# ENVIRONMENTAL STUDY REPORT

## SEYMOUR STREET

## CLASS ENVIRONMENTAL ASSESSMENT

## AND

## PRELIMINARY DESIGN

December 14, 2012

Prepared for:

NORTH BAY
ONTARIO · CANADA
Just North Enough to be PERFECT

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# ENVIRONMENTAL STUDY REPORT
Seymour Street
Class EA and Preliminary Design

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## EXECUTIVE SUMMARY

The City of North Bay has retained J.L. Richards and Associates Limited and HDR Corporation to undertake a Municipal Class Environmental Assessment and Preliminary design for improvements to Seymour Street between Station Road and Wallace Road.

Following completion of the environmental assessment process, results of the evaluation of alternative solutions and design concepts has permitted preparation of preliminary design drawings which are provided in Appendix A. Following is a summary of the preferred design solutions:

1. Reconstruct and widen Seymour Street to a three lane wide platform by providing one lane in each direction and a two-way left turn centre lane.

2. Provide traffic control signals at the Seymour Street / Commerce Crescent/Venture Crescent intersection and reconfigure the intersection with the recognition that a high proportion of the vehicular volume of the intersection is heavy truck traffic.

3. Provide a pedestrian sidewalk on the north side of Seymour Street between Highway 11/17 and the Commerce Crescent intersection. Although the segment between Highway 11/17 and Station Road is outside of the study limits, planning for a sidewalk in this location should be included in the overall active transportation strategy for Seymour Street.

4. Provide a 600mm diameter trunk watermain on Seymour Street from Wallace Road to Station Road. As part of the same design package, this watermain will also extend from Station Road westward along Cholette Street and connect to the existing 600mm diameter watermain on the east side of the Highway 11/17 right-of-way limit.

The estimate of probable construction cost for the preferred preliminary design is $6,915,790. This estimate includes a 10% engineering allowance and a 30% contingency allowance, but does not include the Harmonized Sales Tax.

## 1.0 INTRODUCTION

The City of North Bay (the City) initiated a Class Environmental Assessment (Class EA) Study in 2010 for the Seymour Street corridor. The study limits on Seymour Street are between Station Road and Wallace Road. The approximate study limits are highlighted in red in Figure 1. The study is intended to identify the preferred alternatives to address transportation needs within the corridor.

This Environmental Assessment (EA) is undertaken and prepared in accordance with the guidelines of the Municipal Engineers Association ***Municipal Class Environmental Assessment,*** June 2000 (Revised 2007 and 2011). The EA is conducted in compliance with a **Schedule "C"** process of the guidelines. This project is best described by project description number 20 in the schedule tables. This description can be summarized as the reconstruction or widening of a road where an additional lane is provided. Based on the 2012 adjusted road project cost limits, a Schedule "C" work plan must be followed where the estimated construction costs are in excess of $2.3 million.

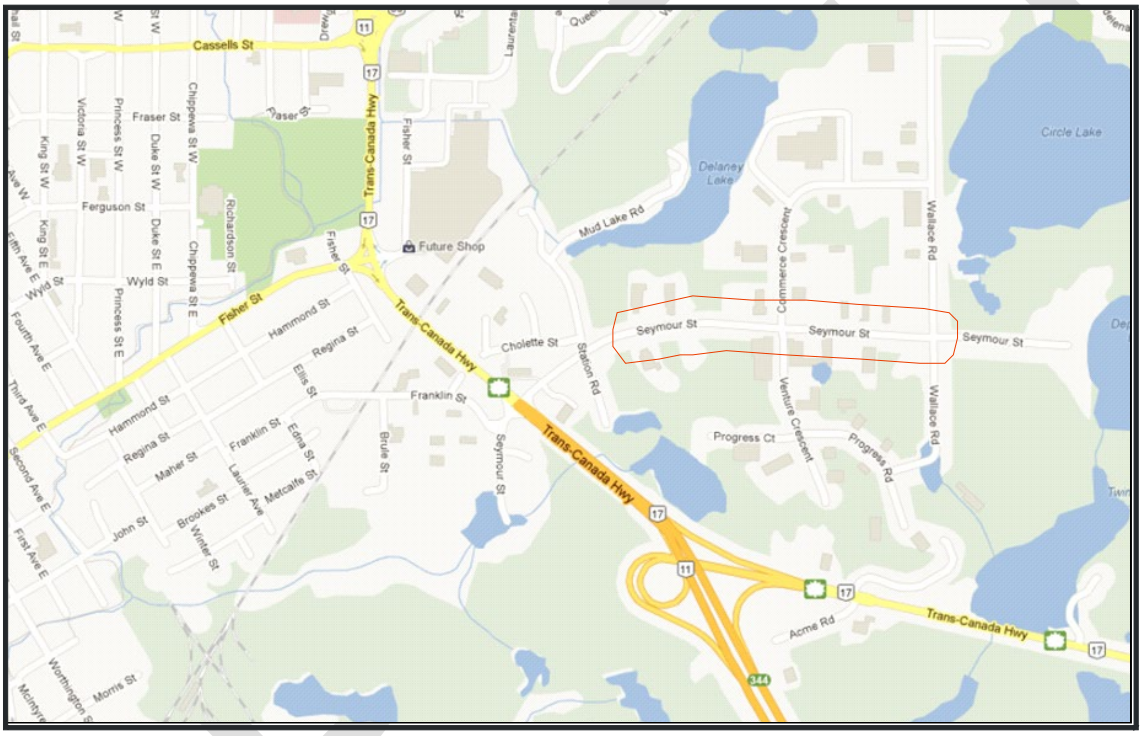


**Figure 1: Seymour Street Class EA Study Limits**

### *1.1 Background*

The existing lane configuration along Seymour Street between Station Road and Wallace Road can be described as a standard two lane section with gravel shoulders. An open ditch system is

the primary method of draining the corridor. The intersections of Station Road, Commerce Crescent / Venture Crescent, and Wallace Road with Seymour Street are two-way stop control.

Seymour Street is four lanes from Highway 11/17 to the start of the study area east of Station Road were it reduces to the two-lane road section described. There are currently no designated pedestrian or cycling facilities along Seymour Street.

Seymour Street is classified as a collector road within the City of North Bay's road network system. The posted speed along this section of Seymour Street is 50 km/h and is consistent with other local and collector roads in North Bay. The land use adjacent to Seymour Street consists mainly of light industrial and commercial land uses.

Businesses typical of Seymour Street include metal fabrication shops, vehicle repair garages, and window and door manufacturing facilities. For this reason there are a significant number of commercial and industrials driveway entrances onto Seymour Street within the study limits and as a result this section of the roadway must accommodate tractor trailers carrying oversized and overweight loads.

### *1.2 Class Environmental Assessment Planning Process*

The *Ontario Environmental Assessment Act* requires Ontario municipalities to complete an EA when undertaking capital works projects. The purpose of the *Ontario Environmental Assessment Act* (EA Act) is to provide for:

> *"…the betterment of the people of the whole or any part of Ontario by providing for the protection, conservation and wise management in Ontario of the environment."*

"Environment" is applied in a broad sense and includes the natural, social, cultural, built and economic environments. It is defined in the EA Act as:

- Air, land or water.
- Plant and animal life, including human life.
- The social, economic and cultural conditions that influence the life of humans, or a community.
- Any building, structure, machine or other device or thing made by humans.
- Any solid, liquid, gas, odour, heat, sound, vibration or radiation resulting directly or indirectly from human activities.
- Any part or combination of the foregoing and the interrelationships between any two or more of them.

The Environmental Assessment (EA) process is a planning tool used to identify the possible adverse effects of proposed infrastructure projects on the environment. Municipalities in Ontario have the benefit of using the Municipal Engineers Association's Class EA process for certain municipal road, water and wastewater projects.

The EA process is characterized by the following five phase planning and design process:

| | |
|---|---|
| **Phase 1** | Problem Identification |
| **Phase 2** | Alternative Solutions |
| **Phase 3** | Alternative Design Concepts for Preferred Solution |
| **Phase 4** | Environmental Study Report (ESR) |
| **Phase 5** | Implementation |

Members of the public and government agencies will have the opportunity to examine the study findings at each Phase of the process.

A Schedule C project requires three mandatory points of contact with the public. The first point of contact was provided by undertaking Public Information Centre 1 which was held at the City of North Bay City Hall on September 10, 2012. This point of contact is described in detail later in this report.

The second point of contact was provided by meeting with stakeholders for the purpose of assisting with the selection of the preferred improvement design. This was undertaken following the first public information centre.

The third mandatory point of contact occurs when the ESR is placed on the public record for a period of at least 30 calendar days. This will require issuing a Notice of Completion of Environmental Study Report in two editions of the North Bay Nugget and providing the location where the report can be viewed. Notice of the ESR will also be provided directly to interested parties, government agencies, adjacent land owners and business operators in the study area.

This notice will advise the public of their rights in regard to requesting a Part II Order and shall clearly state the review period and the date which submissions and/or requests are required to be received by the Minister. Information on the third point of contact is provided later in this report.

The process by which the Class EA study was undertaken to plan municipal infrastructure at the same time as protecting the environment is documented in this Environment Study Report. If no Part II Order requests from the public have been granted by the Minister of the Environment after the completion of the public review period of the ESR, then the City of North Bay is permitted to proceed with the project based on the preferred solution. A chart provided by the Municipal Engineers Association which illustrates this process is provided in Figure 2.

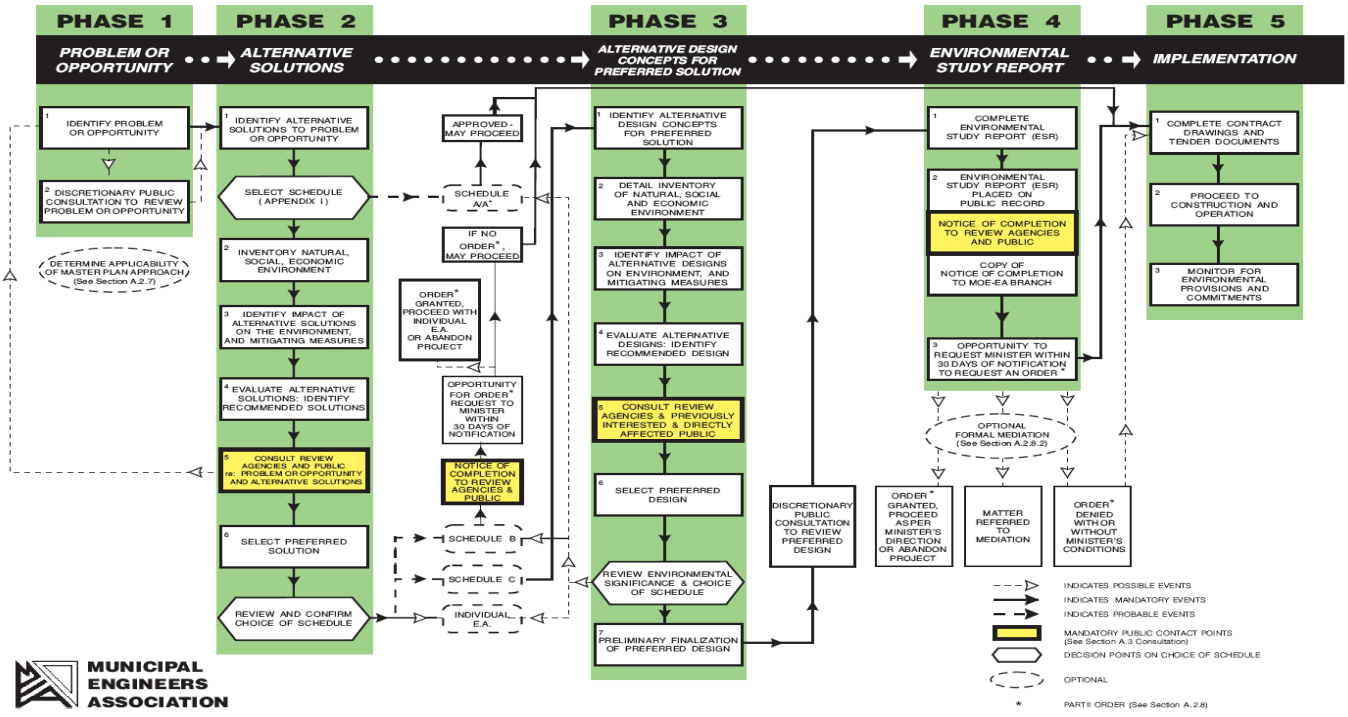


**Figure 2: Municipal Class EA Planning and Design Process**

### *1.3 Project Team*

The project team for this EA included representation from the City of North Bay, and engineering consultants J.L. Richards & Associates Limited and HDR Corporation.

Overall project management for this study was led by City of North Bay Project Managers Ray Marshall from project initiation until October 2012, and then by Adam Lacombe from October 2012 until project completion.

The engineering work was undertaken by the consulting engineering firm of J. L. Richards with overall direction from Project Manager, Les Ranta. The consultant project team provided expertise in their respective areas as follows:

| | |
|---|---|
| **J.L. Richards & Associates Ltd.** | • Transportation Design<br>• Drainage Design |
| **HDR Corporation** | • Transportation and Traffic Engineering<br>• EA Coordination |
| **Great Lakes Environmental Services** | • Natural Environment |
| **Horizon Archaeological** | • Stage 1 Archaeological Assessment |
| **Paterson Group Inc.** | • Geotechnical Engineering |

### *1.4 Study Schedule*

The study schedule followed a time line typical of environmental assessments of a similar size and scope. Following is a summary of the study schedule:

| | | | |
|---|---|---|---|
| Study Commencement and Notice of Public Information Centre #1 | Advertisement<br><br>Notice Delivery | September 8, 2012<br><br>September 5, 2012 | Advertised in the North Bay Nugget.<br><br>Hand delivered to all businesses and residences within the study area. |
| Public Information Centre #1 | Meeting | September 10, 2012 | To obtain public input after reviewing background information, needs and justification for the Seymour Street corridor, the alternative solutions for the Seymour Street opportunities and identifying a preliminary preferred alternative solution. |
| Alternative Design Meetings | Meetings with public and agency stakeholders | November 2012 | A member of the project team met with all impacted stakeholders and businesses on Seymour Street to review alternative designs. |

| | | | |
|---|---|---|---|
| Study Completion | Advertisement | January 5 and 12, 2013 | Advertised in the North Bay Nugget. |
| | Notice Delivery | Week of January 7, 2013 | Hand delivered to all businesses and residences within the study area. |

### *1.5 Agency Participation*

Each party of the list of agencies was advised of the study and contacted to provide comments throughout the duration of the project. The opportunity for these agencies to participate in the project was provided through the distribution of study commencement notices and

announcement of the formal Public Information Centre (PIC). Following is the list of agencies consulted throughout the project.

Provincial Ministries
- Ministry of the Environment – Regional and Area Office
- Ministry of Natural Resources
- Ministry of Transportation
- Ministry of Aboriginal Affairs

Local Municipalities:
- City of North Bay Fire Department
- City of North Bay Police Department
- City of North Bay Tourism Leisure Services
- City of North Bay Transit

Utilities:
- Bell Canada - Municipal Facilities (Local)
- North Bay Hydro
- Cogeco Cable
- Union Gas

Agencies and Authorities:
- North Bay Mattawa Conservation Authority
- North Bay and District Ambulance Service

First Nations (Federal):
- Indian and Northern Affairs Canada

### *1.6 Summary of Public Consultation Process*

Public involvement in each phase of the EA process has been integral to this study. The study process reflected the needs and concerns by affected stakeholders and agencies through ongoing consultation. The integration of the results of the consultation process into the technical assessment is documented in the Report.

The consultation program with stakeholders was undertaken in parallel with the technical work and formal meetings to facilitate dialogue between the Project Team and the affected parties. The public feedback was considered throughout the course of the study.

In accordance with the Municipal Class EA process, the City's public consultation program for the first mandatory point of public contact included the following components:

- **Public Notification by Letter** – This consisted of all property owners within the study area, in addition to others who wrote, telephoned, emailed their interest in the study. Approximately 55 members of the public on the mailing list were sent letters and notices at study commencement, prior to each of the public meetings and at study completion. .

- **Newspaper Advertisements** – A newspaper advertisement was placed in the *North Bay Nugget* on September 8, 2012 to announce the Study Commencement and Public Information Centre #1.

- **Hand Delivered Notices** – Notices for the EA study were also hand delivered to all properties within the Seymour Street study corridor during the week of September 5, 2012.

- **One (1) Public Information Centre (PIC)** – The public information centre was held at North Bay City Hall. The meeting was held on Monday, September 10, 2012. The PIC consisted of a public open house with project display panels. The meetings were staffed by City Staff and the Consultant team.

  Attendees were asked to sign-in when they entered the public information centre. They were provided with a comment form to provide them with another opportunity to give input to the study, or ask questions. The consultant team recorded issues raised by the public during and after each meeting. Details on the comments received are contained in Section 3.4.

## 2.0 PHASE 1 - NEEDS ASSESSMENT

A needs assessment was prepared to establish the need and justification for improvements. This needs assessment is based on the following broad planning objectives:

- Existing and future (20 year planning horizon) traffic operations;
- Recent safety and collision patterns; and
- Planning directions for the Seymour Street study corridor from a regional and municipal context.

The Seymour Street Class EA is an opportunity Street to implement a traffic improvement strategy that will provide safer and more efficient movement of people and goods along the Seymour Street corridor within the study horizon.

Environmental investigations and studies were undertaken to prepare inventories of the environment and to assess impacts of the alternative solutions on the environment. These studies are described and referenced within this section.

Based on the need identified, an opportunity statement was developed for the Seymour Street Class EA. The following studies and planning documents provide a detailed assessment of the corridor needs and provide the basis for the improvement options presented in this report.

## *2.1 City of North Bay Planning Documents*

Planning documents from the City of North Bay provides background on the short and long term plans for the Seymour Street Corridor. These documents are provided in Appendix B.

### 2.1.1 Schedule 3a – Environmental Constraints Overlay

No environmental constraints are identified within the study limits according to Schedule 3a - Environmental Constraints Overlay of the City of North Bay Official Plan.

### 2.1.2 Schedule 4 – Planning Districts

Seymour Street is in the Circle Lake Planning District according to Schedule 4 of the City of North Bay Official Plan. This document identifies the area as being in the Lake Nipissing watershed. No environmental constraints are identified within the study limits according to Schedule 3a -Environmental Constraints Overlay of the Official Plan.

### 2.1.3 Schedule 5 – Transportation Plan

The Transportation Plan of the City classifies Seymour Street as a collector road within the City's road network. This plan also identifies future extension of Seymour Street westward to meet Worthington Street East and eastward connecting to Sage Road.

### 2.1.4 Schedule 6 – Water Works Plan

The Water Works Plan for the City identifies a future trunk watemain along Seymour Street. This section would be part of a larger proposed line connecting the existing Trout Lake Pump Station with existing trunk watermains in the downtown core.

### 2.1.5 Schedule 7 – Sanitary Sewer Plan

The Sanitary Sewer Plan for the City identifies an existing trunk sewer on Seymour Street east of the Commerce/Seymour intersection. This sewer flows by gravity to the trunk sewer on Commerce Court and then northward to the Wallace Road Sewage Pumping Station.

### 2.1.6 Schedule 8a – Storm Sewer Plan

The Storm Sewer Plan for the City identifies the study area to be in the Delaney Lake catchment of the Circle Lake watershed. No storm sewer systems are identified within the study limits.

### 2.1.7 Appendix 8 - Circle Lake Parks Plan

The Circle Lakes Park Plan identifies a future pedestrian walkway/trail along Seymour Road linking the Hwy 11/17 and Seymour Street intersection with the Commerce Crescent intersection, ultimately providing pedestrian and bicycle access to the Commerce Crescent campus of Canadore College.

2.1.8 Appendix E – Algonquin Land Claim Consultation Area Map

Algonquin Land Claim Consultation Area Map from the City of North Bay Official Plan identifies the study area as being within the consultation area.

## *2.2 Traffic Operations*

A *Traffic Operations Report* has been prepared by HDR Corporation and is attached as Appendix C. The results and recommendations of the report are summarized below.

### 2.2.1 Existing Traffic Conditions

Existing traffic conditions are based on the two lane configuration of Seymour Street within the study limits. Streets intersecting with Seymour Street including Station Road, Commerce Crescent, Venture Crescent, and Wallace Road (north and south approaches) are currently under stop control at the approach to Seymour Street.

### 2.2.2 Growth Assumptions

A traffic growth rate of 1% per annum was calculated based on historic traffic data obtained from MTO data sources and applied to the existing traffic volumes to forecast the five, ten, fifteen and twenty year time horizons.

### 2.2.3 Future Conditions

The City of North Bay has advised that no future development of significant size has been identified in the vicinity of the study limits. All known development will be captured in the 1% per annum growth rate forecast. The planned extension of Seymour Street westward to Worthington Street East and eastward to Sage Road have not been included in this report because an implementation schedule has not yet been established by the City. Construction of extensions to the existing road network planned by the City of North Bay could result in increased traffic volumes through the Seymour Street corridor.

### 2.2.4 Intersection Operations

The existing traffic operations for the unsignalized intersection of Seymour Street at Commerce Crescent/Venture Crescent was analyzed and resulted in an overall level of service “D” during both the weekday AM and PM peak hours under existing conditions.

A left turn lane warrant analysis was undertaken for eastbound traffic on Seymour Street approaching the intersection and resulted in the recommendation of a 40 metre dedicated eastbound left turn lane.

A traffic signal analysis was also undertaken and resulted in a recommendation for traffic signals under warrant Justification 3 – combination of minor vehicle volume and delay to cross traffic under existing conditions.

### 2.2.5 Existing and Future Traffic Needs

Analysis of the intersection with projected traffic volumes over all time horizons, including the 20 year forecast, resulted in an overall level of service of “A” during both weekday AM and weekday PM peak hours provided traffic signals and a 40 metre long eastbound left turn lane is provided.

#### 2.2.6 Safety Review

No collision records are available for the section of Seymour Street within the study limits.

### *2.3 Air Quality Impacts*

It is expected that improvements to traffic movement will have the effect of reducing vehicle idling throughout the corridor and therefore will have a negligible positive impact on air quality.

### *2.4 Socio-Economic Conditions*

The study area features commercial, residential, institutional and cultural heritage land uses in a variety of forms. The land uses that front directly onto Seymour Street are primarily industrial and commercial.

The businesses operating on Seymour Street provide a significant contribution to the economic output of the City of North Bay. The two welding and fabrication shops, G and P Welding and Central Welding, are a significant provider of high paying technical jobs for the area. Seymour Street also serves as a major commercial and industrial collector link for transportation of goods and services within the City of North Bays Road network. For this reason, improvements that will allow the provision of an efficient high level of service throughout the Seymour Street corridor is an important socio-economic objective of the proposed road upgrades.

#### 2.4.1 Commercial Uses and Industrial Uses

Properties abutting Seymour Street are primarily commercial and industrial establishments. As a result, truck and tractor trailer traffic forms a significant portion of the overall traffic mix. For this reason, ensuring the road is designed to accommodate heavy truck traffic should be a primary objective of the assignment.

#### 2.4.2 Residential Land Uses

Currently Seymour Street does not support any properties that can be considered a residential use. Seymour Street is used, however, by vehicle traffic related to residential areas both east and west of the study limits.

#### 2.4.3 Institutional Land Uses

Currently Seymour Street does not support any institutional uses. Seymour Street is used, however, as a pedestrian, bicycle and vehicle route to access the Commerce Crescent campus of Canadore College from Highway 11/17.

#### 2.4.4 Recreational Uses

Seymour Street does not currently support properties providing any recreational uses.

#### 2.4.5 Future Development

It is not expected that there will be any significant future development within the study limits. Seymour Street is expected, however, to provide a significant connecting linkage between new development located both east and west of the study area. Improvements resulting from this planning exercise are expected to be related to the provision of a better level of service for

traffic using the roadway and the provision of a trunk watermain as part of system upgrading that will support significant development in other parts of the City of North Bay.

### *2.5 Natural Environment*

A *Natural Environment Inventory & Impact Assessment Report* was prepared by Great Lakes Environmental Services and is attached as Appendix D. The Report identifies mitigation measures that should be followed during the construction of the improvements proposed. The Report should be referenced for these details for inclusion in the detailed design and construction specification tender documents.

A clearance letter has also been provided by the North Bay Mattawa Conservation Authority and is attached as Appendix E. The Conservation Authority stated that the project area is not within an area regulated by the North Bay-Mattawa Conservation Authority and that a Development, Interference with Wetlands and Alterations to Shorelines and Watercourses permit is not required.

### *2.6 Archaeological Assessment*

A *Stage 1 Archaeological Assessment Report* has been prepared by Heritage Archaeology Inc. and is attached as Appendix F. No archaeological conditions were identified in the Report. This report has been forwarded to the Ministry of Tourism, Culture and Sport as required by legislation.

### *2.7 Pavement Conditions*

A *Geotechnical Investigation Report* has been prepared by Patterson Group Inc. and is provided in Appendix G. The Report supports the option of widening the road platform to three lanes and improving the Commerce Crescent/Venture Crescent/Seymour Street intersection. Option 1 of the Report recommendations require complete removal of the existing road to subgrade level and subsequent reconstruction of the subbase, base and asphaltic concrete to support the new road design.

Based on the preferred Option 1, the structure profile of the road would be constructed of 140mm of hot mix asphalt on 150mm Granular A base and a 500mm Granular B Type II subbase. Exact details of the recommendations are contained in the Report. The report also recommends that bedrock be removed where required to allow construction of the full 790mm thick structural section.

### *2.8 Photographic Record of Existing Conditions*

A Photographic Record of Existing Conditions has been prepared by J.L. Richards & Associates Limited and is attached as Appendix H. This record provides visual observation of the project area as it was in July 2012.

### *2.9 Problem/Opportunity Statement*

A problem/opportunity statement was developed following the completion of the needs assessment for the study area:

- There is insufficient intersection capacity and poor intersection level of service within the study limits for the existing conditions.
- The large number of commercial/industrial entrances on Seymour Street results in potential safety concerns due to left turning vehicles.
- The turning movements at the Commerce Crescent/Venture Crescent/Seymour Street intersection exhibit a longer delay and therefore a lower level of service than is acceptable.
- Pedestrians traveling to and from the Commerce Crescent of Canadore College from the Highway 11 intersection currently have limited walkway that are convenient and safe.
- A future trunk watermain has been identified as being required on Seymour Street to support the waterworks system plan outlined in the City of North Bay's Official Plan.

## 3.0 PHASE 2 - ALTERNATIVE SOLUTIONS

The Class Environmental Assessment process requires the examination of all reasonable alternatives to address the challenges and associated objectives identified in the needs assessment. A formal evaluation methodology is used to ensure that the process is traceable and reproducible, and that the process takes into account technical, as well as economic, social and environmental issues. This section of the report provides documentation of the development and evaluation of the planning alternatives.

### *3.1 Identification of Alternative Solutions*

Planning alternatives have been identified, each providing a different means of addressing the existing and future deficiencies along the Seymour Street corridor. The advantages and disadvantages of each planning alternative were identified and evaluated to determine the best functional solution to the problem. The findings of this evaluation process are described in the following sections.

The following planning alternatives were considered:

- **Alternative 1 - Do Nothing:**
  Rehabilitation of existing road in its current configuration.

- **Alternative 2 - Widen to 3 Lanes:**
  Reconstruct and widen road to three lanes (one lane in each direction and a centre two-way left turn centre lane) including traffic control signal at Commerce-Venture / Seymour.

- **Alternative 3 - Intersection Improvements – Traffic Signals:**
  Reconstruction of road in its current configuration with traffic control signal at Commerce-Venture / Seymour.

- **Alternative 4 - Intersection Improvements – Roundabout at Seymour and Commerce/ Venture** :
  Reconstruction of road in its current configuration with installation of a roundabout at the Seymour and Commerce-Venture intersection.

- **Alternative 5 – Construction of a Trunk Watermain** :
  During road reconstruction, construction of a trunk watermain on Seymour Street. The Water Works Plan (Schedule 6) for the City identifies a trunk watemain along Seymour Street as part of a long term watermain project connecting the existing Trout Lake Pump Station with existing trunk watermain in the downtown core.

### *3.2 Evaluation of Alternative Solutions*

The overall objective of the evaluation is to identify a Preferred Alternative Solution that will address the problem, while minimizing impacts to the environment.

The alternative solutions were evaluated based on the ability of the alternative to address the problem statement, including impacts to transportation, anticipated property impacts, environmental impacts, and the evaluation criteria in Table 2.

**Table 2: Evaluation Criteria**

| FACTOR | CRITERIA |
|---|---|
| Transportation | • Corridor Capacity<br>• Traffic Safety<br>• Cycling and Pedestrian |
| Socio-Economic Environment | • Access Impacts<br>• Property Impacts<br>• Archaeological /Cultural Heritage Impacts<br>• Noise Impacts<br>• Air Quality<br>• Archaeological |
| Natural Environment | • Stormwater Management<br>• Floodplain Impacts |
| Cost | • Capital Costs<br>• Operating Costs |

Preliminary evaluation is provided in the alternative planning solution evaluation tables that were presented at Public information Centre 1 which was held on September 10, 2012. These evaluation tables are provided in Appendix I.

## *3.4 Public Consultation*

Results of the public consultation process undertaken during the initial phases of the EA study are summarized in this section of the report.

### 3.4.1 Public Information Centre #1

The first Public Information Centre (PIC #1) for the Seymour Street EA was held on September 10th, 2012 at the North Bay City Hall. The purpose of PIC#1 was to present members of the public with an introduction to the project, background information, understanding of the environment, the opportunity for improvements, proposed alternatives solutions, evaluation criteria, the preliminary preferred solution and to obtain public comments. Display boards that were presented at PIC #1 are provided in Appendix I.

The format was an informal open house session from 4:00pm to 7:00pm. Attendees were asked to sign-in and were invited to fill in comment forms at their convenience within a 3-week time frame. Approximately 15 members of the public attended the PIC.

Representatives from the City of North Bay and the consultant team were in attendance to answer questions and provide information to the public.

Representatives from the City of North Bay included:

- Ray Marshall

Representatives from consultant team included:

- Les Ranta – Consultant Project Manager, J. L. Richards
- Stephen Keen – Traffic Consultant, HDR
- Guinevere Ngau – EA Coordinator, HDR

### 3.4.2 Public Comments

Public comments related to the proposed alternatives were documented during the hand delivery of study material and during the Public Information Centre held on September 10, 2012. The completed comment forms and sign-in sheets are provided in Appendix I. Comments from the public can be summarized as follows:

1. The public expressed overwhelming support for the proposed pedestrian sidewalk linking the Highway 11/17 – Seymour Street intersection with the Commerce Crescent – Seymour Street intersection.

2. The public expressed support of the centre two way left turn lane proposed for Seymour Street over the entire improvement area of the study.

3. The public expressed support for a traffic signal controlled intersection at Commerce/Venture/Seymour Street.

4. Concerns from the public were expressed related to the roundabout option for the intersection of Seymour Street and Commerce Crescent/Venture Crescent. Primary concerns were related to the ability of fabricated bridge beams carried on over-length trailers being able to negotiate the turning radius of a roundabout.

5. The public requested that the project team review the configuration of the intersection to ensure it would be designed for transport trailers as well as considering reduction of the uphill grade of southbound Commerce Crescent when approaching Seymour Street.

6. The public requested that the project team review raising the profile of the road in front of G and P Welding at 1872 Seymour Street and widening the entrances on both sides of the road at that location to allow for an improved entrance condition when transporting bridge girders off the property. Currently the road profile prevents a smooth transition from the yards to the roadway.

### *3.5 Preferred Alternative Solution*

The public response from PIC #1 confirmed the choice of planning solutions while providing direction regarding refinement of the design undertaken in Phase 3 of the project. Following is a description of the preferred alternative solutions:

1. Reconstruct and widen Seymour Street to a three lane wide platform. This will provide one lane in each direction and a two-way left turn centre lane.

2. Provide traffic control signals at the Commerce Crescent/Venture Crescent/ Seymour Street intersection.

3. Provide a pedestrian sidewalk on the north side of Seymour Street between Station Road and the Commerce Crescent intersection within the study limits. This will require a retaining wall to provide suitable platform width.

4. Although outside of the strict study limits, provide a pedestrian sidewalk on the north side of Seymour Street between Highway 11/17 and Station Road.

5. Provide a 600mm diameter trunk watermain on Seymour Street from Wallace Road to Station Road. As part of the same design package, this watermain will also extend from Station Road along Cholette Street and connect to the existing 600mm diameter watermain on the east side right-of-way limit of Highway 11/17.

## 4.0 PHASE 3 - ALTERNATIVE DESIGN CONCEPTS

### *4.1 Evaluation of Alternative Design Concepts*

The overall objective of the evaluation of alternative design concepts is to identify a Preferred Alternative Design that will address the problems and opportunities identified while minimizing

undesirable impacts to the environment. The following table identifies the criteria considered in the assessment of the improvement options:

| Factor | Criteria To Be Considered |
|---|---|
| Traffic Safety | Safety |
| | Improvement to Pedestrian and Cycling Realms |
| Transportation and Servicing | Traffic Operations (delay and capacity) |
| | Intersection Requirements |
| | Traffic Infiltration |
| | Stormwater Management (drainage and flooding) |
| | Structural Impacts / Requirements |
| | Utility Impacts / Servicing |
| | Construction Feasibility and Staging |
| Natural Environment | Terrestrial Ecosystems: removal of vegetation that provides habitat for local wildlife |
| | Aquatic Ecosystems |
| | Species at Risk |
| | Surface Water Quality and Quantity |
| | Groundwater |
| | Erosion and Sedimentation Control |
| Socio-Economic Environment | Property Impacts |
| | Impacts to Land Use |
| | Emergency Access |
| | Noise |
| | Enhances Local Businesses along the Corridor |
| | Promotes Accessibility and Sustainability |
| | Archaeology |
| Planning and Urban Design Opportunities | Sustainable Design Elements (e.g., swales) |
| | Supports Phasing / Localized Improvements |
| Costs | Capital Costs |
| | Utility Relocation Costs |
| | Property |
| | Operating and Maintenance Costs |

Comments received at PIC #1 also provided direction for the requirements of the preferred design options.

### *4.2 Public Consultation*

The second mandatory point of contact was provided by meeting and providing public and agency stakeholders with drawings of the preliminary design options for the purpose of assisting with the selection and refinement of the preferred design. The following stakeholders were contacted.

- Public Stakeholders who expressed interest in being contacted during Phase 3 of the Class EA process.
- North Bay Hydro

- Union Gas
- Bell Canada

Additional information resulting from this second mandatory point of contact is provided in Appendix J. The primary comments received were from utility providers who advised that lead times of 6 to 9 months would be required to relocate existing infrastructure assets.

### *4.3 Preferred Preliminary Design*

Alternative design concepts were identified for each of the preferred solutions. Following input from stakeholders and utility companies, the preferred design is provided in Appendix A. A design brief describing the preferred design components has also been prepared and is provided in Appendix K. A summary of the component design decisions is provided in this section.

Reconstruction of the road to provide a three lane wide platform can be detailed in a variety of ways. Typical edge of pavement conditions that may be provided include concrete curb and gutter, paved shoulder, and gravel shoulder. Detailed evaluation of edge conditions results in the proposal of a curb and gutter system along the north side of the road within the study limits west of the Seymour Street/Commerce Crescent/ Venture Crescent intersection. This corresponds with the area where a concrete pedestrian sidewalk will be provided.

Increasing the platform width to provide a third lane and pedestrian sidewalk will require the construction of a retaining wall along certain portions of the road. This wall has been detailed as a cast-in-place concrete retaining wall following an evaluation of various common wall types. The proposed cast-in-place retaining wall will be constructed on bedrock which has been observed at the location of the wall. A pedestrian safety railing will be installed at the top of the wall to provide a barrier for pedestrians using the sidewalk.

A mountable curb and gutter system will also be provided on all four quadrants of the Seymour Street/Commerce Crescent/Venture Crescent intersection. This evaluation is based on consideration of the high proportion of tractor trailer and large delivery truck traffic that will utilize the intersection.

The high proportion of heavy truck using the intersection will also require that edge of pavement radius dimension be increased to 20.0 metres. The standard lane widths will also be increased to 4.0 metre wide at the intersection in recognition of the increased manoeuvre space required by large tractor trailers.

Evaluation of storage requirement on each intersection approach on Seymour Street was undertaken in the Traffic Impact Study, and as a result the pavement will be marked to allow for 40 metres of dedicated storage at each respective approach. The traffic control signals will be configured to meet the City of North Bay specifications and Ontario Provincial guidelines.

Design decisions that will be undertaken at the detailed design stage include signal timing and delays, and signal head locations. These decisions must be made in consideration that a large proportion of vehicles utilizing the intersection will be tractor trailers and tractors with over-length trailer loads.

A pedestrian sidewalk has been identified for construction along Seymour Street between Highway 11/17 and the Seymour Street/Commerce Crescent intersection. As a result of the safety evaluation of this alternative, the sidewalk will be placed on the north side of Seymour Street to reduce the frequency of potential pedestrian/traffic conflicts as students walking to the Commerce Crescent campus of Canadore College will not have to cross the street. This section of road will also be provided with an asphalt boulevard to provide snow storage capacity in addition to providing an extra safety buffer between pedestrians and traffic.

Evaluation of the preliminary alignment of the proposed 600mm transmission has been undertaken with regard to avoiding existing buried utilities while maintaining a straight alignment to the maximum extent practicable. Valves have been located to provide suitable isolation of pipe runs, and an air relief valve is proposed at the high point of the pipe profile.

As a result of the temporary capping of the transmission watermain at Wallace Road until such a time that it can be extended as detailed in the City of North Bay Official Plan, a hydrant will be provided at Wallace Road to allow for the blow-off of sediment from the line in addition to providing fire fighting flow if required.

### *4.3 Estimate of Probable Construction Cost*

The estimate of probable construction cost for the preferred design is $6,915,790.00. This estimate includes a 10% engineering allowance and a 30% contingency allowance, but does not include the Harmonized Sales Tax. The cost components are summarized below:

| | |
|---|---|
| -Road Widening and Full Depth Reconstruction | $4,371,850.00 |
| -600mm Dia. Transmission Watermain | $2,543,940.00 |
| **TOTAL** | **$6,915,790.00** |

Details on the development of the estimate of probable construction cost are provided in Appendix K.

## 5.0 PHASE 4 – ENVIRONMENTAL STUDY REPORT

The third mandatory point of contact for the Class EA process is satisfied by providing an opportunity for the public and stakeholders to review of the completed Environmental Study Report. The ESR will be placed on the public record and be available for review by the public and stakeholder agencies for a period of at least 30 calendar days. The location where the document can be reviewed will be clearly identified on notices to the public.

A Notice of Completion of the Environmental Study Report will be published in at least two editions of the North Bay Nugget and be mailed and/or delivered to those who have expressed in the desire to stay informed. The notice shall advise the public and review agencies of their rights with regards to requesting an order. The notice will also clearly state the review period and the date by which submissions and/or requests are to be received by the Minister.

Additional information regarding the placement of this Environmental Study Report on the public record is provided in Appendix L.

## 6.0 PHASE 5 – MITIGATION AND MONITORING

Although detailed design and preparation of project specifications are beyond the scope of work of the current assignment, the following guidelines for environmental monitoring are provided to assist the designer responsible for these project elements.

This following section describes the monitoring program developed during the planning process which is designed to be carried out during and after construction. The program should monitor and review the environmental impacts predicted and the commitments made to mitigation throughout the planning and design process. As a minimum the following items should be considered:

- key impacts to be monitored;
- monitoring requirements during construction and during operation of the facility;
- the period during which monitoring will be necessary;
- frequency and timing of surveys, the location of monitoring sites and the methods of data collection, analysis and evaluation;
- the content, manner and form in which records of monitoring data are to be prepared and retained;
- where and for how long monitoring records and documentation will be on file specific; and
- requirements for monitoring appropriate to the particular circumstances and conditions under which the project will be implemented.

The following chart provides preliminary guidelines regarding the identification of potential impacts and the proposed mitigation techniques that may be employed to reduce the undesirable effects of the impacts identified.

| Factor | Anticipated Impact | Proposed Mitigation |
|---|---|---|
| **Transportation and Servicing** | | |
| Stormwater Management | •Minor impacts to surface drainage and flooding elevations | •Water quantity, quality, erosion impacts can be mitigated by the use of wide bottomed grassed swales |
| Utility Impacts / Servicing | •Relocation of utilities | •Some utilities will need to be relocated<br>•Formal definition of impact on utilities, including Bell poles and hydro poles, will be confirmed during detailed design |

| | | |
|---|---|---|
| Construction Feasibility and Staging | •Impact to traffic during construction of road, bridge and roundabouts | •Road detours, advance notice and signage can help re-direct traffic and inform residents about potential impacts |
| **Natural Environment** | | |
| Surface Water Quality | •Increase in stormwater quantity as a result of increased paved surface. | •Ditches, grass swales, culvert cleaning, re-ditching and Oil Grit Separators (OGS) will be considered to mitigate this impact. |
| **Socio-Economic Environment** | | |
| Property Impacts | •Requirement for additional property | •Property acquisition may be required at intersections.<br>•Some grading may be required at properties adjacent to the road. |
| Noise | •Moderate impacts during the construction period | •Consultation with surrounding community can determine least disruptive timing for construction activities.<br>•No sensitive noise receptors have been identified within the corridor. |
| Archaeology Heritage Resources | •The Seymour Street ROW itself does not retain archaeological site potential due to previous road and residential disturbances | •If unexpected archaeological finds are discovered, a Stage 2 Archaeological assessment will be conducted for any lands having archaeological potential<br>•Impacts to heritage resources within the corridor can be mitigated through optimization of the design. |

| **Costs** | | |
|---|---|---|
| Operating and Maintenance Costs | •Moderate increase in operating costs with additional roadway width to maintain | •Additional operating costs are a result of providing enhanced infrastructure and services for local residents and businesses. |

The detailed design process, which is outside the scope of work for this assignment, should provide further refinement of the mitigation measures required to reduce or eliminate the undesirable effect of the impacts identified. It is expected that contract specifications will focus on construction mitigation techniques for the control of erosion and sedimentation. The following comments are intended to assist with the preparation of the contract documents.

The control of erosion and sedimentation while undertaking site improvements requires installation of suitable controls prior to the start of construction and maintenance of the sediment control facilities on a regular basis throughout the construction process. It is recommended that the contractor inspect and record erosion and sediment controls at a minimum frequency of once per week during construction.

Any controls that are found to be in disrepair, damaged or not functioning as intended must be repaired within 24 hours of identification. Inspections must also be conducted immediately following significant storm events to ensure the occurrence of high runoff and wind conditions have not damaged the controls.

A construction mitigation plan must be prepared by the contractor and must account for his proposed construction practices in addition to the site conditions. This plan must account for:

- Management of stormwater during construction,
- Erosion and sediment control (typically silt fences, sediment bags and/or settling pools, straw bale ditch checks, catch basin filters, etc),
- Dust and mud control (including street cleaning as required),
- Protection of the natural drainage course,
- Spill Management and report preparation,
- Stakeholder Relations and Education (advise adjacent properties and authorities, etc).

This Construction Mitigation Plan should be submitted by the contractor to the City of North Bay and/or their agents for review and comments prior to any construction activities being undertaken. It is the contractor's responsibility to ensure all mitigation plans are followed and that his construction activities are in compliance with his approved plan and all other environmental requirements.

## 7.0 CLOSING COMMENTS

This Environmental Study Report has been prepared for the City of North Bay by J.L. Richards & Associates Limited and HDR Corporation to meet the requirements of the Municipal Class Environmental Assessment document for the Seymour Street Class Environmental Assessment and Preliminary Design project.

This report provides a preliminary design of the improvements proposed however it should be noted that detailed design and preparation of technical specifications and contract documents are beyond the scope of work for this assignment. The information contained in this report is intended for the use of the City of North Bay in meeting their Class Environmental Assessment responsibilities. J.L. Richards & Associates Limited and HDR Corporation accept no responsibility for any use or interpretation of this information by a third party.

Respectfully Submitted,

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