assessment depending on their anticipated environmental impact.

The Class EA defines four Schedules of Activities as follows:

**Schedule A** projects are considered to have minimal adverse environmental impacts and are pre-approved and therefore may proceed to implementation without completing the full planning and design process. Examples include municipal maintenance and operational activities.

**Schedule A+** projects were introduced as part of the 2007 amendments to the Municipal Class EA document. This schedule of activity was introduced to ensure that some type of public notification would occur for pre-approved projects. Although the public are to be notified, no formal public consultation process is required.

**Schedule B** projects are those which have a potential for environmental impacts. A screening process must be undertaken which includes consultation with directly affected public and relevant review agencies. Projects generally include improvements and minor expansions to existing facilities.

**Schedule C** projects have the potential for significant environmental impacts and must follow the full planning and documentation procedures specified in the Class EA document. An
Environmental Study Report (ESR) must be prepared and filed for review by the public and review agencies. Schedule C projects generally include the construction of new facilities and major expansions to existing facilities.

### 1.1.2.2 Planning Process

There are five key elements in the Class EA planning and design process and these include:

- **Phase 1** – Identification of problem (deficiency) or opportunity.

- **Phase 2** – Identification of alternative solutions to address the problem or opportunity. Public and review agency contact is mandatory during this phase and input received along with information on the existing environment is used to establish the preferred solution. It is at this point that the appropriate Schedule (B or C) is identified for the undertaking. If Schedule B is identified, the process and decisions are then documented in a Project File. Schedule C projects proceed through the following Phases.

- **Phase 3** – Examination of alternative methods of implementing the preferred solution established in Phase 2. This decision is based on the existing environment, public and review agency input, anticipated environmental impacts and methods of minimizing or mitigating negative impacts and maximizing potential positive impacts.

- **Phase 4** – Preparation of an Environmental Study Report (ESR) summarizing the rationale, planning, design and consultation process of the project through Phases 1-3. The ESR is then to be made available to agencies and the public for review. Section 1.1.3 provides more detail on the ESR.

- **Phase 5** – Completion of contract drawings and documents. Construction and operation to proceed. Construction to be monitored for adherence to environmental provisions and commitments. Monitoring during operation may be necessary if there are special conditions.

Figure 1.A illustrates the Class EA Process.

### 1.1.2.3 Transportation Master Plans

Transportation needs and objectives are often addressed by municipalities through Transportation Master Plans (TMP) as a supplement to Official Plans. TMPs are developed through a stakeholder consultation process that involves consultation with the public, government agencies, other municipalities, and First Nations. When developed in accordance with the Municipal Class EA, a TMP can address Phases 1 and 2 of the Municipal Class EA process (MEA, 2007). As previously mentioned, the City of London prepared a TMP in
May 2004 which is considered to have generally addressed Phases 1 and 2 of the Class EA process.

The City has recently completed an updated TMP to plan for future traffic needs to the year 2030. Details of the 2030 TMP can be found on the City’s website. The 2030 TMP has confirmed the needs for roadway expansion through the study area.

### 1.1.3 Environmental Study Report

For projects following Schedule C, an Environmental Study Report (ESR) is to be completed as part of Phase 4. The ESR is prepared when the preferred design has been selected and design work has progressed to the point where the details of any environmental protective measures to be incorporated in the construction package have been finalized. The ESR provides a complete account of the planning process followed for the project. When completed the ESR is placed on public record for a period of at least 30 calendar days and is available for review by any interested parties.

The following outlines the general requirements of the ESR:

- A description of the problem and other background information.
- The rationale employed in selecting the preferred solution to the problem.
- The rationale employed in selecting the preferred design.
- A description of the environmental considerations and impacts.
- The mitigating measures which will be undertaken to minimize environmental effects.
- A description of the public consultation process and an explanation of how concerns raised by the public have been addressed in developing the project.
- A description of the monitoring program which will be carried out during construction and, if necessary, for a specific time during operation. Details as to how the results of the monitoring program will be communicated to the public and review agencies should be included. (MEA, 2007)
1.1.4 Changing Project Status – “Part II Order”

Subsection 16 of the amended EA Act has a provision for the Minister or delegate to review the status of a project. Members of the public, interest groups and review agencies may request the Minister or delegate to require a proponent to comply with Part II of the EA Act (i.e., an Individual EA) before proceeding with the proposed undertaking (known as a Part II Order). The Minister or delegate determines whether the request is justified and then determines the course of the undertaking. This decision is considered final (MEA, 2007).

1.1.5 Project Team and Study Approach

The proponent for this Class EA is the City of London. This project is a municipal undertaking based on the requirements of the EA Act; and the recommendations of the City of London’s Official Plan Amendment for the Airport Road South Area Study (2004) and Transportation
Master Plan (2004). The Municipality has retained the services of Stantec Consulting Ltd. to assist in documenting this Class EA process and preparing the ESR.

1.2 BACKGROUND

1.2.1 City of London Airport Road South Area Study (July 2004)

The Airport Road South Area Study was completed in July 2004, as an amendment to the City of London’s Official Plan. The purpose of the amendment was to alter the designation and land use for portions of the Airport Road Planning Area, from Old Victoria Road (west) to the City of London municipal boundary (east); and from the South Branch of the Thames River (north) to Highway 401 (south).

The new land use designations amended areas identified as Urban Reserve-Industrial Growth, Open Space, and Environmental Review designations to Light Industrial and Office Business Park. The proposed amendments also recognized significant environmental features and two future proposed interchanges.

The areas located on the northeast side of Hamilton Road and west of Airport Road (now Veterans Memorial Parkway) have been identified as an area for an Office Business Park designation. High design and building standards will be employed to address sensitive natural features. Secondary commercial uses will be permitted along Hamilton Road within this zone, with design standards consistent with that of the primary Office Business Park designation. An area adjacent to the northwest corner of the Airport Road/Hamilton Road intersection has also been given a proposed designation of Urban Reserve-Residential.

1.2.2 Airport Road South Business park Urban Design Guidelines (June 2004)

The Airport Road South Business Park Urban Design Guidelines were completed in June 2004 to provide consistent direction to the development of what is now called Innovation Park. These guidelines include information on the site development, building design, internal road network, and gateway features.

Items applicable to this study include recommendations of gateway features at the intersection of Hamilton Road and Venture Gate. These landscaping and signing guidelines will be considered with the development of the intersection improvements (proposed and future).

1.2.3 City of London Transportation Master Plan (May 2004 and June 2012)

The City of London retained Earth Tech and IBI Group to complete a Transportation Master Plan in May 2004 (Earth Tech and IBI Group, 2004) with the intent of planning a transportation system to accommodate future growth. The project goal of the Study was to “Provide strategic solutions for the existing and future transportation needs within the 20 to 25 year planning
horizon for the City of London, and have these solutions adopted and implemented as transportation policies of the City."

The Plan is intended to be a comprehensive Transportation Management Strategy that "if funded and implemented, can reduce the extent of roadway enhancement works and improve the transportation-related environment in London over the next 20 years." This plan identified a need for roadway expansion within the study area to improve traffic flows and propose business development in the area.

A subsequent Transportation Master Plan was completed in 2012 which updated the City’s 2004 study and assessed the viability of incorporating a rapid transit system. This study confirmed the need for roadway expansion of Hamilton Road in this area.

1.3 PREVIOUS STUDIES

The following studies that affect the study area have been completed:

- **Airport Road South Area Study (2004)** – the Airport Road South Planning Area overlaps with the entire study area, and identifies the need to improve infrastructure (i.e. sanitary sewers), address Stormwater Management, and include Stage 1 and 2 Archaeological Assessment, where required

- **Innovation Park Phase 3-4 Traffic Impact Study**

- **Old Victoria Area Plan (2007)** – the Old Victoria Planning Area overlaps with the northwest corner of the Commissioners Road/Old Victoria Road/Hamilton Road intersection and identifies proposed land use designations for the areas surrounding this intersection

- **Municipal Class EA for Airport Road Widening**

- **Veterans Memorial Parkway Interchange Class EA and Application to Amend the Official Plan** – This study overlaps the east limits of the project at the intersection of Veterans memorial Parkway, and recommends the construction of an interchange be considered as a long term strategy.

1.4 PROBLEM / OPPORTUNITY STATEMENT

The City of London’s **Official Plan** (2008) identified the need to improve Hamilton Road between Veterans Memorial Parkway and Commissioners Road/Old Victoria Road in order to accommodate future growth and development in the area. The land use vision for this area was identified in the Airport Road South Area Plan which was approved by the City of London in 2004. Areas surrounding the Hamilton Road corridor between Commissioners Road/Old Victoria Road and Veterans Memorial Parkway have been identified as prime land for commercial and business park development. The land use designations recommended by the Plan will contribute to the City’s economic growth while considering the area’s sensitive natural features.
To service the development of this area, the City of London Transportation Master Plan was completed in 2004 (Earth Tech and IBI Group). The City of London TMP, which addressed Phases 1 and 2 of the Municipal Class Environmental Assessment (Municipal Class EA), examined transportation issues and attempted to balance the growth and development of a future road network that would service the future needs of the City of London. The specific need for the widening of Veterans Memorial Parkway was based on identification of the Parkway as a key corridor providing access to the City, increases in traffic volume, and anticipated growth and development in the area. These needs were confirmed in the City’s 2012 Transportation Master Plan.

As part of this study, alternative designs, which provide specific roadway elements, have been generated and evaluated.
2.0 Existing Conditions

2.1 NATURAL ENVIRONMENT

Stantec Consulting Ltd. prepared a Natural Environment Report (NER) for the Project Area which is included in Appendix 2.1. Following is a summary of the findings of the report.

2.1.1 Field Investigations and Background Review

A background review of literature was undertaken in order to identify any significant natural features within or surrounding the study area. The City of London \textit{Official Plan} (2008) was referred to as it provided an overview of the potential environmental constraints within the study limits and surrounding areas. Site-specific natural science field investigations were undertaken in order to document existing conditions within the vicinity of the study area. Terrestrial investigations were undertaken on November 10, 2009 and June 7, 2010; aquatic surveys were completed on November 10, 2009.

2.1.2 Significant Natural Features

The study area is located within the jurisdiction of the Aylmer District Office of the Ministry of Natural Resources (MNR) and the Upper Thames River Conservation Authority (Dorchester Subwatershed).

According to MNR’s Natural Heritage Information Centre (NHIC) database, there are no Areas of Natural and Scientific Interest (ANSIs), Environmentally Sensitive Areas (ESAs), provincial or national parks, significant woodland or conservation areas within the Hamilton Road Widening study area. The NHIC database also does not identify any significant species as being recorded in the study area. The anthropogenic nature of much of the study area and the level of disturbance (i.e., lighting, noise and traffic) affecting natural communities in the area make it unlikely that sensitive species are present.

The City of London \textit{Official Plan} (2008) identifies six Natural Areas in the vicinity of the study area; however, direct impact to these areas during construction is not anticipated since they are located outside the direct study area, and the City of London Official Plan triggers for an environmental impact study have not been met. The Meadowlily Woods Wetland is located outside of the study limits to the northwest of the study area, and is part of a Provincially Significant Wetland Complex. There are no regulated wetlands within the study limits. The following natural features situated within the Upper Thames River Conservation Authority (UTRCA) Regulation Limit (Ontario Regulation 157/06) have been identified within or in close proximity to the study area:

- Regulation limit for the wetland located north of Hamilton Road
- Fekete Drain and Lawson Drain and their associated floodplains
Habitat for four provincially or federally designated plant species is present within the study area, but the plant species was not present during field investigations:

- Green Dragon – Special Concern (Provincial and Federal)
- Butternut – Endangered (Provincial and Federal)
- Blue Ash – Special Concern (Provincial and Federal)
- Wood Poppy – Endangered (Provincial and Federal)

No rare species were observed during field investigations.

2.1.3 Physical Environment

The study area is located in the Niagara Section of the Deciduous Forest Region (Rowe, 1972). This area is also known as the Carolinian Forest.

2.1.4 Terrestrial Ecosystems

The site generally consists of disturbed areas including cultural vegetation assemblages, mowed areas, and patches of remnant natural cover. Six vegetation communities were identified within the study area. These include a deciduous forest community, three cultural communities (meadow, thicket, and woodland), a deciduous swamp, and a shallow marsh. These areas are described in detail in Appendix 2.1.

2.1.5 Aquatic Ecosystems

There are two drainage features present in the study area that directly support fish habitat, and where fish were observed during field investigations. No redds or fish spawning activity were observed in either drainage feature. The Lawson Drain is a cool/cold water permanent watercourse classified as a Class A drain, located approximately 120 m west of Veterans Memorial Parkway. The Fekete Drain is a cool/coldwater permanent watercourse classified as a Class C drain, located approximately 780 m west of Veterans Memorial Parkway. Both watercourses are tributaries to the Upper Thames River, flowing from south to north, crossing Hamilton Road within the study area via concrete box culverts.

A drainage feature located at Commissioners Road East and Hamilton Road is a permanent watercourse that has the potential to support fish habit; however, no fish were observed during field surveys. Watercrossing is facilitated by a corrugated steel culvert.

Three stormwater management (SWM) control alternatives have been identified at various locations within the study limits. Temporary storm sewers, with potential for the inclusion of permanent infrastructure, are recommended during and following construction of the proposed roundabout at Commissioners Road/Hamilton Road/Old Victoria Road in order to provide
additional drainage opportunities for the additional road surface. This will effectively reduce impacts to the existing stormwater management facility located east of Hamilton Road adjacent to the Thames River. The preferred drainage alternative would be to outlet excess water to the Old Victoria Road Stormwater Management Facility, with interim measures undertaken (i.e. tying into the Airport Road South Stormwater Management Facility) if the pond has not been completed prior to construction of the Recommended Plan.

2.2 GENERAL

In order to determine the potential socio-economic impacts of the widening of Hamilton Road, land uses within the study area were examined comparing the existing conditions of the road with the proposed changes.

2.2.1 Land Use

Schedule A of the City of London Official Plan (2008) identifies the following land uses within the study area:

- Light Industrial – south side of Hamilton Road and east of Old Victoria Road
- Agricultural – south side of Hamilton Road on the west side of Old Victoria Road
- Office Business Park – north side of Hamilton Road east of Old Victoria Road
- Open Space – north side of Hamilton Road adjacent to watercourses
- Multi-Family, Medium Density and High Density Residential – Hamilton Road/Old Victoria Road intersection

2.2.2 Geotechnical Conditions

A Preliminary Geotechnical Report was prepared by Golder Associates Ltd in June 2010, and finalized in January 2013, which summarizing their geotechnical assessment and limited geotechnical investigation of the area. A copy of the final report is included in Appendix 2.2.

The site is located in the northern portion of the physiographic region of southern Ontario known as the Mount Elgin Ridges. The soils in the ridges consist generally of calcareous silty clay, while alluvium consisting of silts, sands and gravels are found in the vales. The surficial geology mapping for the site indicates that the soils in the western portion of the site (from immediately east of the intersection) consist predominantly of clayey silt and silty clay with a few areas of modern alluvium consisting of gravel, sands and silt. East of the intersection, sand and gravel valley trains are indicated.

During the investigations, buried concrete was encountered beneath sand and gravel fill between Veterans Memorial Parkway and Venture gate and. This concrete was found within the first metre of the pavement structure, and will ultimately be excavated with the reconstruction of Hamilton Road.
Groundwater conditions were recorded and ranged from 1.6 to 7.9 m below the ground surface (between elevations 251.6 and 265.9).

A detailed geotechnical investigation will be required during the Detailed Design phase of the project.

2.2.3 Utilities

The existing utility plant locations are summarized in Table 2.1 below. The following utility companies have plant within the study area:

- London Hydro
- Bell Canada
- Union Gas

### Table 2.1: Existing Utilities

<table>
<thead>
<tr>
<th>Utility</th>
<th>Location</th>
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<tbody>
<tr>
<td>London Hydro</td>
<td>▪ London Hydro poles and overhead lines are located primarily along the north side of Commissioners Road and Hamilton Road. The hydro line crosses to the south side of the road at the intersection with Old Victoria Road. Overhead hydro lines are located on the west side of Hamilton Road (intersection north leg) and on the east side along Old Victoria Road.</td>
</tr>
<tr>
<td>Bell</td>
<td>▪ Bell underground lines are located primarily on the north side of Commissioners Road to the west of the study area, and on the south side of Commissioners Road and Hamilton Road (existing shoulder and along property line) through the study area. A Bell line runs along the west side of Old Victoria Road to the south and along the east side of Hamilton Road to the north. The line crosses in both a north/south and east/west direction through the existing intersection.</td>
</tr>
<tr>
<td>Union Gas</td>
<td>▪ 50 mm gas lines are located on the south side of Commissioners Road and Hamilton Road and provide services easterly from the intersection with Old Victoria Road to Venture Gate. 100 mm gas lines are also located on the west side of Hamilton Road north of the intersection with Old Victoria Road. There is currently a 100 mm gas crossing through the existing intersection.</td>
</tr>
</tbody>
</table>

In addition, traffic signals exist at the intersections of Hamilton Road/Commissioners Road /Old Victoria Road and at Hamilton Road/Veterans Memorial Parkway.

A City of London 600 mm PVC watermain runs along the south side of Hamilton Road throughout the study area. A 250 mm PVC watermain runs from Innovation Park at Old Victoria Road northerly along the east side of Hamilton Road.
There are no existing storm or sanitary sewers within the study area.

### 2.2.4 Existing Transportation Network

The existing transportation network consists of the following arterial and collector roadways within the study area:

- Hamilton Road between Commissioners Road / Old Victoria Road and Veterans Memorial Parkways is primarily a two-lane arterial road that runs east-west. Hamilton Road connects rural and developing areas to the City to the west and a north-south corridor to Highway 401 to the east. The designated right-of-way width varies slightly throughout the corridor and is generally 32 metres. The posted speed is 80 km/h.

- The intersection of Hamilton Road and Commissioners Road / Old Victoria Road is controlled by traffic signals. There are no auxiliary lanes with the exception of a channelized right turn for westbound traffic on Hamilton Road to continue northerly on Hamilton Road.

- The intersection of Hamilton Road and Veterans Memorial Parkway is controlled by traffic signals. Auxiliary lanes exist on all four legs (right turn and left turn lanes). In addition, there is provision for dual left turn lanes on Veterans Memorial Parkway within the existing asphalt surface.

- The intersection of Hamilton Road and Venture Gate is unsignalized. This intersection has an eastbound right turn lane and a westbound left turn lane to accommodate vehicles travelling to Innovation Park. There are two private entrances (same property) in close proximity to the intersection.

No existing sidewalks or bike paths exist within the study area. Public transit does not currently use this portion of Hamilton Road or Commissioners Road. No portion of Old Victoria Road is currently utilized by the London Transit Commission.

### 2.2.5 Traffic Analysis

The Innovation Park Phase 3-4 Traffic Impact Study (Paradigm, 2006) anticipated that Phase 2 of Innovation Park would be developed by 2011, Phase 3 would be developed by 2015, and full development would be in place by the year 2020. The Executive Review portion of this report has been included in Appendix 2.3.

Improvements recommended for Phase 2 development include:

- Widen Hamilton Road between Commissioners Road and Veterans Memorial Parkway, including the intersection of Hamilton Road / Old Victoria Road / Commissioners Road;
2.6

- Include left turn lanes on all legs, and a right turn lane on the north leg of the Hamilton Road / Old Victoria Road / Commissioners Road intersection;

- The intersection of Hamilton Road and Venture Gate be signalized with dual westbound left turn lanes and an eastbound channelized right turn lane;

- Add a dual eastbound left turn lane on Hamilton Road at Veterans Memorial Parkway; and

- That consideration be made for the use of roundabouts where signalized intersections are warranted.

Traffic counts recorded in 2008 were reviewed and projected traffic volumes were in line with the projections made in the Innovation Park Phase 3-4 Traffic Impact Study. Therefore, this study proceeded with the inclusion of the traffic improvement recommendations, including consideration of a roundabout where traffic signals are warranted.

Analysis of the collision history at the existing intersections did not reveal a specific pattern or concern. The majority of collisions recorded were “rear end” type collisions.

By 2011, the development of Innovation Park had not reached the anticipated development in the original study. Traffic volumes were taken again in late 2011 and indicated only a minute change compared to the volumes recorded in 2008. These new volumes were projected and indicate that a 2016 implementation of the Phase 2 improvements is recommended.

2.2.6 Stormwater Management Considerations

This area has undergone a number of background studies and environmental assessments that cover the ultimate stormwater management plan, specifically the Old Victoria Area Planning Study, the Airport Road South Area Plan, and the Airport Road South Industrial Stormwater Management Facilities Class EA. These reports provide detailed information on the existing conditions and long term proposed conditions based on future development of the area.

A number of stormwater management facilities (SWMF) are proposed through other studies in order to manage the long term development needs for the area. These facilities will also ultimately manage the stormwater runoff from this portion of the Hamilton Road corridor.

There is a potential that the future SWMF (Airport Road SWMF 8) may not be online and available to receive drainage at the time of the road improvements, and temporary interim measures may be required. In order to accommodate the stormwater management needs of the proposed intersection improvement and road widening, a number of alternatives were examined. These alternatives include constructing a small, local SWMF to accommodate the improvements, construct a storm sewer and tie into the existing facility in Industrial Park (SWMF...
7), and construct a storm sewer along Hamilton Road northerly to connect to the future SWMF west of Hamilton Road, south of the Thames River (Old Victoria Road SWMF 2). A copy of the alternatives outlined is included in Appendix 2.4.

Subsequent to the alternatives, scheduling changes to the improvements have made SWM Alternative 4 more viable in that the roundabout has been scheduled for construction in 2016. Should the Old Victoria SWMF 1 be delayed, short term interim measures would be the preferred strategy, and include flat bottom ditches, rock check dams, etc to improve the quality of the runoff.

2.2.7 Potential Improvements

Hamilton Road currently has one lane of through traffic in each direction within the study area. Widening of the road and the addition of auxiliary lanes and a roundabout will allow for an increase in traffic flow and additional intersection level of service (capacity).

The addition of sidewalks will allow for an increase in accessibility and safety for pedestrians. No dedicated bicycle lanes are being proposed; this recommendation will be reviewed closer to construction in accordance with any updates to the City’s Bicycle Master Plan.

2.3 ARCHAEOLOGY

A Stage 1 and 2 Archaeological Assessment was completed as part of the study in April 2010. The report can be found in Appendix 2.5.

A summary of the results of the assessment is provided in the following sections.

2.3.1 Study Methods

The Stage 1 Assessment included;

- A review of the land use history, including pertinent historic maps and archival records;
- An examination of the National Site Registration Database to determine the presence of known archaeological sites in and around the study area; and
- A review of the City of London Archaeological Master Plan.

The objective of the Stage 2 Assessment was to locate and identify on a map any archaeological resources within the study area. Stage 2 field investigations employed the test pit method at 5-metre intervals.
2.3.2 Results

The Stage 2 field assessment did not identify any new areas of archaeological significance. However, since the historic Bostwick Cemetery directly fronts Hamilton Road, additional measures may be necessary, including the completion of a Stage 3 Archaeological Assessment during Detail Design, and monitoring by a licensed archaeologist during construction.

2.3.3 Cultural Heritage

The Bostwick Cemetery is located on the south side of Hamilton Road, west of Veterans Memorial Parkway in the study area, and is listed as a priority rating of one in the City of London Inventory of Heritage Resources. Each alternative generated was developed to avoid impacts to the cemetery. As such, the Recommended Plan does not directly impact the cemetery, and provisions for working adjacent to the cemetery will be included in the final design and contract for construction.
3.0 Identification of Alternative Solutions

The City of London *Official Plan* (2008) and the Airport Road South Area Study (2004) identified the need to widen Hamilton Road between Commissioners Road/Old Victoria Road from 2 to 4 lanes, and widening the intersection at Hamilton Road/Commissioners Road/Old Victoria Road. To satisfy Phase 3 and 4 of the Municipal Class EA process, it was necessary to examine different widening and intersection alternatives that would be able to address future transportation demands while minimizing impacts to existing property owners and environmental features.

3.1 ALTERNATIVE DESIGNS

Two Corridor Alternatives for Hamilton Road in the study area and three Intersection Alternatives for the Hamilton Road/Commissioners Road/Old Victoria Road intersection were developed and presented to the public for comment at the first Public Information Centre (PIC) held on Wednesday, March 24th, 2010.

The Preferred Plan for improvements to Hamilton Road in the study area, including the recommended configuration of the Hamilton Road/Commissioners Road/Old Victoria Road intersection and associated municipal infrastructure improvements, was presented at the second PIC held on Wednesday, June 1, 2011. An overview of the evaluation process, including the evaluation criteria and comparative analysis of the alternatives was also provided.

The alternatives presented are described in the following sections.

3.1.1 Corridor Alternatives

The Corridor Alternatives presented at the first PIC included retaining the existing two-lane configuration of Hamilton Road, or improving the existing corridor to accommodate four lanes of through traffic (Figure 3.A). The proposed improvements to Hamilton Road would include widening the pavement structure from Commissioners Road and Old Victoria Road to Veterans Memorial Parkway from two to four lanes. The new Hamilton Road corridor would accommodate two lanes of through traffic westbound; two lanes of through traffic eastbound; and would provide for auxiliary lanes at intersections, as required.
3.1.2 Commissioners Road/Old Victoria Road Intersection

The intersection of Hamilton Road and Commissioners Road/Old Victoria Road was analyzed for improvements as part of this study. Various configurations and widening concepts, including consideration of a roundabout, were developed to meet the long term needs of this intersection. These improvements included widening each intersection approach to four lanes and the addition of or improvements to auxiliary lanes, including introducing double left turn lanes, as required.

Three alternatives were evaluated for the Hamilton Road/Commissioners Road/Old Victoria Road intersection (Figure 3.B). All three intersection alternatives are conceptually centered within the Right-of-Way (ROW) for the proposed four-lane configuration for Commissioners Road/ Hamilton Road. Alternative 1 is situated the existing north/south alignment of Old Victoria Road/ Hamilton Road. Alternative 2 incorporates a roundabout at the intersection of Hamilton Road/ Commissioners Road/Old Victoria Road. Alternative 3 provides north/south alignment improvements for Old Victoria Road/Hamilton Road.
FIGURE 3.B: INTERSECTION ALTERNATIVES

3.2 EVALUATION OF ALTERNATIVES

An evaluation process was developed to provide an objective approach to the analysis and evaluation of the two corridor alternatives and three intersection alternatives, and that would form a justifiable tool for the selection of a Preferred Plan for the improvements.

The goal of the evaluation process was to select a cost-effective Preferred Plan for the widening of Hamilton Road that provides safe vehicular operations and pedestrian movements and general improved level of service while minimizing the impacts to the natural, social and cultural environments. This was achieved by applying each of the evaluation criteria to the alternatives.

Evaluation criteria that address key issues related to the decision-making process of selecting a suitable Preferred Plan were identified and presented to the public at the first Public Information Centre. The evaluation criteria are independent variables, each of which may contribute a positive or negative influence on the overall suitability of an alternative. Although it is important to explicitly consider suitability of an alternative in terms of each criterion, it is useful to establish an overall composite technical score (performance) for each alternative. This is accomplished by determining appropriate weighting (relative importance) among the criteria.

The overall goal of the evaluation process was to identify a means of selecting a Preferred Plan that would provide safe operations and meet the design standards, while minimizing impacts to the natural, social, and economic environments. Based on the feedback received by the public
and discussions within the Study Team (City of London and Stantec staff), the relative importance of each criterion was determined and was then used in the evaluation process.

When interpreting the matrix, it is read across the rows. For example: Criteria 1, Safety, is judged as Extremely Preferred when compared to Natural Environment, consequently Safety has a value of 5 in the Safety criteria row and natural Environment has the corresponding value of 0.2 in the mirror image column (shaded area). A copy of the Evaluation Matrix is provided in Table 3.1.

### Table 3.1: Evaluation Matrix

<table>
<thead>
<tr>
<th>No</th>
<th>Evaluation Criteria</th>
<th>Safety</th>
<th>Lane Configuration (Geometrics)</th>
<th>Operations</th>
<th>Property Requirements</th>
<th>Natural Environment</th>
<th>Cultural Environment</th>
<th>Local Access</th>
<th>Commercial and Industrial</th>
<th>Constructability</th>
<th>Cost</th>
<th>Total Score (rounded)</th>
<th>Percentage of Total Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Safety</td>
<td>1.00</td>
<td>4.00</td>
<td>5.00</td>
<td>5.00</td>
<td>5.00</td>
<td>5.00</td>
<td>4.00</td>
<td>5.00</td>
<td>4.00</td>
<td></td>
<td>43.00</td>
<td>25%</td>
</tr>
<tr>
<td>2</td>
<td>Lane Configuration</td>
<td>0.25</td>
<td>1.00</td>
<td>1.00</td>
<td>4.00</td>
<td>3.00</td>
<td>3.00</td>
<td>4.00</td>
<td>4.00</td>
<td>4.00</td>
<td></td>
<td>28.25</td>
<td>16%</td>
</tr>
<tr>
<td></td>
<td>(Geometrics)</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Operations</td>
<td>0.20</td>
<td>1.00</td>
<td>1.00</td>
<td>4.00</td>
<td>4.00</td>
<td>2.00</td>
<td>4.00</td>
<td>4.00</td>
<td>5.00</td>
<td>4.00</td>
<td>29.20</td>
<td>17%</td>
</tr>
<tr>
<td>4</td>
<td>Property Requirements</td>
<td>0.20</td>
<td>0.25</td>
<td>0.25</td>
<td>1.00</td>
<td>2.00</td>
<td>3.00</td>
<td>0.33</td>
<td>0.50</td>
<td>1.00</td>
<td>2.00</td>
<td>10.53</td>
<td>6%</td>
</tr>
<tr>
<td>5</td>
<td>Natural Environment</td>
<td>0.20</td>
<td>0.33</td>
<td>0.25</td>
<td>0.50</td>
<td>1.00</td>
<td>0.50</td>
<td>0.50</td>
<td>1.00</td>
<td>1.00</td>
<td></td>
<td>5.78</td>
<td>3%</td>
</tr>
<tr>
<td>6</td>
<td>Cultural Environment</td>
<td>0.20</td>
<td>0.33</td>
<td>0.50</td>
<td>0.33</td>
<td>2.00</td>
<td>1.00</td>
<td>4.00</td>
<td>3.00</td>
<td>4.00</td>
<td>3.00</td>
<td>18.37</td>
<td>11%</td>
</tr>
<tr>
<td>7</td>
<td>Local Access</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
<td>3.00</td>
<td>2.00</td>
<td>0.30</td>
<td>1.00</td>
<td>3.00</td>
<td>3.00</td>
<td>2.00</td>
<td>15.08</td>
<td>9%</td>
</tr>
<tr>
<td>8</td>
<td>Commercial and</td>
<td>0.20</td>
<td>0.25</td>
<td>0.25</td>
<td>2.00</td>
<td>2.00</td>
<td>0.33</td>
<td>0.33</td>
<td>1.00</td>
<td>0.50</td>
<td>0.50</td>
<td>7.37</td>
<td>4%</td>
</tr>
<tr>
<td></td>
<td>Industrial</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Constructability</td>
<td>0.20</td>
<td>0.25</td>
<td>0.20</td>
<td>1.00</td>
<td>1.00</td>
<td>0.25</td>
<td>0.33</td>
<td>2.00</td>
<td>1.00</td>
<td>0.50</td>
<td>6.73</td>
<td>4%</td>
</tr>
<tr>
<td>10</td>
<td>Cost</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
<td>0.50</td>
<td>1.00</td>
<td>0.33</td>
<td>0.50</td>
<td>2.00</td>
<td>1.00</td>
<td></td>
<td>8.08</td>
<td>5%</td>
</tr>
</tbody>
</table>

Total Score (rounded) 172.4 100%

Extremely Preferred 5.00 Moderately Less Preferred 0.50
Very Strongly Preferred 4.00 Strongly Less Preferred 0.33
Strongly Preferred 3.00 Very Strongly Less Preferred 0.25
Moderately Preferred 2.00 Extremely Less Preferred 0.20
Equally Important 1.00
The evaluation matrix provides weighting of each of the evaluation criteria when compared to the project goals as a whole. These evaluation criteria weightings form the basis of evaluating the specific alternatives detailed in the following sections. The evaluation criteria and assigned weightings are summarized in Table 3.2.

The following comments are noted regarding the relative importance of the criteria:

- Safety and the design of the improvement plan ranked high with safety (25%), lane configuration (16%), and operations (17%) accounting for 58% of the overall importance.
- Cultural Environment made up 11%
- Although the technical aspects of the project were considered important, it was also necessary to make sure that the preferred improvement plan was cost effective (5%).

**TABLE 3.2: EVALUATION CRITERIA**

<table>
<thead>
<tr>
<th>Evaluation Criteria</th>
<th>What Represents the Best Improvement Plan</th>
<th>Relative Importance of Criteria</th>
</tr>
</thead>
</table>
| Safety                    | ▪ Will enhance roadway user safety
 ▪ Will enhance continuity of movements and traffic operation
 ▪ Will have the largest reduction in the number of collisions                                           | 25%                            |
| Lane Configuration        | ▪ Will provide the highest overall design standard consistent with City of London Design Standards         | 16%                            |
| Operations                | ▪ Will have the capacity to improve the level of service for the increased number of vehicles due to growth in the area | 17%                            |
| Property Requirements     | ▪ Will have the least number of residents impacted and the least amount of property required                | 6%                             |
| Natural Environment       | ▪ Will have the least impact on wildlife habitat
 ▪ Will have the least impact on wooded areas                                                            | 3%                             |
| Cultural Environment      | ▪ Will have the least impact to cultural heritage sites
 ▪ Will minimize impacts to archaeological resources (i.e. Cemetery)                                      | 11%                            |
| Local Access              | ▪ Will provide local access to properties adjacent to the Hamilton Road
 ▪ Will minimize impacts to emergency response routes                                                    | 9%                             |
### Evaluation Criteria

**What Represents the Best Improvement Plan**

- **Commercial and Industrial**
  - Will minimize overall effects on local economy
  - Will minimize overall effects on access or travel time to travelling public

- **Constructability**
  - Will use conventional construction techniques that have long-term stability
  - Will have favourable geotechnical and foundation conditions
  - Will be constructed with minimal impact to traffic

- **Cost**
  - Will minimize the total cost, including construction, utility relocation and property

<table>
<thead>
<tr>
<th>Evaluation Criteria</th>
<th>What Represents the Best Improvement Plan</th>
<th>Relative Importance of Criteria</th>
</tr>
</thead>
</table>
| Commercial and Industrial | Will minimize overall effects on local economy  
Will minimize overall effects on access or travel time to travelling public | 4% |
| Constructability | Will use conventional construction techniques that have long-term stability  
Will have favourable geotechnical and foundation conditions  
Will be constructed with minimal impact to traffic | 4% |
| Cost | Will minimize the total cost, including construction, utility relocation and property | 5% |
| | | 100 % |

### 3.3 COMPARATIVE ANALYSIS OF EACH ALTERNATIVE

In order to evaluate each alternative, a comparative analysis of the alternatives was completed for each individual evaluation criterion. With the project implementation phasing recommending that the intersection improvements be completed in the short term, and the corridor widening being completed in the long term as separate construction projects, each phase was evaluated separately.

For the second Public Information Centre held in June 2011, both the corridor widening and the intersection improvement alternatives were developed in more detail to be able to more accurately determine the benefits and impacts of each alternative.

Criterion values were determined for each alternative by basing them on quantitative measures. Values that could not be measured were given a subjective value by the Study Team based on how well each alternative was judged to satisfy the evaluation criteria. The values were used to determine a score for each criterion for each alternative.

### 3.3.1 Corridor Alternatives

The corridor alternatives that were compared include:

Alternative 1 – Maintain the existing two lanes in each direction (do nothing).

Alternative 2 – Widen Hamilton Road to four lanes (two eastbound and two westbound).
Following the Evaluation Criteria outlined in Section 3.2, the two corridor alternatives were compared as follows:

3.3.1.1 Safety

Alternative 2 will increase safety by providing additional capacity for the traffic growth, and reduce the potential for collisions which can occur under an exceeded level of service.

3.3.1.2 Lane Configuration

Both alternatives will provide high overall design standards consistent with City of London Design Standards, Geometric Design Standards for Ontario Highways, and the Geometric Design Guide for Canadian Roads (TAC).

3.3.1.3 Operations

Alternative 2 will increase the capacity of the roadway to accommodate the growing traffic volumes.

3.3.1.4 Property Requirements

Alternative 2 will require property from nearly all adjacent land owners. Alternative 1 does not impact any of the existing properties.

3.3.1.5 Natural Environment

Alternative 1 has no impact to vegetation adjacent to the roadway. Alternative 2 has very minor impact to trees which can be mitigated during design and construction.

3.3.1.6 Cultural Environment

The most significant cultural heritage site identified in the study area is the Bostwick Cemetery, east of Venture Gate. Alternative 2 has been developed to avoid impacting the cemetery; however, there is always a minute chance to encounter or disturb something while working adjacent to the site. Alternative 1 requires no construction adjacent to the cemetery.

3.3.1.7 Local Access

All existing accesses to Hamilton Road will be maintained in both alternatives, though some access will be restricted to right-in/right-out movements. Emergency response routes will be improved slightly with the additional through lanes in Alternative 2.
3.3.1.8 Commercial and Industrial

The impacts to access/travel time and the economy can be directly related to the level of service of the road. The level of service of Alternative 2 will be much greater than Alternative 1.

3.3.1.9 Constructability

The ease of constructability is based upon the number of staging issues, amount of traffic management, number of unique features, etc. Alternative 2 will require single lane staging while the widening is being constructed. Delays to traffic are expected during construction. Alternative 1 proposes to maintain existing conditions, so no staging or construction is required.

3.3.1.10 Cost

The total cost of the project includes construction, utility relocation and property costs. Alternative 2 will have the higher construction cost over Alternative 1, as it costs no money to construct Alternative 1.

3.3.1.11 Scoring

To evaluate each of the corridor alternatives, a comparison was completed between the alternatives as they related to the evaluation criteria noted in Table 3.2. The goal of this comparison was to gain information on each corridor alternative to assist in the evaluation of the configurations, and ultimately in the determination of the Preferred Plan. The alternatives were given a score ranging from 10 (representing the most preferred alternative for the criterion) though 1 (the least preferred alternative for the criterion). This score was then weighed against the importance of the criteria as determined in Table 3.2 and assigned a total score out of 100% for comparison.

Table 3.3 summarizes the results of the comparison. A copy of the analysis is included in Appendix 4.4 with the PIC #2 material.

<table>
<thead>
<tr>
<th>Evaluation Criteria</th>
<th>Criteria Weighting</th>
<th>Alternative 1 Do Nothing</th>
<th>Alternative 2 Widen to 4 Lanes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safety</td>
<td>25%</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>Lane Configuration</td>
<td>16%</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>Operations</td>
<td>17%</td>
<td>1</td>
<td>10</td>
</tr>
</tbody>
</table>
Based on the comparative results between the two alternatives, it was determined that Alternative 2 – Widen to 4 Lanes was the preferred alternative for the corridor improvements.

### 3.3.2 Commissioners Road/ Old Victoria Road Intersection Alternatives

The intersection alternatives that were compared include:

- **Alternative 1** – Maintain the existing intersection configuration and widen Hamilton Road/Commissioners Road to 4 lanes. Introduce left turn lanes on all four legs, and a right turn lane on the north and east legs.

- **Alternative 2** – Reconfigure the intersection as a two lane roundabout.

- **Alternative 3** – Realign the north and south intersection approaches to improve geometric conditions, maintain traffic signal control and widen Hamilton Road/Commissioners Road to 4 lanes. Introduce left turn lanes on all four legs, and right turn lane on the north and east legs.

Following the Evaluation Criteria outlined in Section 3.2, the three intersection alternatives were compared as follows:
3.3.2.1 Safety

Alternative 3 improves the skew angle of the intersection and improves visibility over Alternative 1. The roundabout in Alternative 2 will increase the safety over Alternatives 1 and 3 by lowering the speed through the intersection, and by reducing the severity of potential collisions. The majority of recorded collisions at this intersection have been "rear end" type collisions, which would be greatly reduced with the elimination of the current stop condition at the signals, along with the improved sightline visibility of the approaches.

3.3.2.2 Lane Configuration

The skew of the intersection in Alternative 1 is slightly less than ideal, but is deemed to be tolerable. The skew in Alternative 3 is brought up to standard, and the existing horizontal curve radius on Old Victoria Rd is maintained. Alternative 2 is designed to the regionally accepted roundabout guidelines (Roundabout Design Guidelines, Ourston Roundabout Engineering, Inc. 2001); however, no formal provincial or federal roundabout design standards have been adopted at this time. Once available, any new standards will be reviewed with the recommended plan during detailed design. In addition, Alternative 2 will maintain the horizontal radius on Old Victoria.

3.3.2.3 Operations

Alternatives 1 and 3 have the same capacity as a signalized intersection with improved auxiliary lanes. The anticipated level of service for the signalized intersection in 2020 is ‘D’, which indicated traffic delays of between 35 and 55 seconds per vehicle. Alternative 2 has a greater capacity and level of service than the other two alternatives and will operate at a level of service ‘A’, with anticipated delays of less than 10 seconds per vehicle.

3.3.2.4 Property Requirements

Alternative 1 uses the least amount of property and affects 1 land owner. Alternative 2 affects the greatest amount of property and affects 2 land owners. Alternative 3 requires approximately 30% of the land compared to Alternative 2, and affects 1 land owner.

3.3.2.5 Natural Environment

The natural environment at this location consists mainly of a regulation limit of a wetland in the southwest quadrant. Alternative 1 has the least impact to the wetland where Alternative 2 has the most impact. Alternative 3 is between Alternative 1 and Alternative 2.
3.3.2.6 Cultural Environment

No significant impacts are anticipated with any of the alternatives to an archaeological resource or the adjacent institutional properties. Therefore, all alternatives have been scored equally.

3.3.2.7 Local Access

Alternatives 1 and 3 have no change to the local accesses. Alternative 2 will maintain the existing entrances and has the potential to improve the entrance at the church on the northeast quadrant by relocating the entrance and separating the combined entrance located at the west end of the property.

3.3.2.8 Commercial and Industrial

Alternative 1 and 3 are equal as the traffic signal timing will be the same. Alternative 2 will improve the level of service of the intersection by removing the wait time of a signalized intersection.

3.3.2.9 Constructability

Alternative 1 is the most preferred as it would be the easiest to construct. Alternative 3 would increase the construction difficulty as it requires realignment of old Victoria road. Alternative 2 is the most complex as the staging to maintain traffic and construction the roundabout will be complex, or the intersection would have to be closed during construction.

3.3.2.10 Cost

Alternative 1 has the lowest comparative construction cost as it is most similar to existing conditions. Alternative 3 has an increased cost over Alternative 1 due to the realignment of Old Victoria Road. Alternative 2 is the most expensive alternative.

3.3.2.11 Scoring

To evaluate each of the intersection alternatives, a comparison was completed between the alternatives as they related to the evaluation criteria noted in Table 3.2. The goal of this comparison was to gain information on each intersection alternative to assist in the evaluation of the configurations, and ultimately in the determination of the Preferred Plan. The alternatives were given a score ranging from 10 (representing the most preferred alternative for the criterion) through 1 (the least preferred alternative for the criterion). This score was then weighed against the importance of the criteria as determined in Table 3.2 and assigned a total score out of 100% for comparison.
Table 3.4 summarizes the results of the comparison. A copy of the analysis is included in Appendix 4.4 with the PIC #2 material.

**Table 3.4: Evaluation of Intersection Alternatives**

<table>
<thead>
<tr>
<th>Evaluation Criteria</th>
<th>Criteria Weighting</th>
<th>Alternative 1 Existing Alignment</th>
<th>Alternative 2 Roundabout</th>
<th>Alternative 3 Improved Alignment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safety</td>
<td>25%</td>
<td>4</td>
<td>10</td>
<td>7</td>
</tr>
<tr>
<td>Lane Configuration</td>
<td>16%</td>
<td>7</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>Operations</td>
<td>17%</td>
<td>7</td>
<td>10</td>
<td>7</td>
</tr>
<tr>
<td>Property Requirements</td>
<td>6%</td>
<td>10</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>Natural Environment</td>
<td>3%</td>
<td>10</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Cultural Environment</td>
<td>11%</td>
<td>7</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>Local Access</td>
<td>9%</td>
<td>7</td>
<td>10</td>
<td>7</td>
</tr>
<tr>
<td>Commercial and Industrial</td>
<td>4%</td>
<td>7</td>
<td>10</td>
<td>7</td>
</tr>
<tr>
<td>Constructability</td>
<td>4%</td>
<td>10</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Cost</td>
<td>5%</td>
<td>10</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>100%</strong></td>
<td><strong>68%</strong></td>
<td><strong>77%</strong></td>
<td><strong>70%</strong></td>
</tr>
</tbody>
</table>

Based on the comparative results between the three alternatives, it was determined that Alternative 2 – Roundabout was the preferred alternative for the intersection improvements.
3.4 PREFERRED ALTERNATIVE AND RECOMMENDED PLAN

The preferred alternative was developed based on the combination of the intersection preferred plan and the corridor preferred plan, and presented to the public at the second Public Information Centre (PIC). The preferred alternative received positive comments and is being brought forward as the Recommended Plan to proceed into detailed design, followed by construction.

The recommended plan has been included in Appendix 3.1 and incorporates the following roadway improvements:

3.4.1 Roadway Widening

The recommended plan includes widening Hamilton Road from two to four lanes about the existing centreline. The roundabout proposed for the intersection of Hamilton Road/Old Victoria Road/Commissioners Road will be constructed to ultimately accommodate two lanes.

3.4.2 Horizontal Alignment

The recommended plan proposes to maintain the existing Hamilton Road horizontal alignment in general. Some alignment variation is required to mitigate impacts to the Bostwick Cemetery.

The location of the roundabout at the intersection of Hamilton Road / Old Victoria Road / Commissioners Road is to the west of the existing intersection. The approaches on Old Victoria Road, and to a lesser extent Hamilton Road, have been adjusted.

The existing/proposed horizontal alignment meets the requirements for a design speed of 80 km/h. Approaches to the roundabout are be designed to encourage the speed reduction of vehicles entering the roundabout.

3.4.3 Vertical Alignment

The recommended plan proposes to maintain the existing vertical alignment.

The existing/proposed vertical alignment meets the requirements for a design speed of 80 km/h. Approaches to the roundabout are be designed to encourage the speed reduction of vehicles entering the roundabout to a safe operating speed (40 km/h).

3.4.4 Cross Section

The recommended plan includes widening Hamilton Road from two to four lanes, include curb and gutter, sidewalks, and a boulevard to accommodate utilities and luminaries. The sample cross sections are included in Appendix 3.1 with the recommended plan.
The roundabout will include curb and gutter, sidewalks, and a boulevard to accommodate utilities and luminaires. The roundabout may be constructed with a single lane, or to accommodate the ultimate two lanes of traffic on all approaches, depending on the traffic volumes at the time of construction. Based on the original traffic growth expectations at the time of the analysis (2010), it was anticipated that a single lane roundabout will operate at a level of service ‘F’ beyond the year 2020. Updated traffic volumes were recorded in September 2011 that indicated a less aggressive growth of traffic in the area than originally projected. Using the new growth percentages and a comparative analysis, a single lane entry roundabout is expected to have sufficient capacity to beyond 2025. An updated traffic study and capacity analysis will be made during detailed design by reviewing the traffic volumes, patterns and projections at the time.

3.4.5 Stormwater Management

The recommended drainage design is to route stormwater to the Old Victoria SWMF 1. In the event that the roundabout is constructed in advance of this pond, interim measures may be utilized if the small amount of additional runoff cannot be tolerated within the existing ditches for quality and quantity control.

The implementation schedule for the Phase 1 intersection improvements has shifted to 2016 from 2013 as originally noted in the SWM Strategy Memorandum. This schedule lines up with the proposed Old Victoria SWMF 1 schedule to be operational in 2016 as well. Should the Old Victoria SWMF 1 be delayed, short term interim measures would be the preferred strategy, and include flat bottom ditches, rock check dams, etc. to improve the quality of the runoff. These interim measures would fit with the surrounding rural nature of the area, until such time as the Old Victoria Area Plan is developed, and the area becomes more urbanized with additional traffic volumes and services.

Culvert extensions/replacements will be required at the two concrete box culverts that cross Hamilton Road from the Industrial Park SWMF ponds. The condition of the culverts will be assessed at the time of the road widening to determine if extensions or replacement will be warranted. Both culverts support fish habitat, and an updated fisheries survey and assessment will be required during detailed design to determine impacts to fish species and seasonal timing restrictions.

Final stormwater management requirements will be determined during detail design, depending on the status of which area stormwater management facilities are capable of receiving the flows, and the status of the development in the area.

3.4.6 Turning Lanes

The intersections along Hamilton Road at Old Victoria Road/Commissioners Road, Venture Gate, and Veterans Memorial Parkway were analyzed as part of the preferred plan.
The turning lanes at Hamilton Road / Old Victoria Road / Commissioners Road were reviewed as part of the alternative analysis, and a roundabout is recommended for this location.

Based on the recommendations of the *Innovation Park Phase 3-4 Traffic Impact Study (2006)*, the intersection at Venture Gate is proposed to have dual left turn lanes with traffic signals at the time of the four lane widening. The timing and need for these improvements will be determined during detailed design, and will be based on the actual development of Innovation Park at the time of the widening. The right turn lane for eastbound traffic will be maintained.

Similarly, the turning lanes at Veterans Memorial Parkway for eastbound traffic are to include dual left turn lanes and a right turn lane, and for westbound traffic, a single left turn lane at the time of the widening to four lanes on Hamilton Road. The timing of these improvements will be determined based on the development of Innovation Park, future traffic growth, and the Veterans Memorial Parkway Interchange Class EA and Application to Amend the Official Plan.

### 3.7 Entrances

All existing entrances within the corridor would be maintained with the recommended plan. Entrances will be regraded to match the proposed road widening, and may require minor relocation to accommodate the traffic signals at Venture Gate.

Entrances at the proposed roundabout and throughout the project may be restricted to right-in right-out movements. Entrance relocations, joint use entrances, and gaps/drops in the median will be further reviewed during detailed design along with incorporate updated traffic volumes and movements.

### 3.8 Utilities

New storm sewer and curb and gutter is being recommended through the study area. The location of the proposed storm sewer was examined during preliminary design and is included in the recommended plan.

Existing infrastructure includes a 600 mm diameter watermain running parallel to Hamilton Road in the south boulevard, and a 250 mm diameter watermain located on the east shoulder of Hamilton Road, north of Commissioners Road. It is proposed to maintain the watermains, though localized relocation will likely be required to accommodate the improvements.

In addition, overhead London Hydro, and underground Bell and Union Gas are present throughout the study area. The overhead London Hydro line will require relocation following the property acquisition, but prior to construction. The underground Bell and Union Gas lines will be maintained with localized modification/relocation in order to accommodate the improvements.
3.4.9 Property Requirements

The existing right-of-way varies in width throughout the study limits, and is generally 32 metres in width along the Hamilton Road corridor. Additional property will be required throughout the limits in order to implement the recommended plan. The proposed ultimate property requirements are included on the recommended plan. The extent of the property acquisition required for the recommended plan will be somewhat dependent upon the development status of the adjacent lands. There may be opportunity to reduce the amount of property required on an interim basis (i.e. phasing in auxiliary turning lanes as required), and this will be examined during detailed design.

3.4.10 Traffic Signals

The intersection of Hamilton Road / Old Victoria Road / Commissioners Road will have the existing traffic signals replaced with a roundabout.

When the widening of Hamilton Road to four lanes takes place, traffic signals warrants will be reviewed for the intersection at Venture Gate.

The traffic signals at Veterans Memorial Parkway will continue to meet warrant needs and will be maintained until such time that an interchange is constructed.

3.4.11 Illumination

Full illumination will be provided for the roundabout and for the corridor as the improvements are phased in.

3.4.12 Landscaping

Trees impacted by the improvements should be replaced where possible. The potential for streetscape vegetation is to be examined during detailed design. In addition, the centre of the roundabout will be landscaped.

3.4.13 Speed Limit

The existing speed limit varies within the study limits. The posted speed is 80 km/h between Commissioners Road and Veterans Memorial Parkway, 70 km/h on Old Victoria Road, 60 km/h on Hamilton Road north of Commissioners Road, and 50 km/h on Venture Gate.

The existing speed limits are proposed to be maintained.
3.4.14 Roadside Safety

The clear zone is the distance from the edge of the traveled portion of the roadway to an unprotected hazard (i.e. building, utility pole, etc.). Hazards within the clearzone will be either removed or relocated if possible. Hazards that cannot be relocated will be reviewed in detail design for protection warrants (i.e. guiderail).

3.5 OPINION OF PROBABLE COSTS

Table 3.5 summarizes the opinion of probable costs for the recommended plan (in phases). The costs assume that a two lane roundabout is constructed in Phase 1.
TABLE 3.5: OPINION OF PROBABLE COSTS FOR FUTURE WORKS

<table>
<thead>
<tr>
<th>Phase</th>
<th>Phase 1 Hamilton Road / Old Victoria Road / Commissioners Road Roundabout</th>
<th>Phase 2 Hamilton Road Corridor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering (Design and Contract Administration)</td>
<td>$0.67M</td>
<td>$0.65M</td>
</tr>
<tr>
<td>Utilities</td>
<td>$0.15M</td>
<td>$0.25M</td>
</tr>
<tr>
<td>Property</td>
<td>$0.82M</td>
<td>$0.69M</td>
</tr>
<tr>
<td>Watermain</td>
<td>$0.30M</td>
<td>-</td>
</tr>
<tr>
<td>Construction</td>
<td>$3.30M</td>
<td>$3.31M</td>
</tr>
<tr>
<td>Contingency</td>
<td>$0.67M</td>
<td>$0.66M</td>
</tr>
<tr>
<td>Total</td>
<td>$5.91M</td>
<td>$5.56M</td>
</tr>
</tbody>
</table>

Note: Cost shown are in 2012 CAD dollars and have not accounted for inflation.

3.6 SUMMARY OF ENVIRONMENTAL EFFECTS, PROPOSED MITIGATION, COMMITMENTS TO FUTURE WORK

Table 3.6 summarizes the potential environmental effects of the project, mitigation and commitments to future work. During detail design the recommended plan, environmental mitigation requirements will be refined as necessary and included in the contract documents (as applicable).

TABLE 3.6: ENVIRONMENTAL EFFECTS, PROPOSED MITIGATION AND COMMITMENTS TO FUTURE WORKS

<table>
<thead>
<tr>
<th>ID #</th>
<th>Issue/Concerns and Potential Effects</th>
<th>Source</th>
<th>ID #</th>
<th>Mitigation or Commitment to Future Work</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Erosion and Sediment Control Potential for sediment laden runoff to impact downstream resources (i.e., Fekete Drain) during construction</td>
<td>City MNR</td>
<td>1.1</td>
<td>Ensure Contractor preparation of erosion and sediment control plan to avoid or mitigate impacts to downstream resources.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1.2</td>
<td>Contract package to include techniques for erosion prevention and sedimentation control such as temporary flow checks, straw bale flow checks, silt fence barriers and use of erosion control blankets or rip-rap on steep slopes.</td>
</tr>
<tr>
<td>ID #</td>
<td>Issue/Concerns and Potential Effects</td>
<td>Source</td>
<td>ID #</td>
<td>Mitigation or Commitment to Future Work</td>
</tr>
<tr>
<td>------</td>
<td>---------------------------------------------------------------------------</td>
<td>----------</td>
<td>------</td>
<td>-------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>2</td>
<td>Vegetation Removal</td>
<td>City</td>
<td>2.1</td>
<td>Restrict vegetation removal to future right-of-way</td>
</tr>
<tr>
<td></td>
<td>Loss of vegetation due to construction</td>
<td></td>
<td>2.2</td>
<td>Reseed/sod disturbed earth areas and/or apply slope protection to new earth embankments and areas where grading is required</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2.3</td>
<td>Review opportunities for planting of hedges and/or trees to replace impacted vegetation during detail design</td>
</tr>
<tr>
<td>3</td>
<td>Surface Water</td>
<td>City</td>
<td>3.1</td>
<td>Drainage design to be carried out during detail design to provide appropriate drainage capacity either in an ultimate capacity or an interim capacity</td>
</tr>
<tr>
<td></td>
<td>Potential for increased pollutant to enter receiving watercourses</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Increased downstream run-off from recommended improvements</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Groundwater</td>
<td>City</td>
<td>4.1</td>
<td>Proposed improvements include drainage and curb and gutter that will benefit surface drainage after construction</td>
</tr>
<tr>
<td></td>
<td>Potential impacts to groundwater quality and quantity</td>
<td></td>
<td>4.2</td>
<td>Care to be exercised in avoiding fuel, lubricants and fluid spills resulting from construction activities</td>
</tr>
<tr>
<td>5</td>
<td>Residential</td>
<td>City</td>
<td>5.1</td>
<td>Deal with property issues through negotiations with individual property owners and standard City of London procedures</td>
</tr>
<tr>
<td></td>
<td>Partial property requirements, change to access, indirect impacts, etc.</td>
<td>Public</td>
<td>5.2</td>
<td>Private entrances will be restored as necessary</td>
</tr>
<tr>
<td>6</td>
<td>Archaeology</td>
<td>City</td>
<td>6.1</td>
<td>If the Contractor’s operations expose any items which may indicate an archaeological find or presence of built heritage structures, work in the area will be suspended immediately and the Ministry of Tourism, Culture &amp; Sport will be contacted</td>
</tr>
<tr>
<td></td>
<td>Potential impacts to archaeological resources</td>
<td>MTC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ID #</td>
<td>Issue/Concerns and Potential Effects</td>
<td>Source</td>
<td>ID #</td>
<td>Mitigation or Commitment to Future Work</td>
</tr>
<tr>
<td>------</td>
<td>-------------------------------------</td>
<td>--------</td>
<td>------</td>
<td>-----------------------------------------</td>
</tr>
</tbody>
</table>
| 7    | Construction Dust, Air Quality and Noise  
      Potential noise increase during construction  
      Dust associated with construction throughout study area | City MOE | 7.1  | Include standard construction noise mitigation in contract package |
|      |                                     |        | 7.2  | Complaints will be investigated in accordance with City of London/MOE Noise Protocol |
|      |                                     |        | 7.3  | Water and/or calcium flakes will be used as a dust suppressant during construction |
| 8    | Emergency Access  
      Temporary or permanent change to access | City EMS | 8.1  | Notify Police, Fire Department and Ambulance services at the start of detail design to discuss construction staging and the start of construction, etc., in order to minimize delay in emergency response times during and after construction |
| 9    | Private Property  
      Recommended Plan requires purchase of private property | City Public | 9.1  | Deal with property purchase in accordance with standard City of London procedure |
| 10   | Utilities  
      Potential impacts to existing utilities | City Bell  
      London Hydro  
      Union Gas | 10.1 | Contact affected utilities at start of detail design to confirm details of relocations required |
| 11   | Potential Contamination | City | 11.1 | Preliminary site screenings to be carried out on all properties to be purchased for City ROW |

Note: The future work described in Table 3.6 should be carried out subject to updating property ownership information and environmental requirements.
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4.0 Stakeholder Consultation

4.1 REVIEW AGENCIES

The planning and design process of the Municipal Class EA sets out the general form and timing of review agency notification and public consultation. A public/review agency consultation program was initiated for this study in accordance with the requirements of the Class EA.

Review Agencies were contacted as part of the Class EA process. Review agencies are considered government agencies that represent the policy positions of their respective departments, ministries, authorities or agencies. These include federal, provincial, and municipal agencies whose interest may result in regulatory or statutory approval. A copy of the review agency notification letter and the responses received are presented in Appendix 4.1 and were circulated to:

Federal Authorities
- Transport Canada
- Canadian Environmental Assessment Agency
- Department of Fisheries and Oceans
- Indian and Northern Affairs Canada

Provincial Authorities
- Ministry of the Environment;
- Ministry of Transportation
- Ministry of Agriculture, Food and Rural Affairs
- Ministry of Tourism, Culture and Sport
- Ministry of Municipal Affairs and Housing
- Ministry of Natural Resources
- Ministry of Aboriginal Affairs
- Ontario Realty Corporation
- Ontario Ministry of Energy and Infrastructure

First Nations/Aboriginal Groups
- Chiefs of Ontario
- Southern First Nations Secretariat
- Association of Iroquois and Allied Indians
- Chippewas of the Thames
- Onedia Nation of the Thames
- Munsee-Delaware Nation
- Moravian of the Thames
- Caldwell First Nation
Conservation Authorities

- Upper Thames River Conservation Authority.

Municipal Authorities

- City of London – Planning, Environmental and Engineering Services
- City of London – Customer Relations and Compliance
- City of London – Planning and Development / Development Approvals
- City of London – Planning and Development / Parks Planning;
- City of London – Roads and Transportation
- City of London – Wastewater and Drainage Engineering
- City of London – City Clerk’s Office
- City of London – Transportation and Roadside Operations
- City of London – Urban Forestry
- London Transit Commission
- County of Middlesex – Transportation and Emergency Services
- Middlesex London Health Unit

School Boards

- Thames Valley District School Board
- London District Catholic School Board

Utilities

- London Hydro
- Union Gas
- Bell Canada

No major comments or concerns were identified by the Review Agencies contacted during the study. Notification letters inviting agency representatives to attend the Public Information Centres (PICs) were distributed prior to each PIC. No agency representatives attended the PICs.

4.2 PUBLIC

This stakeholder group includes individual members of the public who may potentially be affected by the project. Included are homeowners, individual citizens who have a general interest in the project, special interest groups, community representatives, and the general public. Homeowners in the study area were contacted by direct letter. A copy of the homeowner letter is provided in Appendix 4.2.
4.3 PUBLIC INFORMATION CENTRES

Public Information Centres (PICs) are an effective means of communicating project details with interested stakeholders and the general public. Two PICs were held for the Hamilton Road Widening Project. Stakeholders were informed of the PICs through letter mail and newspaper notices.

The PICs were held as a drop-in open house format, with the Study Team members (City of London and Stantec staff) available to discuss the project and alternatives. Study area maps, design alternatives and poster boards were used to illustrate the project.

Attendees were asked to sign an attendance sheet, and were provided with a handout describing the project. A comment form which could be completed and submitted at the PIC or at a later date was also provided to attendees.

Copies of the notification letters; newspaper notices; display materials presented at the PICs; handouts; and comments sheet provided to attendees of the PICs can be found in Appendix 4.3 and Appendix 4.4.

4.3.1 Public Information Centre 1

The first Public Information Centre was held to provide the public with an opportunity to review and provide comments on the study purpose and the need for the proposed improvements, background information collected for the study and evaluation criteria; and the conceptual design alternatives under consideration. The PIC was held on Wednesday, March 24, 2010 at the Fairmont Public School in the City of London.

A total of ten (10) attendees signed the visitor register at the PIC. No written comments were received from the public following the PIC.

4.3.2 Public Information Centre 2

The purpose of the second Public Information Centre (PIC) 2 was to present the analysis of the alternatives presented at PIC 1; and to seek comments on the Preferred Plan for the widening of Hamilton Road and associated municipal infrastructure work. The second PIC was held on Wednesday, June 1, 2011 at the Fairmont Public School in the City of London.

A total of eight (8) attendees signed the visitor register at the PIC. No written comments were received from the public following the PIC.
4.4 COMMENTS AND RESPONSES

Comments received from external agency representatives, businesses and stakeholders were received in different forms including: letter mail, completed comment forms, emails, and telephone calls. Comments were filed and addressed individually by City and Stantec staff. A copy of the display materials presented at the Public Information Centres (PICs) was provided to those who requested them. All correspondence received following letter mailings, PICs or through general project interest is included in Appendix 4.5. No comments were received from the general public during the PICs. Table 4.1 includes a summary of the comments received from External Agencies and responses provided by the project team.
**TABLE 4.1: CONSULTATION PROGRAM COMMENT AND RESPONSE SUMMARY**

<table>
<thead>
<tr>
<th>Contact Information</th>
<th>Issue/Concern</th>
<th>Action taken by Project Team</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental Assistant Transport Canada Environment and Engineering 4900 Yonge Street Suite 300 North York ON M2N 6A5</td>
<td>▪ Emailed (March 30, 2010) to advise that approval under the Navigable Waters Protection Act (NWPA) will be required if work is required at or over navigable waters and that an approval under the Railway Safety Act (RSA) would be required for work in the vicinity of railways ▪ These federal approvals would trigger the requirement for a federal environmental assessment – it is recommended that CEAA requirements be incorporated into the current study</td>
<td>▪ Notified of Study Commencement and Public Information Centre (PIC) 1 through direct mail (March 8, 2010) ▪ Notified of Public Information Centre (PIC) 2 through direct mail (May 17, 2011)</td>
</tr>
<tr>
<td>Area Supervisor/Officer in Charge Ministry of Natural Resources Aylmer District 615 John St. N. London ON N5H 2S8</td>
<td>▪ Emailed (May 28, 2010) to request a copy of the materials presented at the first Public Information Centre (PIC)</td>
<td>▪ Notified of Study Commencement and Public Information Centre (PIC) 1 through direct mail (March 8, 2010) ▪ Contact information updated in mailing list and follow up Study Commencement and PIC 1 notification letter sent to correct address (May 4, 2010) ▪ Emailed (May 30, 2010) to provide an electronic copy of the materials presented at PIC 1 ▪ Notified of Public Information Centre (PIC) 2 through direct mail (May 17, 2011)</td>
</tr>
</tbody>
</table>
### Contact Information

<table>
<thead>
<tr>
<th>Senior Housing/ Planning Advisor</th>
<th>Ministry of Municipal Affairs and Housing Municipal Services Division Western Municipal Services Office 659 Exeter Road 2nd Floor London ON N6E 1L3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community Planning and Development</td>
<td></td>
</tr>
<tr>
<td>Heritage Planner</td>
<td>Ministry of Tourism and Culture Culture Services Unit 400 University Avenue 4th Floor Toronto ON M7A 2R9</td>
</tr>
<tr>
<td>Director</td>
<td>Development Planning Planning and Development/ Development Approvals Corporation of the City of London Planning Division 300 Dufferin Avenue 6th Floor PO Box 5035 London ON N6A 4L9 Manager</td>
</tr>
</tbody>
</table>

### Issue/Concern

- Comments provided by direct mail (March 15, 2010) to advise that current policies (i.e. land use, public health and safety) outlined in the federal Planning Act (1990) and Provincial Policy Statement (2005) should be considered as part of the study.
- Emailed (July 27, 2010) to advise that the study area is considered to have archaeological potential based on provincial archaeological potential criteria, and that an archaeological assessment will need to be completed by a licensed archaeologist under the Ontario Heritage Act as part of this study.
- Comments provided by email (March 16, 2010) to inquire as to whether the Planning Department had provided input prior to submission of the work plan and subsequent approval by the City of London.
- Requested a copy of the final terms of reference/work plan for the project.

### Action taken by Project Team

- Notified of Study Commencement and Public Information Centre (PIC) 1 through direct mail (March 8, 2010).
- Notified of Study Commencement and Public Information Centre (PIC) 1 through direct mail (March 8, 2010).
- Notified of Study Commencement and Public Information Centre (PIC) 1 through direct mail (March 8, 2010).
- Notified of Public Information Centre (PIC) 2 through direct mail (May 17, 2011).
- Notified of Public Information Centre (PIC) 2 through direct mail (May 17, 2011).
- Notified of Public Information Centre (PIC) 2 through direct mail (May 17, 2011).
- Notified of Public Information Centre (PIC) 2 through direct mail (May 17, 2011).
<table>
<thead>
<tr>
<th>Contact Information</th>
<th>Issue/Concern</th>
<th>Action taken by Project Team</th>
</tr>
</thead>
</table>
| London Transit Commission                  | ▪ Comments provided by fax (March 30, 2010) to identify an interest in the study and the potential for a future transit route in the study area  
▪ Pedestrian infrastructure (i.e. sidewalks, crossings) and connections within the study area (i.e. Old Victoria Area) should be considered as part of the study | ▪ Notified of Study Commencement and Public Information Centre (PIC) 1 through direct mail (March 8, 2010)  
▪ Notified of Public Information Centre (PIC) 2 through direct mail (May 17, 2011) |
| Director of Transportation & Planning      |                                                                                                                                                                                                              |                                                                                              |
| 450 Highbury Avenue                         |                                                                                                                                                                                                              |                                                                                              |
| London ON  N5W 5L2                          |                                                                                                                                                                                                              |                                                                                              |
| Senior Transit Planner                       |                                                                                                                                                                                                              |                                                                                              |
| Land Use Regulations Officer                | ▪ Letter (March 23, 2010) to request continued consultation during the study  
▪ Comments provided by direct mail (June 1, 2011) to advise that portions of the study area are located in a flood plain, and that any alterations to the watercourse and/or additional crossings will be subject to the approval of the UTRCA  
▪ Noted that the Upper Thames River watershed is part of the Thames-Sydenham Source Protection Region (TSSPR)  
▪ Indicated that portions of the study area overlap with Highly Vulnerable Aquifers and Significant Groundwater Recharge Areas, as identified in the Upper Thames River Source Protection Area Assessment Report (2010); and provided links to mapping for vulnerable areas  
▪ A Source Protection Plan for the Upper Thames watershed is currently being prepared, and will identify policies to help reduce threats to water quality and quantity within vulnerable areas  
▪ The project team should be aware of and adhere to any current, or changes to current policies within identified vulnerable areas | ▪ Notified of Study Commencement and Public Information Centre (PIC) 1 through direct mail (March 8, 2010)  
▪ Notified of Public Information Centre (PIC) 2 through direct mail (May 17, 2011) |
| Upper Thames River Conservation Authority (UTRCA) |                                                                                                                                                                                                              |                                                                                              |
| 1424 Clarke Road                            |                                                                                                                                                                                                              |                                                                                              |
| London ON  N5V 5B9                          |                                                                                                                                                                                                              |                                                                                              |
| Environmental Regulations Technician         |                                                                                                                                                                                                              |                                                                                              |
## Contact Information

<table>
<thead>
<tr>
<th>Contact Information</th>
<th>Issue/Concern</th>
<th>Action taken by Project Team</th>
</tr>
</thead>
</table>
| Union Gas Ltd.              | • Emailed (March 19, 2010) to advise that Union Gas Ltd. currently does not have any conflicts with the study  
  Mapping Team Lead         | • Notified of Study Commencement and Public Information Centre (PIC) 1 through direct mail (March 8, 2010)  
  109 Commissioners Road    | • Notified of Study Commencement and Public Information Centre (PIC) 2 through direct mail (May 17, 2011)  
  PO Box 5353               | • Letter (by email, March 30, 2010) to provide a copy of as-built plans for the study, noting that the locations of infrastructure identified on the mapping should only be used for information purposes  
  London ON N6A 4P1         | • Identified the existence of a 12” steel high pressure gas main adjacent to the east side of Veterans Memorial Parkway in the study area  
  Construction Projects Team Lead | • Advised that a Union Gas Ltd. should be contacted a minimum of two business days prior to the onset of construction, and a Union Gas representative should be present during extensive excavation activities |
| District Engineering EIT   | • Emailed (March 19, 2010) to advise that Union Gas Ltd. currently does not have any conflicts with the study  
  London/Sarnia             |                                                                                             |
|                             | • Letter (by email, March 30, 2010) to provide a copy of as-built plans for the study, noting that the locations of infrastructure identified on the mapping should only be used for information purposes  
  Construction Projects Team Lead |                                                                                             |

*Emailed (March 19, 2010)* to advise that Union Gas Ltd. currently does not have any conflicts with the study.
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5.0 Next Steps for Project Implementation

5.1 COMPLETION OF CLASS EA

This Environmental Study Report fulfills the Phase 3 and 4 requirements of the Municipal Class EA planning and design process. Phases 1 and 2 were previously addressed as part of the City of London Transportation Master Plan (2004), the results of which have been summarized in this report for the area of Hamilton Road from Commissioners Road/Old Victoria Road to Veterans Memorial Parkway. A Notice of Completion was prepared and published on April 23rd, 2013 to notify stakeholders that this phase of the Class EA has been completed. This document has been placed on the Public Record for a 30 day period for review.

If no Part II Order requests are submitted to the Minister by the completion of the 30-day review period, Phases 1 to 4 of the Class EA planning & design process will have been considered to have been fulfilled and the proponent (City of London) can prepare contract drawings, obtain appropriate approvals, and proceed to tender and construct the project.

The project proponent (City of London) will be required to implement the project in accordance with the ESR including incorporation of all recommended measures included in the ESR to mitigate impacts to the environment.
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6.0 References


Golder Associates. 2010. Stage 1 and 2 Archaeological Assessment: Hamilton Road – Old Victoria Road, Commissioners Road to Veterans Memorial Parkway Formerly Airport Road, City of London, Middlesex County, Ontario. Final Report: April 2010.


