



BURNSIDE

Archeological & Cultural Heritage Work Plan

St. Marys Future Solid Waste Disposal Needs Environmental Assessment

Town of St. Marys

(Note: Work Plans were provided as draft reports only. Comments provided by agencies, Indigenous communities and the public were directly incorporated into the implementation as described in Volume I, Section 10.0, Consultation Summary)

**R.J. Burnside & Associates Limited
292 Speedvale Avenue West Unit 20
Guelph ON N1H 1C4 CANADA**

**July 2015
300032339.0000**

Distribution List

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Record of Revisions

Revision	Date	Description
0	July 22, 2015	Draft release for review

R.J. Burnside & Associates Limited**Report Prepared By:**

Porchae Baird, M.Sc.
Environmental Scientist
PB:mp

Report Reviewed By:

James R. Hollingsworth, P.Eng.
Technical Leader, Solid Waste
JH:mp

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1.0 Introduction

The Town of St. Marys is conducting an Individual Environmental Assessment under the *Environmental Assessment Act* to review alternative means to managing solid waste in the town over a forty year planning period. The existing St. Marys landfill site (the Site), Environmental Compliance Approval (ECA) Number A150203, is located at 1221 Water St. South, St. Marys, Ontario. The 37 ha Site was part of a former clay borrow pit that was used by St. Marys Cement in cement manufacturing and contains an approved fill area of 8 ha. The landfill is nearing its approved fill capacity and a new means to manage post-diversion solid waste is required. The location of the existing landfill is illustrated on Figure 1.

Terms of Reference (TOR) were approved by the Minister of Environment and Climate Change on December 29, 2014. The TOR laid out a strategy for completing the EA. The TOR also included a summary of pre-planning work which had been done to eliminate a number of *Alternatives to the Undertaking*. Those *Alternatives* which were eliminated due to a variety of technical, financial and environmental criteria included:

- Do Nothing;
- Energy From Waste;
- Enhanced waste diversion, and,
- Constructing a new landfill site at a new location in the Town.

A further assessment is currently being conducted to evaluate the preference for transporting waste to a disposal site in another jurisdiction over expanding the current landfill site. This assessment is not yet complete.

Included in the TOR was a requirement to develop Work Plans should Expansion of the Existing Landfill be identified as the preferable *Alternative to the Undertaking*. Work Plans are to provide a detailed methodology for completing the evaluation of *Alternative Methods for Carrying out the Undertaking*, the next step in the EA process. Work Plans are to be prepared for a variety of disciplines, including:

- Archaeology and Cultural Heritage
- Terrestrial and Aquatic Ecology;
- Hydrogeology;
- Socio-Economic Environment;
- Air Quality; and,
- Others.

This Work Plan provides the framework for evaluating the *Alternative Methods for Carrying out the Undertaking* based on factors associated with the archaeological and cultural heritage components of the environment.

A preferred *Alternative to the Undertaking* has not yet been identified (i.e., whether waste will be transported to another landfill or whether the St. Marys site will be expanded). The work outlined in this work plan will only be required if the landfill expansion option is selected.

2.0 Study Parameters

The Study will be completed using the parameters described in the following sections.

2.1 Study Purpose

If it is decided to expand the existing landfill, the Undertaking will be defined as:

The expansion of the St. Marys landfill in order to provide the necessary capacity to fulfill the Town's post-diversion solid waste disposal needs for the next 40 years.

The purpose of this study is, therefore:

To evaluate a variety of Alternative Methods for expanding the St. Marys landfill in order to fulfill the Town's post-diversion solid waste disposal needs for the next 40 years.

2.2 Alternatives to be Assessed

Alternative Methods are technically, economically and environmentally feasible ways of doing, or implementing, the same activity. Assuming that the preferred *Alternative to the Undertaking* is to expand the existing landfill, the *Alternative Methods* will include various design options associated with the expansion. Increased waste diversion will be considered for the preferred *Alternative Method* but will not constitute part of the undertaking.

Therefore, the *Alternative Methods* to be reviewed will include those identified in Table 1.

Table 1: *Alternative Methods* for Carrying Out the Undertaking

Method		Description
1	Vertical Expansion of the Existing Landfill	This <i>Method</i> involves an expansion in the vertical direction within the existing footprint of the landfill.
2	Horizontal Expansion of the Existing Landfill	This involves an expansion outside of the existing landfill footprint. There may be a number of options as to the direction of the horizontal expansion (i.e., expansion could occur to the north, west or east).

Method		Description
3	A Combination of Vertical and Horizontal Expansion	This <i>Method</i> would involve partial vertical expansion along with some horizontal expansion of the landfill footprint, basically a mixture of Methods 1 and 2.
4	Other Options Which May be Identified During the EA Process	Other <i>Methods</i> may be identified during public, Aboriginal and agency consultation.

2.3 Study Area

Two specific Study Areas have been identified which will be used as the basis for defining and characterizing the environment which may be potentially affected by the expansion.

The Study Areas are as follows:

- On-site Study Area - includes all lands associated with the existing St. Marys landfill, the 37 ha site located as 1221 Water St. South, St. Marys; and,
- Study Area Vicinity - all lands within a 1,000 m radius of the On-site Study Area.

Both Study Areas are shown on Figure 2.

2.4 Study Timeframe

The EA will consider the potential effects on various environmental components over two time periods:

- Construction and operation of the expanded landfill:
 - Construction would likely commence in 2018¹; and,
 - Operations would then occur over a 40 year period, ending around 2058.
- Closure and post-closure (contaminating life span) of the landfill.

3.0 Archeological and Cultural Heritage Procedure

The Archeological and Cultural Heritage study will be conducted by a sub-consultant, ASI. The assessment will implement the following phases:

- Phase 1: Archaeological Assessment
 - Task 1: Background Research
 - Task 2: Archaeological Site Potential Evaluation
 - Task 3: Report Preparation

¹ This timeframe is preliminary and will be updated to consider EA study results and subsequent approval requirements.

- Phase 2: Cultural Heritage Resource Assessment
 - Task 1: Background Historical Research and Preliminary Feature Identification
 - Task 2: Field Survey
 - Task 3: Impact Assessment
 - Task 4: Report preparation

3.1 Phase 1: Archaeological Assessment

The archaeological assessment will follow the *Standards and Guidelines for Consultant Archaeologists* (S&G) administered by the Ministry of Tourism, Culture and Sport (MTCS). These guidelines are based on the conditions specified within the licenses to conduct archaeological fieldwork in Ontario. The *Stage 1 Archaeological Assessment* (S&G Section 1) focuses on conducting background research on the project study area.

3.1.1 Task 1: Background Research

Background research will be completed in accordance with S&G Section 1.1. The existing database of known archaeological sites within the study area will be updated by reviewing pertinent provincial and federal government files (Ontario Archaeological Sites Database); and reviewing and compiling the results of a literature search (published and unpublished).

3.1.2 Task 2: Archaeological Site Potential Evaluation

The archaeological site potential of the study area will be determined, in accordance with S&G Section 1.2, by:

- Reviewing archaeological site location data updated during Task 1;
- Evaluating the property's archaeological potential, based on characteristics that indicate where archaeological resources are most likely to be found;
- Reviewing site-sensitive factors:
 - if one or more cemeteries are located within the study area, municipal and/or regional cemetery officials and/or heritage planners will be notified to obtain relevant information; and
 - an on-site visit may be conducted as part of the property inspection.

Conducting a property inspection of the project study area: This will be undertaken in order to review the project study area (and layout) and to confirm and photo-document archaeological site potential. The property inspection will occur when weather conditions permit good visibility of land features. The inspection cannot occur when weather conditions may reduce the chances of observing features of archaeological potential (e.g., snow cover, frozen ground, excessive rain or drought) (S&G Section 1.2).

PLEASE NOTE: the property inspection is typically conducted from public rights-of-way and only involves a visual inspection of lands in the *Study Area Vicinity*. The *On-Site Study Area* lands, which are owned by the Town will be accessed for a visual inspection.

3.1.3 Task 3: Report Preparation

A Stage 1 Archaeological Assessment report will be prepared as required by S&G Section 7.7. It will describe the results of all background research and the property inspection fieldwork conducted, and will contain all necessary photographic and cartographic documentation. The report will include the following:

- Results of the background research pertaining to previous archaeological investigations;
- Geo-environmental setting and historic settlement;
- Evaluation of archaeological site potential; and,
- Result of the property inspection.

The report will provide recommendations for Stage 2 assessment, if necessary.

PLEASE NOTE: this report will be submitted to the MTCS for review in accordance with licensing requirements under the *Ontario Heritage Act*.

3.2 Phase 2: Cultural Heritage Resource Assessment

The cultural heritage resource assessment is guided by the following documents and legislation:

- Guidelines for Preparing the Cultural Heritage Resource Component of Environmental Assessments (1992);
- The Ontario Heritage Act (2005); and,
- The Ontario Heritage Toolkit (2006).

The cultural heritage resource assessment focuses on conducting and analyzing background research and field survey results for the purposes of identifying impacts of the proposed undertaking on cultural heritage resources.

3.2.1 Task 1: Background Historical Research and Preliminary Feature Identification

A brief review of available primary and secondary source material will be undertaken to produce a contextual overview of the study area, including a general description of previous and existing settlement and land use, and the development of transportation infrastructure. Available historic mapping, existing condition mapping, project mapping, and aerial photographs will be reviewed, if available. Additionally, municipal cultural planning representatives will be contacted as well as other local and regional planning

and review agencies (e.g., Upper Thames Conservation Authority). Other local historical and cultural resources (St. Marys Museum) will be contacted as required contingent upon information needs and desktop review findings. Any applicable public and First Nation input gathered as part of a separate program being undertaken by Burnside will also be incorporated as part of the background research. The goal of the work is to make a preliminary identification of existing built heritage features and cultural heritage landscapes within the study area. As part of this task, municipal heritage inventories are reviewed to identify properties and resources that have been previously identified as being of potential cultural heritage value, or which have been designated under the *Ontario Heritage Act*.

3.2.2 Task 2: Field Survey

A field review will be undertaken to identify and photograph individual built heritage resources and cultural landscapes within accessible portions of the study area. The results of survey will be recorded on survey forms where appropriate. Based on the results of field review, potential impacts to built heritage resources and cultural heritage landscapes will be identified.

3.2.3 Task 3: Impact Assessment

Identified impacts to built heritage features and cultural heritage landscapes will be evaluated and recommendations and mitigation measures will be developed as appropriate.

3.2.4 Task 4: Report preparation

Report preparation will be undertaken to describe the results of the background research, cultural heritage field inventory and agency contacts (if any) and to identify sensitivities. Advice will be provided on direct and indirect impacts of construction and mitigation measures will be identified.

4.0 Summary of Deliverables

Two documents will be produced:

- A Stage 1 Archeological Assessment Report, and,
- A Cultural Heritage Resource Assessment Report.

These reports will be provided following the completion of the tasks discussed in Section 3.0.

5.0 Public and First Nation Input

It is recognized that local landowners and First Nation communities may have specific knowledge of the site and surrounding area. Per the approved ToR, Burnside is undertaking a consultation program. We recognize that local and Aboriginal knowledge can positively contribute to studies such as this by adding observations and historical information which may not be included in public records. Public and First Nation input will be obtained in the following manner:

- The Work Plan will be posted to the Town's website for public comment prior to initiating field work;
- The Work Plan will be sent to First Nations that have expressed an interest in the project for comment prior to initiating fieldwork; and,
- First Nation communities with an interest in the project will be invited to participate in field studies, where practical and safe.

6.0 Conclusions

The preferred method for managing post-diversion solid waste within the Town of St. Marys will be determined through an evaluation of a number of social, environmental, technical and financial criteria. Potential impacts to archaeological and cultural heritage features are an important component of the environmental evaluation. The landfill property and surrounding lands are relatively disturbed from landfilling and aggregate resources extraction activities. Nonetheless some significant natural features may be present. This work program is intended to identify archaeological and cultural heritage features for consideration in the Environmental Assessment currently underway. Additional studies may be required, and will be undertaken, depending on the information obtained through this work program.



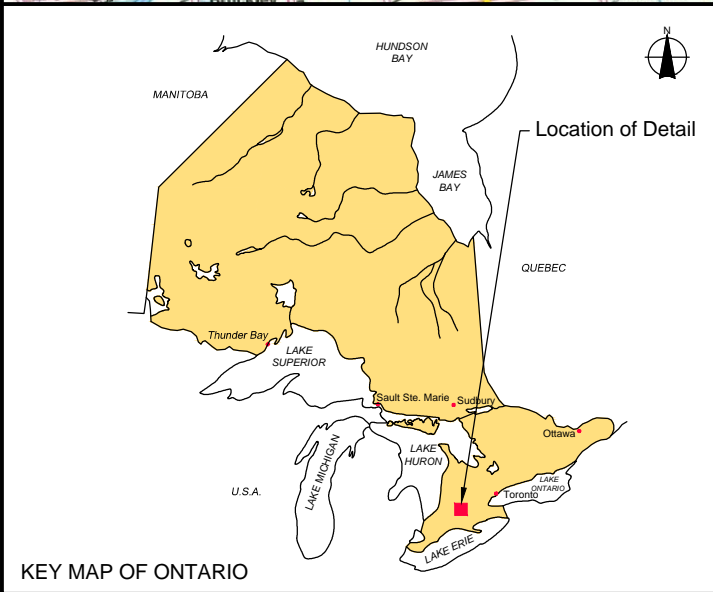
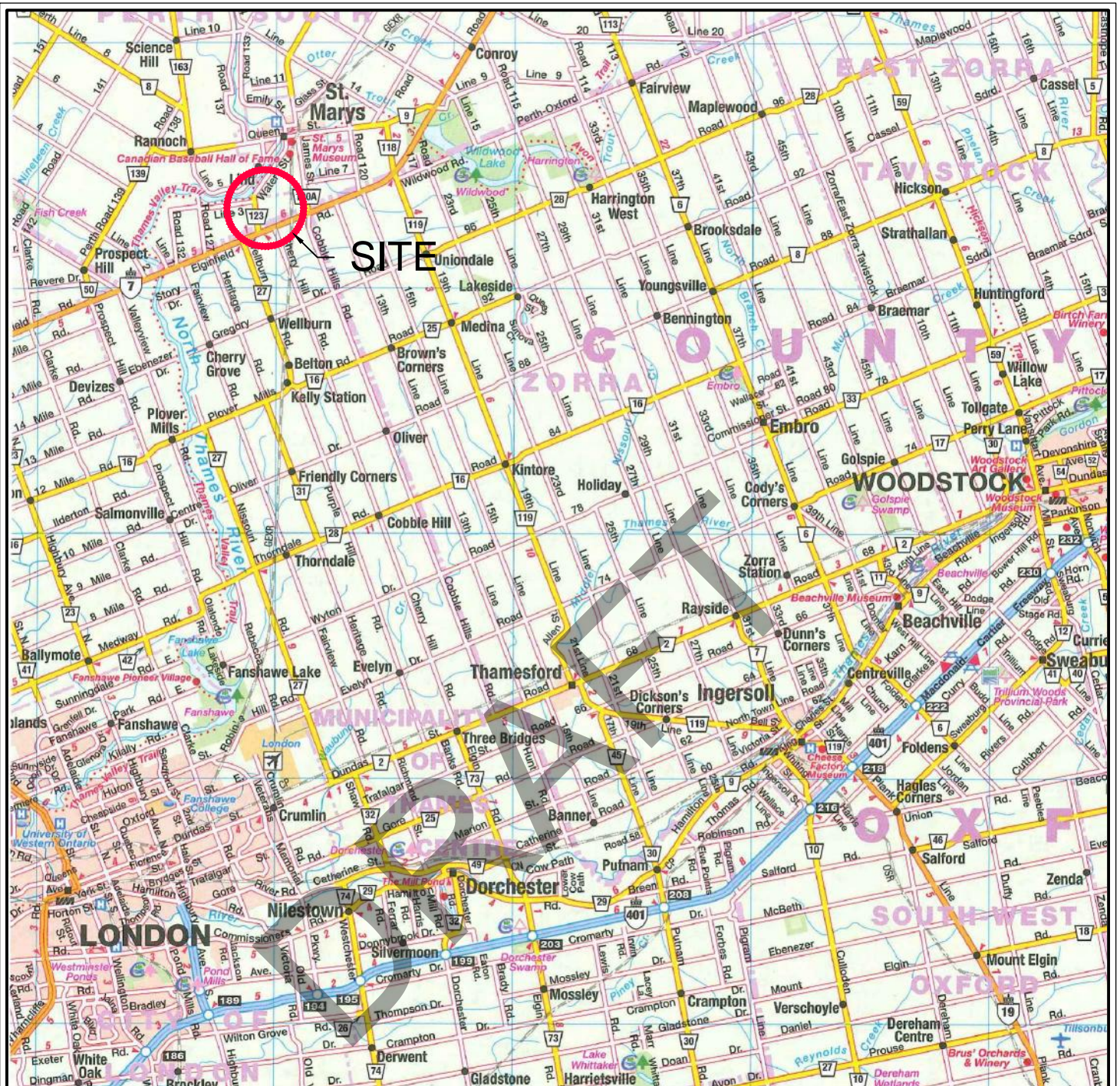
BURNSIDE


[THE DIFFERENCE IS OUR PEOPLE]

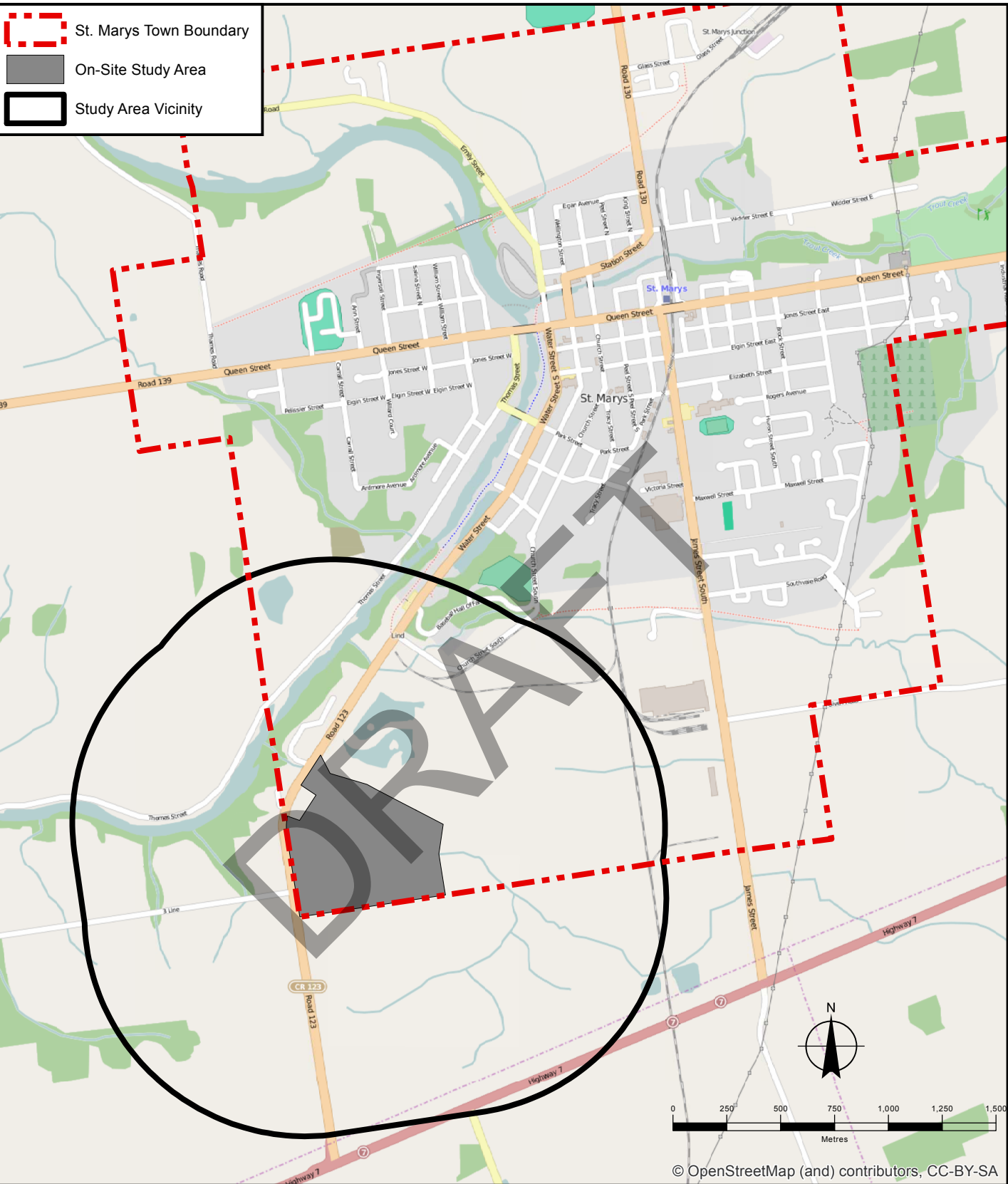


Figures

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		<p>THE CORPORATION OF THE TOWN OF ST. MARYS</p>	
Figure Title		<p>SITE LOCATION</p> <p>DRAFT</p>	
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CD	JR	July 2015	1
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Map Title

STUDY AREA

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**THE CORPORATION OF
THE TOWN OF ST. MARYS**

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