APPENDIX J

Stage I Archaeological and Heritage Assessment Reports

Stage 1 Archaeological Assessment
(Background Research and Property Inspection)

Derry Road Transportation Corridor Improvements
Class Environmental Assessment,
City of Burlington, Regional Municipality of Halton, Ontario

Prepared for:

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MCL PIF P057-559-2009
ASI File 09EA-206

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Stage 1 Archaeological Assessment
(Background Research and Property Inspection)

Derry Road Transportation Corridor Improvements Class Environmental Assessment, City of Burlington, Regional Municipality of Halton, Ontario

EXECUTIVE SUMMARY

Archaeological Services Inc. (ASI) was contracted by R and R Associates Inc., on behalf of Halton Region, to conduct a Stage 1 Archaeological Assessment (background research and property inspection) as part of the Derry Road Transportation Corridor Improvements Class Environmental Assessment (EA), City of Burlington, Regional Municipality of Halton, Ontario. The study corridor extends along Derry Road from Milburough Line to McNiven Road, City of Burlington.

The Stage 1 archaeological assessment determined that six archaeological sites have been registered within 1 km of the Derry Road study corridor, none of which are located immediately adjacent to it. Additionally, a review of the general geography and local nineteenth century land use of the study corridor suggested that it has potential for the identification of Aboriginal and Euro-Canadian archaeological sites.

Based on the results of the property inspection, it was determined that the Derry Road ROW has been subject to extensive and deep land alterations. Portions of the study corridor, adjacent to the ROW consist of rocky uneven terrain or can be characterized as low and wet. However, minimal disturbances have occurred along portions of the study corridor.

In light of these results, the following recommendations are made:

1. The existing Derry Road ROW does not retain archaeological site potential due to previous ground disturbances. Portions of the study corridor, adjacent to the ROW consist of rocky uneven terrain or can be characterized as low and wet. Additional archaeological assessment is therefore not required along these portions of the study corridor; and

2. If construction extends beyond the disturbed ROW, a Stage 2 assessment is recommended on any lands within the study corridor where there is potential for archaeological sites, in accordance with Ministry of Culture's 2009 *Draft Standards and Guidelines for Consultant Archaeologists*.

ARCHAEOLOGICAL SERVICES INC.
ENVIRONMENTAL ASSESSMENT DIVISION

PROJECT PERSONNEL

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Archaeological Services Inc. (ASI) was contracted by R and R Associates Inc., on behalf of Halton Region, to conduct a Stage 1 Archaeological Assessment (background research and property inspection) as part of the Derry Road Transportation Corridor Improvements Class Environmental Assessment (EA), City of Burlington, Regional Municipality of Halton, Ontario (Figure 1). The study corridor extends along Derry Road from Milburough Line to McNiven Road, City of Burlington.

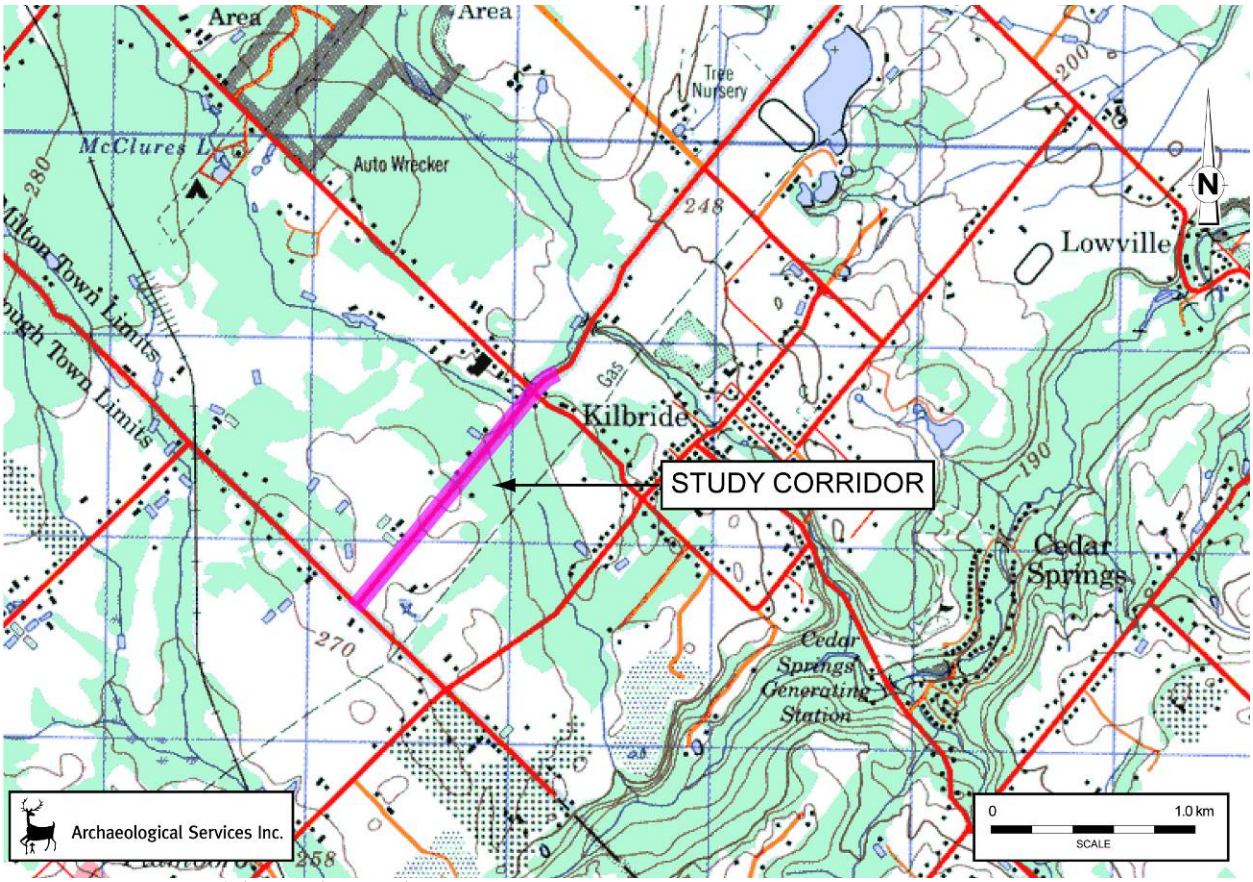

Figure 1: Location of the study corridor.

Base Map: NTS Sheet 30 M/05 (Hamilton-Burlington)

Authorization to carry out the activities necessary for the completion of the Stage 1 assessment was granted to ASI by R and R Associates Inc. on September 11, 2009.

The objectives of this report are:

- To provide information about the geography, history, previous archaeological fieldwork and current land condition of the study corridor;

- To evaluate in detail the archaeological potential of the study corridor which can be used, if necessary, to support recommendations for Stage 2 survey for all or parts of the property; and

- To recommend appropriate strategies for Stage 2 survey, if necessary.

2.0 BACKGROUND RESEARCH

The Stage 1 archaeological assessment of the study corridor was conducted in accordance with the *Ontario Heritage Act* (2005) and the Ontario Ministry of Culture's (MCL) *Draft Standards and Guidelines for Consultant Archaeologists* (2009). A Stage 1 archaeological assessment involves a background study to provide detailed documentary research on the archaeological and land use history and present conditions of the study corridor. Specifically, the background study provides information about previous archaeological fieldwork within and around the study corridor, its geography and history, and current land conditions.

2.1 Previous Archaeological Research

In order that an inventory of archaeological resources could be compiled for the study corridor, three sources of information were consulted: the site record forms for registered sites housed at the MCL; published and unpublished documentary sources; and the files of ASI.

In Ontario, information concerning archaeological sites is stored in the Ontario Archaeological Sites Database (OASD) maintained by the MCL. This database contains archaeological sites registered within the Borden system. Under the Borden system, Canada has been divided into grid blocks based on latitude and longitude. A Borden block is approximately 13 km east to west, and approximately 18.5 km north to south. Each Borden block is referenced by a four-letter designator, and sites within a block are numbered sequentially as they are found. The study corridor under review is located in Borden block *AiGx*.

According to the OASD (email communication, Robert von Bitter, MCL Data Coordinator, October 23, 2009), six archaeological sites have been registered within 1 km of the study corridor, none of which are located immediately adjacent to it (Table 1).

Table 1: List of registered sites within 1 km of the study corridor

Borden #	Site Name	Cultural Affiliation	Site Type	Researcher
AiGx-1	Bennett	Aboriginal – Woodland	Village, burial	J.V. Wright, n.d.
AiGx-10	Laurenssen	Aboriginal – Woodland	Village	MIA 1982, 1984-86
AiGx-90	South Track	Aboriginal – Woodland	Village	W. Finlayson 1985
AiGx-131	Rotten Cabbage	Aboriginal – Archaic	Isolated Find	W. Finlayson 1985
AiGx-132	Sheetrock	Unknown	Unknown	W. Finlayson 1985
AiGx-173	Richardson	Aboriginal	Campsite	MPA 1991

2.2 Geography

The study corridor is situated within the Flamborough Plain and the Niagara Escarpment Physiographic Regions of Southern Ontario. The Flamborough Plain is an isolated tract of shallow drift on the Niagara cuesta, northwest of Hamilton. It is approximately 400 km^2, bounded on the northwest by the Galt Moraine, and on the south by the silts and sands of glacial Lake Warren. A few drumlins are found scattered over this limestone plain and swamps are plentiful. The limestone has been swept bare in places, particularly near the edge of the escarpment on its eastern boarder (Chapman and Putman 1984: 129-130).

The Niagara Escarpment extends from the Niagara River to the northern tip of the Bruce Peninsula, continuing through the Manitoulin Islands. Vertical cliffs along the brow mostly outline the edge of the dolostone of the Lockport and Amabel Formations, which the slopes below are carved in red shale. Flanked by landscapes of glacial origin, the rock-hewn topography stands in striking contrast, and its steep-sided valleys are strongly suggestive of non-glacial regions. While the escarpment stands out boldly in the Niagara Peninsula and along the shore of Georgian Bay, there is an intervening area in which the slopes are mantled by morainic deposits, particularly in Mono and Mulmur Townships, and in the Town of Caledon, long stretches are almost completely hidden (Chapman and Putman 1984: 114-122).

Potable water is the single most important resource necessary for any extended human occupation or settlement. Since water sources have remained relatively stable in southeastern Ontario after the Pleistocene era, proximity to water can be regarded as a useful index for the evaluation of archaeological site potential. Indeed, distance from water has been one of the most commonly used variables for predictive modeling of site location.

The MCL's *Draft Standards and Guidelines for Consultant Archaeologists* (2009:5) stipulates that primary water sources (lakes, rivers, streams, creeks, etc.), secondary water sources (intermittent streams and creeks, springs, marshes, swamps, etc.), ancient water sources (glacial lake shorelines indicated by the presence of raised sand or gravel beach ridges, relic river or stream channels indicated by clear dip or swale in the topography, shorelines of drained lakes or marshes, cobble beaches, etc.), as well as accessible or inaccessible shorelines (high bluffs, swamp or marsh fields by the edge of a lake, sandbars stretching into marsh, etc.) are characteristics that indicate archaeological potential. A tributary of Bronte Creek bisects McNiven Road and flows adjacent to Derry Road.

Other geographic characteristics that can indicate archaeological potential include: elevated topography (eskers, drumlins, large knolls, plateaux), pockets of well-drained sandy soil, especially near areas of heavy soil or rocky ground, distinctive land formations that might have been special or spiritual places, such as waterfalls, rock outcrops, caverns, mounds, and promontories and their bases. There may be physical indicators of their use, such as burials, structures, offerings, rock paintings or carvings. Resource areas, including; food or medicinal plants (migratory routes, spawning areas, prairie) and scarce raw materials (quartz, copper, ochre, or outcrops of chert) are also considered characteristics that indicate archaeological potential (MCL 2009:5-6). If present, these characteristics will be described in Section 3.0.

Therefore, due to the proximity a tributary of Bronte Creek, the study corridor has potential for recovery of Aboriginal cultural material.

2.3 Land-Use History

2.3.1 Township Survey and Settlement

The study corridor is located in the within the Township of Nelson, Halton County. Historical research revealed that the land which encompasses the Township of Nelson contains a long and well-documented history extending to the early nineteenth century.

The land within Nelson Township was acquired by the British from the Mississaugas in 1795. The first township survey was undertaken in 1806, and the first legal settlers occupied their land holdings in the same year. The township was first named "Alexander Township" in honour of Alexander Grant the administrator of Upper Canada. In 1806, it was renamed in honour of Horatio Viscount Nelson, after his victory at Cabo Trafalgar in Spain the previous year. Nelson was initially settled by the children of Loyalists, soldiers who served during the War of 1812, and by immigrants from England, Scotland and Ireland. By the 1840s, the township was noted for its good land and excellent farms (Smith 1846:121; Armstrong 1985:143; Rayburn 1997:237).

2.3.2 Historic Map Review

The 1877 *Illustrated Historical Atlas of the County of Halton, Ontario* (Walker & Miles) was reviewed to determine the potential for the presence of historical archaeological remains within the study corridor during the nineteenth century (Figure 2).

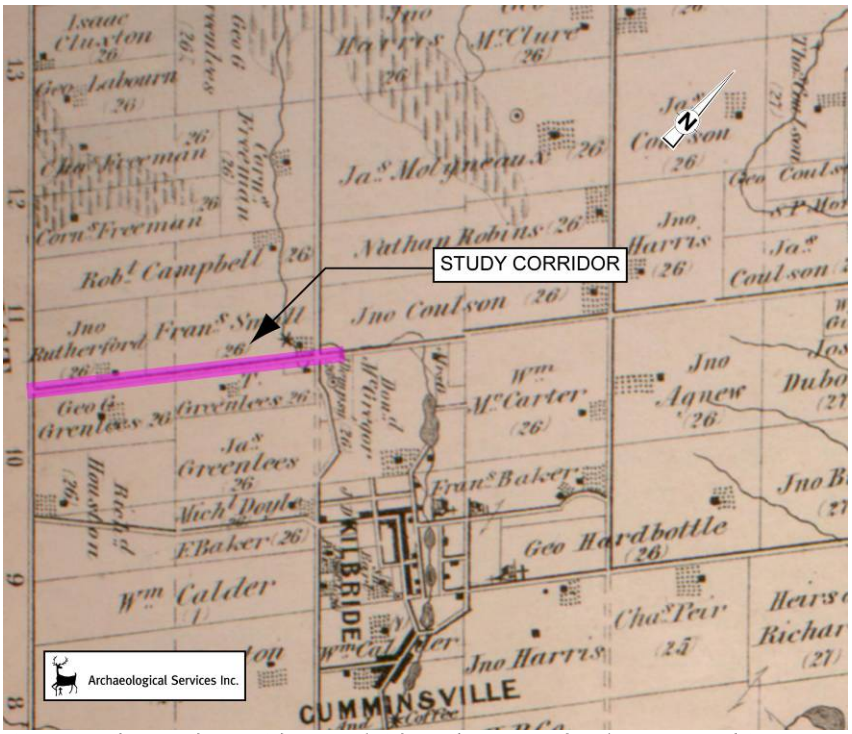

Figure 2: The study corridor overlaid on the map of Nelson Township
Source: 1877 *Illustrated Historical Atlas of the County of Halton.*

Historically, the study corridor is located on part of Lots 10 and 11, Concession I and II, in the former Township of Nelson, Halton County. The atlas depicts several property owners/residents and historic features adjacent to the study corridor (Table 2). It should be noted, however, that not all features of interest were mapped systematically in the Ontario series of historical atlases, given that they were financed by subscription, and subscribers were given preference with regard to the level of detail provided on the maps. Moreover, not every feature of interest would have been within the scope of the 1877 atlas.

Table 2: Summary of Property Owners and Historic Features Adjacent to the Study Corridor

Lot	Concession	Property Owners	Historic Features
10	I	George G. Greenlees T. Greenlees	 Homestead
	II	J. Dempsy	Lime Kiln
11	I	John Rutherford Francis Small	Homestead, orchard Saw Mill, homestead, orchard
	II	John Coulson	

For the Euro-Canadian period, the majority of early nineteenth century farmsteads (i.e., those which are arguably the most potentially significant resources and whose locations are rarely recorded on nineteenth century maps) are likely to be captured by the basic proximity to the water model outlined in Section 2.2, since these occupations were subject to similar environmental constraints. An added factor, however, is the development of the network of concession roads and railroads through the course of the nineteenth century. These transportation routes frequently influenced the siting of farmsteads and businesses. Accordingly, undisturbed lands within 100 m of an early settlement road, such as Derry Road, are also considered to have potential for the presence of Euro-Canadian archaeological sites.

The MCL's *Draft Standards and Guidelines for Consultant Archaeologists* (2009: 6) stipulates that that areas of early Euro-Canadian settlement (pioneer homesteads, isolated cabins, farmstead complexes), early wharf or dock complexes, pioneer churches and early cemeteries, are considered to have archaeological potential. There may be commemorative markers of their history, such as local, provincial, or federal monuments or heritage parks. Early historical transportation routes (trails, passes, roads, railways, portage routes), properties listed on a municipal register or designated under the *Ontario Heritage Act* or a federal, provincial, or municipal historic landmark or site, and properties that local histories or informants have identified with possible archaeological sites, historical events, activities, or occupations are also considered to have archaeological potential.

Therefore, based on the proximity to early Euro-Canadian settlements and early settlement roads, it may be concluded that there is potential for the recovery of historic cultural material within the study corridor.

3.0 ANALYSIS: ARCHAEOLOGICAL POTENTIAL EVALUATION

The MCL's draft *Standards and Guidelines for Consultant Archaeologists* list characteristics that indicate where archaeological resources are most likely to be found (2009: 5-6). Archaeological potential is confirmed when one or more features of archaeological potential are present.

Per Section 1.3.1 of the MCL standards and guidelines, the study corridor meets three of the criteria used for determining archaeological potential:

- Water sources: primary water source, or secondary water source; or past water source (i.e. a tributary of Bronte Creek);
- Areas of early Euro-Canadian settlement (i.e. 19th century homesteads, lime kiln, saw mill); and
- Early historical transportation routes (i.e. Derry Road).

These criteria characterize the study corridor as having potential for the identification of Aboriginal and Euro-Canadian archaeological sites.

4.0 PROPERTY INSPECTION

A property inspection of the study corridor was conducted by Peter Carruthers (P163), ASI, on November 6, 2009, in order to gain first-hand knowledge of its geography, topography, and current conditions, and to evaluate and map its archaeological potential. It is a visual inspection only and does not include excavation or collection of archaeological resources. Weather conditions during the property inspection were sunny, with a few clouds, and -1°C.

Typically, rights-of-way (ROW) can be divided into two areas: the disturbed ROW, and ROW lands beyond the disturbed ROW. The typically disturbed ROW extends outwards from either side of the centerline of the traveled lanes, and it includes the traveled lanes and shoulders and extends to the toe of the fill slope, the top of the cut slope, or the outside edge of the drainage ditch, whichever is furthest from the centerline. Subsurface disturbance within these lands may be considered extreme and pervasive, thereby negating any archaeological potential for such lands.

ROW construction disturbance may be found to extend beyond the typical disturbed ROW area, and this generally includes additional grading, cutting and filling, additional drainage ditching, watercourse alteration or channelization, servicing, removals, intensive landscaping, and heavy construction traffic. Areas beyond the typically disturbed ROW generally require archaeological assessment in order to determine archaeological potential relative to the type or scale of disturbances that may have occurred in these zones.

The overall Class EA study is considering a number of road improvement alternatives along the Derry Road corridor from Milburough Line to McNiven Road. The property inspection proceeded from west to east, starting at Milburough Line and focused on the Derry Road ROW and the immediately adjacent lands.

Derry Road is a major east-west arterial road and consists of a two lane rural cross-section. The Derry Road ROW has been subject to extensive and deep land alterations that have severely damaged the integrity of any archaeological resources. ROW disturbances can be attributed to typical road construction, exhibiting ditching, grading, and utility installation (i.e. hydro and lighting) (Plates 1, 3, 5-7, 10-11, 19-20). Due to the extent of previous disturbance, the Derry Road ROW does not exhibit archaeological site potential. No further archaeological assessment is required (Figures 4-6: areas marked in yellow).

A portion of the study corridor is situated within the Niagara Escarpment. The lands adjacent to the ROW, along this portion of the corridor, consist of a rough, rocky, uneven terrain (Plates 12-13). These

portions of the study corridor contain low archaeological site potential. No further archaeological assessment is therefore required (Figure 5: areas marked in irregular stipple).

As mentioned in Section 2.2, tributary of Bronte Creek bisects McNiven Road and flows adjacent to Derry Road. The lands immediately adjacent to the creek can characterized as being low and wet and do not have archaeological potential (Plates 21-22). Derry Road also dips into a wetland area approximately 260 m west of McNiven Road (Plates 14-15). No further archaeological assessment is therefore required at these locations (Figures 5-6: area marked in blue).

Beyond the disturbed ROW, the surrounding countryside crosses agricultural fields (Plates 2, 4, 11), woodlots (Plates 16, 19), and minor landscaped lawns (17-18, 20, 23), and 19th century homesteads (8-9). These areas have remained relatively undisturbed, and they exhibit archaeological site potential due to there proximity to a historic transportation route. Should road improvements encroach upon undisturbed land with archaeological potential beyond the disturbed ROW, a Stage 2 assessment should be conducted (Figures 4-6: areas marked in green).

5.0 RECOMMENDATIONS AND COMPLIANCE ADVICE

The Stage 1 archaeological assessment is being conducted to assist with the Derry Road Transportation Corridor Improvements Class EA. The assessment determined that six archaeological sites have been registered within 1 km of the Derry Road study corridor, none of which are located immediately adjacent to it. Additionally, a review of the general physiography and local nineteenth century land use of the study corridor suggested that it has potential for the identification of Aboriginal and Euro-Canadian archaeological sites.

Based on the results of the property inspection, it was determined that the Derry Road ROW has been subject to extensive and deep land alterations. Portions of the study corridor, adjacent to the ROW consist of rocky uneven terrain or can be characterized as low and wet. However, minimal disturbances have occurred along portions of the study corridor.

In light of these results, the following recommendations are made:

1. The existing Derry Road ROW does not retain archaeological site potential due to previous ground disturbances (Figures 4-6: areas marked in yellow). Portions of the study corridor, adjacent to the ROW consist of rocky uneven terrain (Figures 5-6: areas marked in irregular stipple) or can be characterized as low and wet (Figures 5-6: area marked in blue). Additional archaeological assessment is therefore not required along these portions of the study corridor; and

2. If construction extends beyond the disturbed ROW, a Stage 2 assessment is recommended on any lands within the study corridor where there is potential for archaeological sites (Figures 4-6: areas marked in green), in accordance with Ministry of Culture's *Draft Standards and Guidelines for Consultant Archaeologists* (MCL 2009).

ASI advises compliance with the following legislation:

- This report is submitted to the Minister of Culture as a condition of licensing in accordance with Part VI of the *Ontario Heritage Act*, RSO 1990, c 0.18. The report is reviewed to ensure that the

licensed consultant archaeologist has met the terms and conditions of their archaeological licence, and that the archaeological fieldwork and report recommendations ensure the conservation, preservation and protection of the cultural heritage of Ontario;

- Should previously undocumented archaeological resources be discovered, they may be a new archaeological site and therefore subject to Section 48 (1) of the *Ontario Heritage Act*. The proponent or person discovering the archaeological resources must cease alteration of the site immediately and engage a licensed consultant archaeologist to carry out archaeological fieldwork, in compliance with sec. 48 (1) of the *Ontario Heritage Act*; and

- The *Cemeteries Act* requires that any person discovering human remains must immediately notify the police or coroner and the Registrar of Cemeteries, Ministry of Consumer Services.

The documentation related to this archaeological assessment will be curated by Archaeological Services Inc. until such a time that arrangements for their ultimate transfer to Her Majesty the Queen in right of Ontario, or other public institution, can be made to the satisfaction.

6.0 REFERENCES CITED

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1985 *Handbook of Upper Canadian Chronology*. Toronto: Dundurn Press.

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Ministry of Culture
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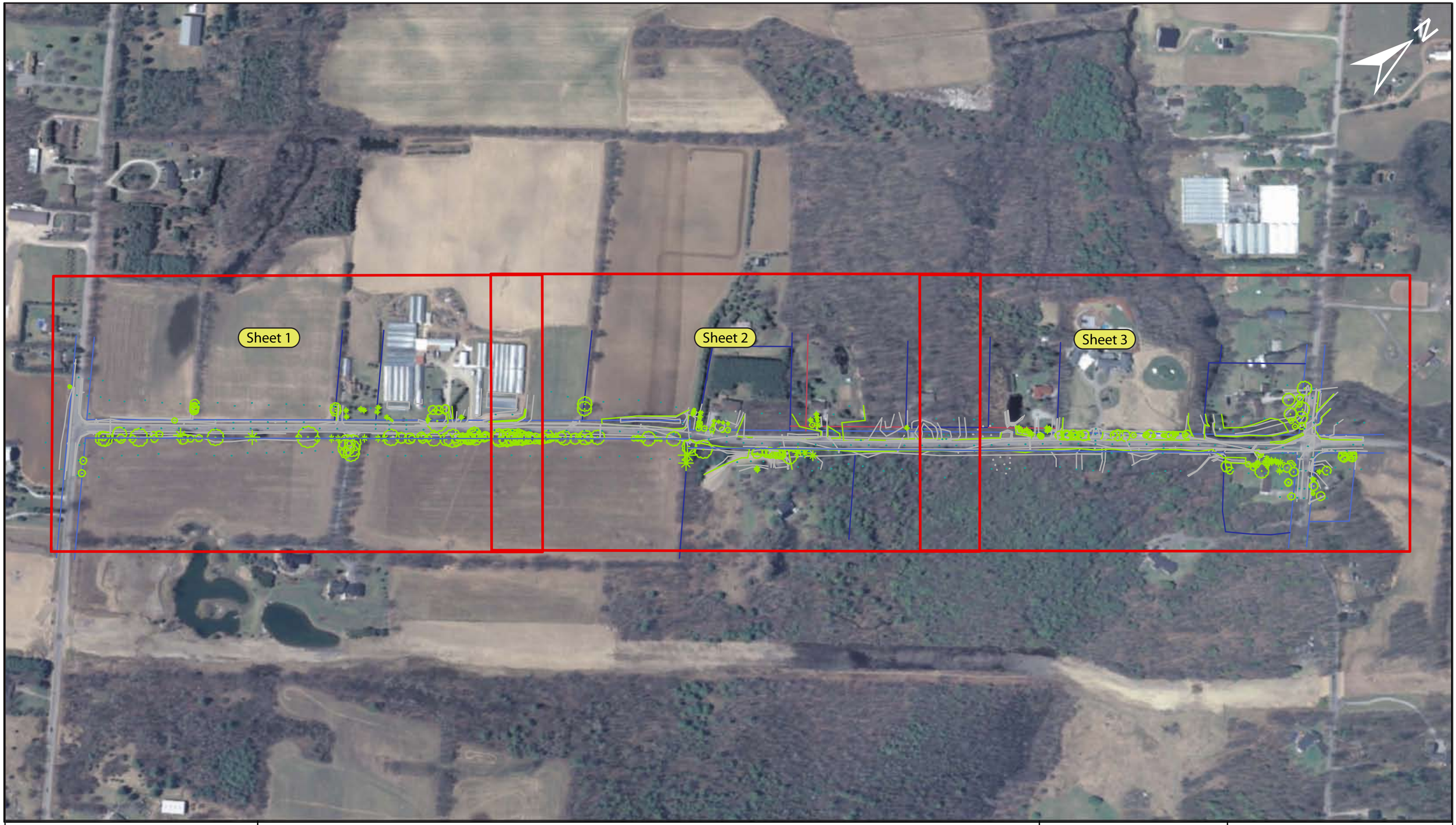
7.0 OVERSIZED GRAPHICS

Figure 3: Key Plan
Figure 4: Derry Road Transportation Corridor Improvements Class – Results of the Stage 1 Archaeological Assessment
Figure 5: Derry Road Transportation Corridor Improvements Class – Results of the Stage 1 Archaeological Assessment
Figure 6: Derry Road Transportation Corridor Improvements Class – Results of the Stage 1 Archaeological Assessment



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LEGEND

- Existing Features
- Vegetation
- LS-LINES MISC
- OG
- PROPERTY-SIDELINES COMPILED
- PROPERTY-STREETLINE

BASE:

TOPOGRAPHIC SKETCH OF
DERRY ROAD - REGIONAL ROAD NO. 7
CUNNINGHAM McCONNELL LIMITED
APRIL 30, 2009
O.L.S. FILE # 09-41

0 55 110 220
Meters

ASI PROJECT NO.: 09EA206-207
DATE: OCT 23rd, 2009
DRAWN BY: J.F.
FILE: 09EA206_207_key

Figure 3: Key Plan

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LEGEND

- Existing Features
- Vegetation
- LS-Lines Misc
- OG
- Property-Sidelines Compiled
- Property-Streetline

BASE:

TOPOGRAPHIC SKETCH OF
DERRY ROAD - REGIONAL ROAD NO. 7
CUNNINGHAM McCONNELL LIMITED
APRIL 30, 2009
O.L.S. FILE # 09-41

0 20 40 80
Meters

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Figure 4: Derry Road Transportation Corridor Improvements Class EA - Results of the Stage 1 Archaeological Assessment

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LEGEND
- Existing Features
- Vegetation
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- OG
- Property-Sidelines Compiled
- Property-Streetline

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TOPOGRAPHIC SKETCH OF
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O.L.S. FILE # 09-41

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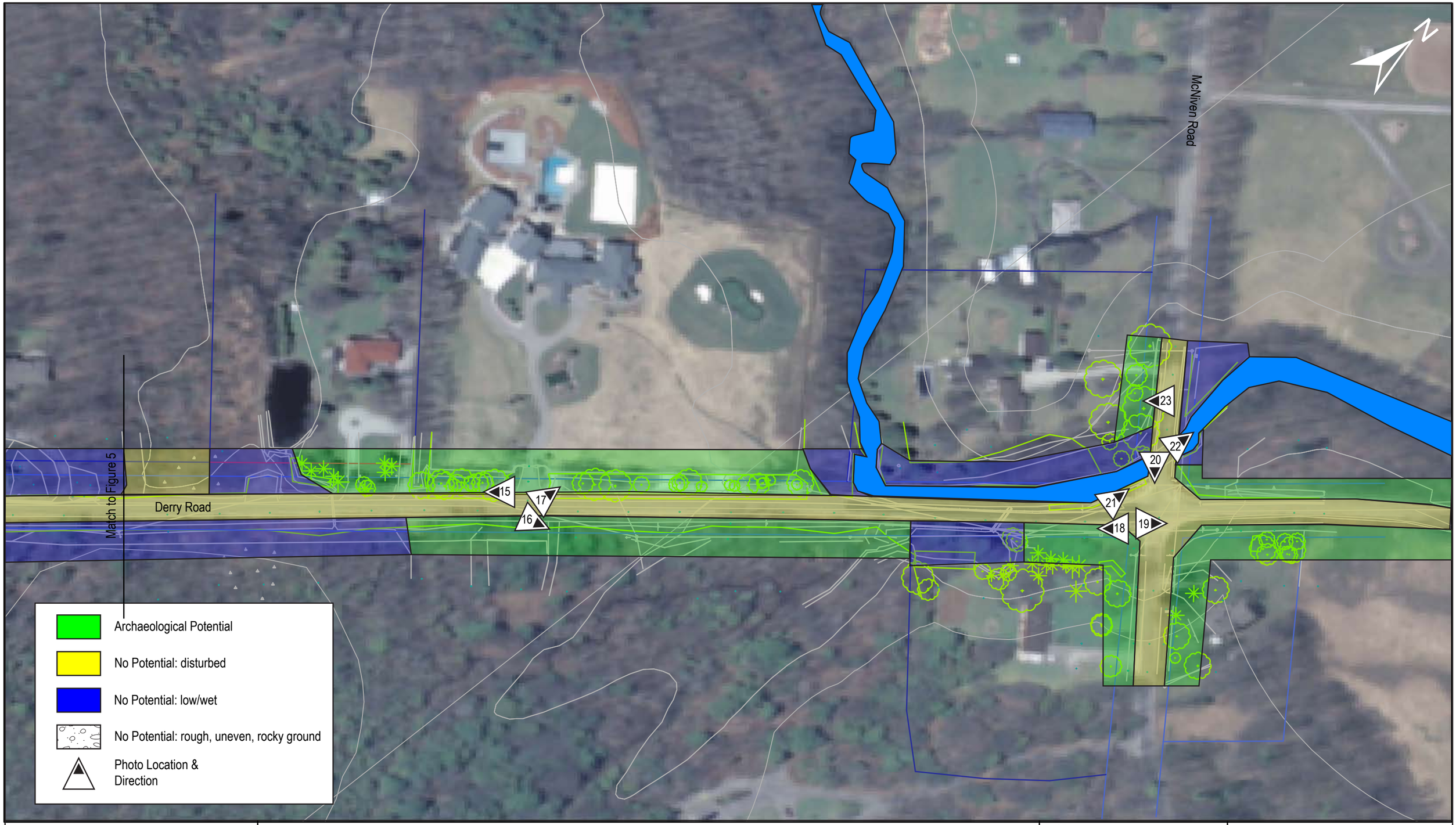
Figure 5: Derry Road Transportation Corridor Improvements Class EA - Results of the Stage 1 Archaeological Assessment



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LEGEND
Existing Features
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0 20 40 80
Meters

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FILE: 09EA206_207_s3

Figure 6: Derry Road Transportation Corridor Improvements Class EA - Results of the Stage 1 Archaeological Assessment

8.0 PHOTOGRAPHY

Plate 1: View south-southeast along Milburough Line ROW.

Plate 2: View northeast toward agricultural field adjacent to Derry Rd

Plate 3: View northeast along Derry Rd. Note narrow ROW.

Plate 4: View northeast toward agricultural field adjacent to Derry Rd.

Plate 5: View southwest along Derry Rd. ROW.

Plate 6: View northeast along Derry Rd. ROW.

Plate 7: View northeast along Derry Rd. ROW.

Plate 8: View southeast along entrance to 1094 Derry Rd. Note mature trees lining entrance.

Plate 9: View southeast toward 19th century homestead.

Plate 10: View south-southwest along narrow Derry Rd. ROW.

Plate 11: View north-northeast along narrow Derry Rd. ROW which curves in distance to avoid bedrock outcrop. Undisturbed land is present on both sides of road.

Plate 12: View south-southwest along Derry Rd. ROW with rough, rocky terrain adjacent to ROW.

Plate 13: View west across Derry Rd. toward limestone bedrock knoll.

Plate 14: View northeast along Derry Rd. with low/wet ground on either side of road.

Plate 15: View southwest along Derry Rd. with wetland on left and undisturbed area on right.

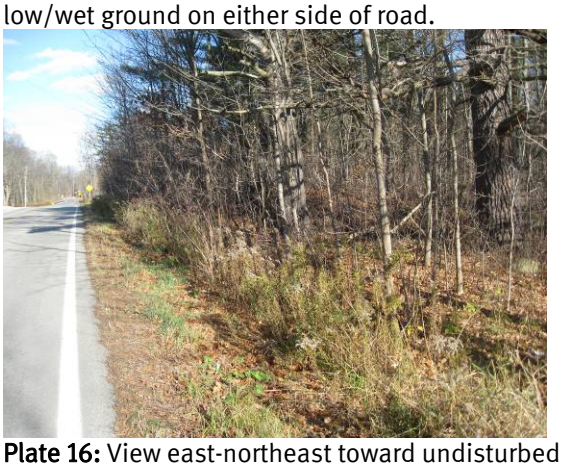

Plate 16: View east-northeast toward undisturbed woodlot.

Plate 17: View north toward residential property that is disturbed and landscaped beyond fence. However, integrity is present along tree line.

Plate 18: View southwest across undisturbed front lawn.

Plate 19: View northeast across Derry Rd./ McNiven Rd. intersection. Undisturbed lands are present beyond ROW.

Plate 20: View southeast across Derry Rd./ McNiven Rd. intersection.

Plate 21: View north toward poured concrete bridge over tributary of Bronte Creek at McNiven Rd.

Plate 22: View north downstream tributary of Bronte Creek. Ground immediately adjacent to stream is low/wet. Level ground ahs potential.

Plate 23: View southwest toward residential property that has remained relatively undisturbed.

Cultural Heritage Resource Assessment:
Built Heritage Resources and Cultural Heritage Landscapes

Derry Road Transportation Corridor Improvements
Class Environmental Assessment,
City of Burlington, Regional Municipality of Halton, Ontario

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Cultural Heritage Resource Assessment:
Built Heritage Resources and Cultural Heritage Landscapes

Derry Road Transportation Corridor Improvements
Class Environmental Assessment,
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A review of background historical research and heritage inventories maintained by the City of Burlington, Town of Milton and City of Hamilton confirmed that the study corridor is historically located on part of Lots 10 and 11, Concession I and II, in the former Township of Nelson, Halton County and retains a select number of cultural heritage resources. The Township of Nelson experienced Euro-Canadian settlement activities in the early nineteenth century, and by the end of the century, the township had flourished as an ideal place for agricultural land use activities. The 1877 historical atlas maps confirms that lands adjacent to the study corridor had been cleared and developed for agricultural and industrial purposes and features a range of structural and landscape features, such as a lime kiln, a mill or manufactory, a water crossing, farmsteads, and orchards.

The results of the field review confirmed that the study corridor retains visual, landscape, and structural reminders of this rural nineteenth century land use history. Four cultural heritage resources were identified adjacent to the Derry Road Road right-of-way.

Based on the results of the field review and identification of potential impacts, the following mitigation measures are recommended:

1. Road improvements should be suitably planned in a manner that avoids identified, above ground, cultural heritage resources;

2. Wherever possible, historic roadscapes should be maintained through the use of landscaping with historic plant materials for berms or vegetative screens, and identified tree and fence lines, as well as hedge rows should be preserved where extant; and

3. When detailed road improvements plans are complete, specific impacts of the undertaking should be identified and appropriate mitigation measures developed, including, but not limited to, requirements for heritage impact assessments, documentation reports, and/or buffering strategies.

ARCHAEOLOGICAL SERVICES INC.
ENVIRONMENTAL ASSESSMENT DIVISION

PROJECT PERSONNEL

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1.0 INTRODUCTION

Archaeological Services Inc. (ASI) was contracted by R and R Associates Inc., on behalf of Halton Region, to conduct a Cultural Heritage Resource Assessment as part of the Derry Road Transportation Corridor Improvements Class Environmental Assessment (EA), City of Burlington, Regional Municipality of Halton, Ontario (Figure 1). The study corridor extends along Derry Road from Milburough Line to McNiven Road, City of Burlington.

The purpose of this report is to present a built heritage and cultural landscape inventory of cultural heritage resources in the study area, identify general impacts to identified cultural heritage resources, and propose appropriate mitigation measures. This research was conducted under the project direction of Rebecca A. Sciarra, Heritage Planner.

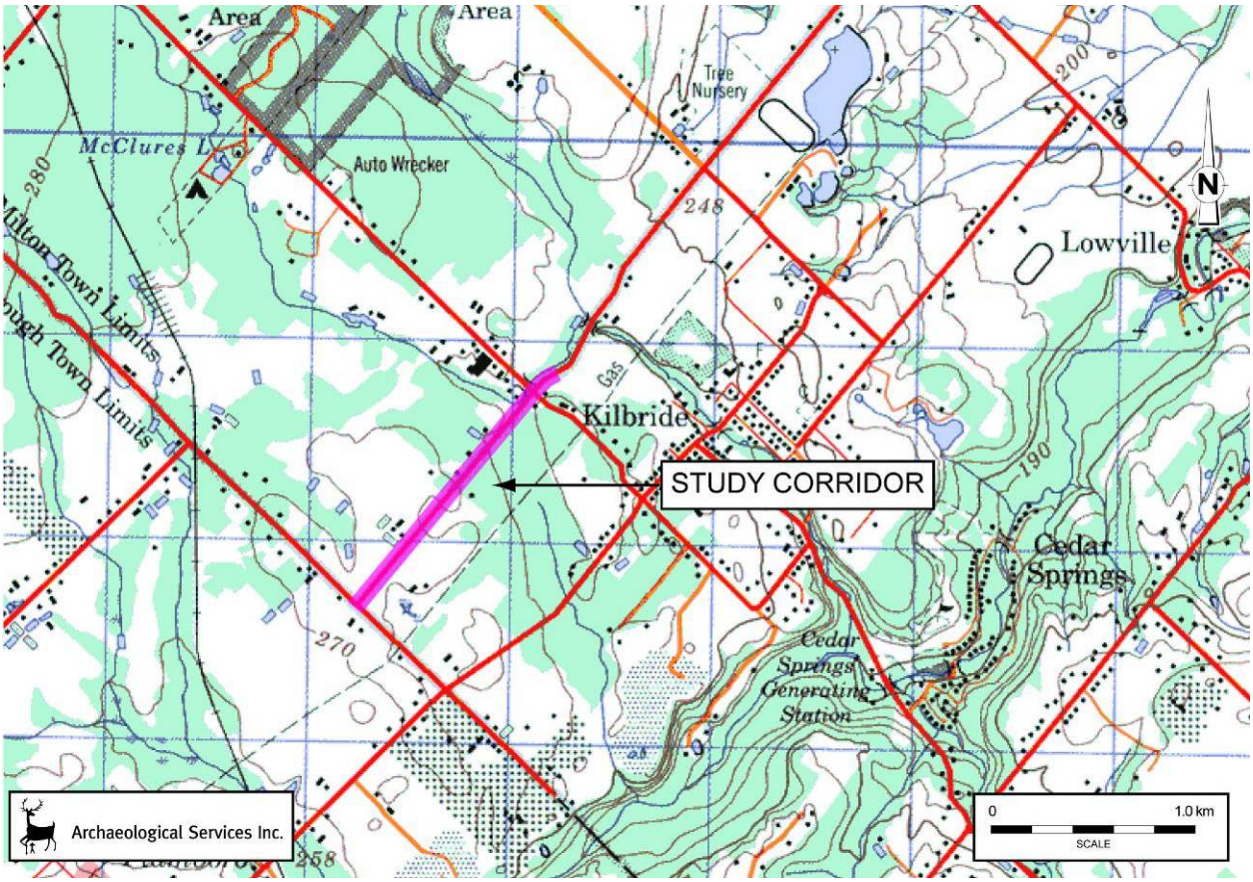

Figure 1: Location of the study corridor.

Base Map: NTS Sheet 30 M/05 (Hamilton-Burlington)

2.0 BUILT HERITAGE RESOURCE AND CULTURAL HERITAGE LANDSCAPE ASSESSMENT CONTEXT

2.1 Approach and Methodology

This cultural heritage assessment considers cultural heritage resources in the context of improvements to specified areas, pursuant to the *Environmental Assessment Act*. This assessment addresses above ground cultural heritage resources over 40 years old. Use of a 40 year old threshold is a guiding principle when conducting a preliminary identification of cultural heritage resources (Ministry of Transportation 2006; Ministry of Transportation 2007; Ontario Realty Corporation 2007). While identification of a resource that is 40 years old or older does not confer outright heritage significance, this threshold provides a means to collect information about resources that may retain heritage value. Similarly, if a resource is slightly younger than 40 years old, this does not preclude the resource from retaining heritage value.

The proposed road improvements have the potential to affect cultural heritage resources in a variety of ways. These include the loss or displacement of resources through removal or demolition and the disruption of resources by introducing physical, visual, audible or atmospheric elements that are not in keeping with the resources and/or their setting.

For the purposes of this assessment, the term cultural heritage resources was used to describe both cultural landscapes and built heritage features. A cultural landscape is perceived as a collection of individual built heritage features and other related features that together form farm complexes, roadscapes and nucleated settlements. Built heritage features are typically individual buildings or structures that may be associated with a variety of human activities, such as historical settlement and patterns of architectural development.

The analysis throughout the study process addresses cultural heritage resources under various pieces of legislation and their supporting guidelines. Under the *Environmental Assessment Act* (1990) environment is defined in Subsection 1(c) to include:

- cultural conditions that influence the life of man or a community, and;
- any building, structure, machine, or other device or thing made by man.

The Ministry of Culture is charged under Section 2 of the *Ontario Heritage Act* with the responsibility to determine policies, priorities and programs for the conservation, protection and preservation of the heritage of Ontario and has published two guidelines to assist in assessing cultural heritage resources as part of an environmental assessment: *Guideline for Preparing the Cultural Heritage Resource Component of Environmental Assessments* (1992), and *Guidelines on the Man-Made Heritage Component of Environmental Assessments* (1981). Accordingly, both guidelines have been utilized in this assessment process.

The Guidelines on the Man-Made Heritage Component of Environmental Assessments (Section 1.0) states the following:

> When speaking of man-made heritage we are concerned with the works of man and the effects of his activities in the environment rather than with movable human artifacts or those environments that are natural and completely undisturbed by man.

In addition, environment may be interpreted to include the combination and interrelationships of human artifacts with all other aspects of the physical environment, as well as with the social, economic and cultural conditions that influence the life of the people and communities in Ontario. The *Guidelines on the Man-Made Heritage Component of Environmental Assessments* distinguish between two basic ways of visually experiencing this heritage in the environment, namely as cultural landscapes and as cultural features.

Within this document, cultural landscapes are defined as the following (Section 1.0):

> The use and physical appearance of the land as we see it now is a result of man's activities over time in modifying pristine landscapes for his own purposes. A cultural landscape is perceived as a collection of individual man-made features into a whole. Urban cultural landscapes are sometimes given special names such as townscapes or streetscapes that describe various scales of perception from the general scene to the particular view. Cultural landscapes in the countryside are viewed in or adjacent to natural undisturbed landscapes, or waterscapes, and include such landuses as agriculture, mining, forestry, recreation, and transportation. Like urban cultural landscapes, they too may be perceived at various scales: as a large area of homogeneous character; or as an intermediate sized area of homogeneous character or a collection of settings such as a group of farms; or as a discrete example of specific landscape character such as a single farm, or an individual village or hamlet.

A cultural feature is defined as the following (Section 1.0):

> …an individual part of a cultural landscape that may be focused upon as part of a broader scene, or viewed independently. The term refers to any man-made or modified object in or on the land or underwater, such as buildings of various types, street furniture, engineering works, plantings and landscaping, archaeological sites, or a collection of such objects seen as a group because of close physical or social relationships.

Additionally, the *Planning Act* (1990) and related *Provincial Policy Statement* (*PPS*) make a number of provisions relating to heritage conservation. One of the general purposes of the *Planning Act* is to integrate matters of provincial interest in provincial and municipal planning decisions. In order to inform all those involved in planning activities of the scope of these matters of provincial interest, Section 2 of the *Planning Act* provides an extensive listing. These matters of provincial interest shall be regarded when certain authorities, including the council of a municipality, carry out their responsibilities under the *Act*. One of these provincial interests is directly concerned with:

> 2.0 …protecting cultural heritage and archaeological resources for their economic, environmental, and social benefits.

Part 4.5 of the *PPS* states that:

> Comprehensive, integrated and long-term planning is best achieved through municipal official plans. Municipal official plans shall identify provincial interests and set out appropriate land use designations and policies. Municipal official plans should also coordinate cross-boundary matters to complement the actions of other planning authorities and promote mutually beneficial solutions.

> Municipal official plans shall provide clear, reasonable and attainable policies to protect provincial interests and direct development to suitable areas.
>
> In order to protect provincial interests, planning authorities shall keep their official plans up-to-date with this Provincial Policy Statement. The policies of this Provincial Policy Statement continue to apply after adoption and approval of a municipal official plan.

Those policies of particular relevance for the conservation of heritage features are contained in Section 2- Wise Use and Management of Resources, wherein Subsection 2.6 - Cultural Heritage and Archaeological Resources, makes the following provisions:

> 2.6.1 Significant built heritage resources and cultural heritage landscapes shall be conserved.

A number of definitions that have specific meanings for use in a policy context accompany the policy statement. These definitions include built heritage resources and cultural heritage landscapes.

Built heritage resources mean one or more buildings, structures, monuments, installations or remains associated with architectural, cultural, social, political, economic, or military history, and identified as being important to a community.

*Cultural heritage landscape*s mean a defined geographical area of heritage significance that has been modified by human activities. Such an area is valued by a community, and is of significance to the understanding of the history of a people or place. Examples include farmscapes, historic settlements, parks, gardens, battlefields, mainstreets and neighbourhoods, cemeteries, trailways, and industrial complexes of cultural heritage value (*PPS* 2005).

In addition, significance is also more generally defined. It is assigned a specific meaning according to the subject matter or policy context, such as wetlands or ecologically important areas. With regard to cultural heritage and archaeology resources, resources of significance are those that are valued for the important contribution they make to our understanding of the history of a place, an event, or a people (*PPS* 2005).

Criteria for determining significance for the resources are recommended by the Province, but municipal approaches that achieve or exceed the same objective may also be used. While some significant resources may already be identified and inventoried by official sources, the significance of others can only be determined after evaluation (*PPS* 2005).

Accordingly, the foregoing guidelines and relevant policy statement were used to guide the scope and methodology of the cultural heritage assessment.

2.2 Data Collection

In the course of the cultural heritage assessment, all potentially affected cultural heritage resources within the study corridor are subject to inventory. Short form names are usually applied to each resource type, (e.g. barn, residence). Generally, when conducting a preliminary identification of cultural heritage resources, three stages of research and data collection are undertaken to appropriately establish the potential for and existence of cultural heritage resources in a particular geographic area.

Background historic research, which includes consultation of primary and secondary source research and historic mapping, is undertaken to identify early settlement patterns and broad agents or themes of change in a study area. This stage in the data collection process enables the researcher to determine the presence of sensitive heritage areas that correspond to 19th and 20th century settlement and development patterns. To augment data collected during this stage of the research process, federal, provincial, and municipal databases and/or agencies are consulted to obtain information about specific properties that have been previously identified and/or designated as retaining cultural heritage value. Typically, resources identified during these stages of the research process are reflective of particular architectural styles, associated with an important person, place, or event, and contribute to the contextual facets of a particular place, neighbourhood, or intersection.

A field review is then undertaken to confirm the location and condition of previously identified cultural heritage resources. The field review is also utilized to identify cultural heritage resources that have not been previously identified on federal, provincial, or municipal databases.

Several investigative criteria are utilized during the field review to appropriately identify new cultural heritage resources. These investigative criteria are derived from provincial guidelines, definitions, and past experience. A built structure or landscape is identified as a cultural heritage resource that should be considered during the course of the environmental assessment, if the resource meets a combination of the following criteria:

- It is 40 years or older;
- It is a rare, unique, representative or early example of a style, type, expression, material or construction method;
- It displays a high degree of craftsmanship or artistic merit;
- It demonstrates a high degree of technical or scientific achievement;
- The site and/or structure retains original stylistic features and has not been irreversibly altered so as to destroy its integrity;
- It has a direct association with a theme, event, belief, person, activity, organization, or institution that is significant to: the Town of Milton, City of Burlington, City of Hamilton; the Province of Ontario; Canada; or the world heritage list;
- It yields, or had the potential to yield, information that contributes to an understanding of: the Town of Milton, City of Burlington, City of Hamilton; the Province of Ontario; Canada; or the world heritage list;
- It demonstrates or reflects the work or ideas of an architect, artist builder, designer, or theorist who is significant to: the Town of Milton, City of Burlington, City of Hamilton; the Province of Ontario; Canada; or the world heritage list;
- It is important in defining, maintaining, or supporting the character of an area;
- It is physically, functionally, visually, or historically linked to its surroundings;
- It is a landmark;
- It illustrates a significant phase in the development of the community or a major change or turning point in the community's history;
- The landscape contains a structure other than a building (fencing, culvert, public art, statue, etc.) that is associated with the history or daily life of that area or region; or
- There is evidence of previous historic and/or existing agricultural practices (e.g. terracing, deforestation, complex water canalization, apple orchards, vineyards, etc.).

If a resource satisfies an appropriate combination of these criteria, it will be identified as a cultural heritage resource and is subject to further research where appropriate and when feasible. Typically, further historical research and consultation is required to determine the specific significance of the identified cultural heritage resource.

When identifying cultural heritage landscapes, the following categories are typically utilized for the purposes of the classification during the field review:

Farm complexes:	comprise two or more buildings, one of which must be a farmhouse or barn, and may include a tree-lined drive, tree windbreaks, fences, domestic gardens and small orchards.
Roadscapes:	generally two-lanes in width with absence of shoulders or narrow shoulders only, ditches, tree lines, bridges, culverts and other associated features.
Waterscapes:	waterway features that contribute to the overall character of the cultural heritage landscape, usually in relation to their influence on historic development and settlement patterns.
Railscapes:	active or inactive railway lines or railway rights of way and associated features.
Historical settlements:	groupings of two or more structures with a commonly applied name.
Streetscapes:	generally consists of a paved road found in a more urban setting, and may include a series of houses that would have been built in the same time period.
Historical agricultural Landscapes:	generally comprises a historically rooted settlement and farming pattern that reflects a recognizable arrangement of fields within a lot and may have associated agricultural outbuildings and structures
Cemeteries:	land used for the burial of human remains.

Results of data collection are contained in Section 3.0; while Sections 4.0 and 5.0 contain conclusions and recommend mitigation measures with respect to the undertaking.

3.0 BUILT HERITAGE RESOURCE AND CULTURAL HERITAGE LANDSCAPE ASSESSMENT

3.1 Introduction

This section provides a brief summary of historic research and a description of cultural heritage resources that may be affected by the proposed road improvements. The study area is located in the City of Burlington, and borders the Town of Milton and the City of Hamilton. Historically, the study corridor is located on part of Lots 10 and 11, Concession I and II, in the former Township of Nelson, Halton County.

3.2 Township Survey and Settlement

The study corridor is located in the within the Township of Nelson, Halton County. Historical research revealed that the land which encompasses the Township of Nelson contains a long and well-documented history extending to the early nineteenth century.

The land within Nelson Township was acquired by the British from the Mississaugas in 1795. The first township survey was undertaken in 1806, and the first legal settlers occupied their land holdings in the same year. The township was first named "Alexander Township" in honour of Alexander Grant the administrator of Upper Canada. In 1806, it was renamed in honour of Horatio Viscount Nelson, after his victory at Cabo Trafalgar in Spain the previous year. Nelson was initially settled by the children of Loyalists, soldiers who served during the War of 1812, and by immigrants from England, Scotland and Ireland. By the 1840s, the township was noted for its good land and excellent farms (Smith 1846:121; Armstrong 1985:143; Rayburn 1997:237).

3.3 Historic Map Review

The 1877 *Illustrated Historical Atlas of the County of Halton, Ontario* (Walker & Miles) was reviewed to determine the potential for the presence of potential cultural heritage resources within the study corridor during the nineteenth century (Figure 2). The Atlas confirms that lands on either side of Derry Road were cleared and under cultivation at this time and retained a series of structures and landscape elements including a mill or manufactory, a lime kiln, farmsteads, orchards, and water crossings (Table 1).

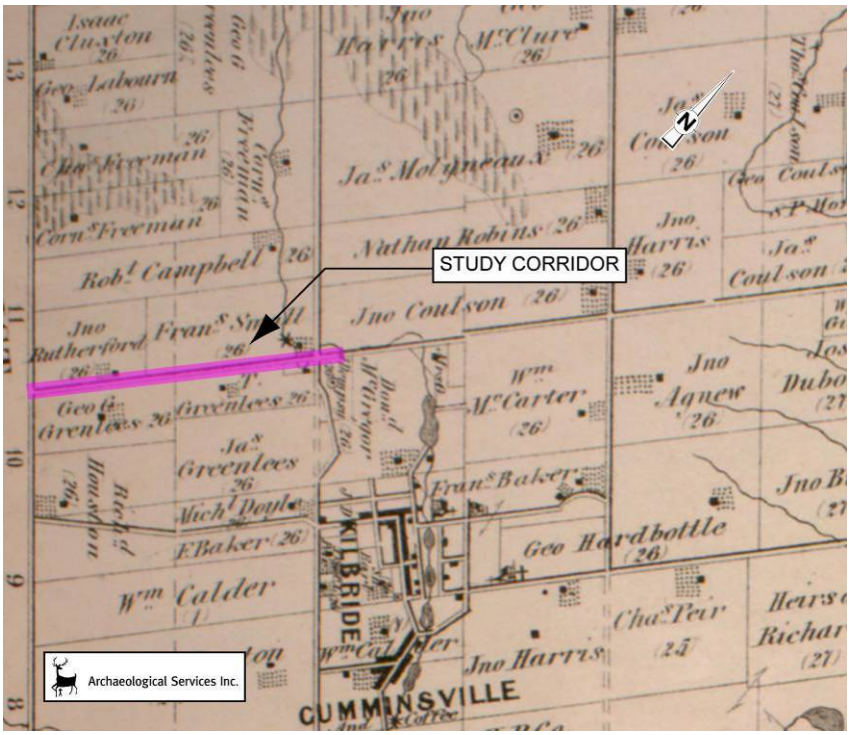

Figure 2: The study corridor overlaid on the map of Nelson Township
Source: 1877 Illustrated Historical Atlas of the County of Halton.

Table 1:Summary of Property Owners and Historic Features Adjacent to the Study Corridor

Lot	Concession	Property Owners	Historic Features
10	I	George G. Greenlees T. Greenlees	 Homestead
	II	J. Dempsy	Lime Kiln
11	I	John Rutherford Francis Small	Homestead, orchard Saw Mill, homestead, orchard
	II	John Coulson	

3.4 Existing Conditions

In order to make a preliminary identification of existing built heritage resources and cultural heritage landscapes within the study corridor, heritage inventories maintained by the City of Burlington, Town of Milton, and City of Hamilton were reviewed. This review confirmed that four properties have been listed as being of cultural heritage interest.

A field review was undertaken by ASI in November 2009 to document the existing conditions of the study area, confirm the location and condition of previously identified cultural heritage resources, and to ascertain if additional cultural heritage resources are extant in the study corridor. The results of the field review confirmed that the study corridor retains cultural heritage landscapes associated with the study corridor's nineteenth century agricultural land use history. It should be noted that a resource located at 1689 Derry Road, and previously identified on the Town of Milton's Heritage Inventory, is no longer extant. The results of field review data collection are summarized in Table 2 while mapping of the locations of cultural heritage resources is provided in Section 3.5.

Table 2: Identified Built Heritage Resources (BHR) and Cultural Heritage Landscapes (CHL) in the Study Corridor				
Feature	Location	Feature Type	Photographic Documentation	Description/Comments
CHL 1	1521 Milburough Line	Farmstead		Identified in the City of Hamilton's Heritage Inventory of Buildings of Architectural and/or Historical Interest. This property consists of a one and a half storey farmhouse and several agricultural-related buildings. These built features are set well back from the road right-of-way, but landscape features such as the entrance drive, fence line, mature tree lines and adjacent farm fields are of heritage interest.
CHL 2	1094 Derry Rd	Farmstead		Identified in the City of Burlington's Heritage Inventory. This property consists of a one and a half storey farmhouse with a large addition and a barn, both of which are set well back from the road right-of-way. Landscape features such as the entrance drive, fence line, mature tree lines and adjacent farm fields are of heritage interest.

CHL 3	South side of Derry Road	Tree line		Identified during field review. The tree line located along the south side of Derry Road is of heritage interest.
CHL 4	North and south side of Derry Road	Tree lines and fence lines		Identified during field review. The tree line, fence line and stone fence lines are of heritage interest.

3.5 Resource Mapping

Figure 3: Identified Built Heritage Resources (BHR) and Cultural Heritage Landscapes (CHL) in the Derry Road EA Study Corridor

Figure 4: Identified Built Heritage Resources (BHR) and Cultural Heritage Landscapes (CHL) in the Derry Road EA Study Corridor

4.0 CONCLUSIONS

A review of background historical research and the heritage inventories maintained by the City of Burlington, Town of Milton and City of Hamilton confirmed that the study corridor is historically located on part of Lots 10 and 11, Concession I and II, in the former Township of Nelson, Halton County and retains a select number of cultural heritage resources. The Township of Nelson experienced Euro-Canadian settlement activities in the early nineteenth century, and by the end of the century, the township had flourished as an ideal place for agricultural land use activities. The 1877 historical atlas maps confirms that lands adjacent to the study corridor had been cleared and developed for agricultural and industrial purposes and features a range of structural and landscape features, such as a lime kiln, a mill or manufactory, a water crossing, farmsteads, and orchards.

The results of the field review confirmed that the study corridor retains visual, landscape, and structural reminders of this rural nineteenth century land use history. Four cultural heritage resources were identified adjacent to the Derry Road Road right-of-way. The following provides a summary of field review findings:

- A total of four cultural heritage resources were identified in the study corridor which include four cultural heritage landscapes (CHL);
- Identified cultural heritage resources include two farmsteads (CHL 1 and CHL 2) and two tree and fence lines (CHL 3 and CHL 4).
- A total of two cultural heritage resources located in or adjacent to the study corridor have been listed on the City of Hamilton's and City of Burlington's heritage inventories (CHL 1 and CHL 2);
- Two cultural heritage resources located in the study corridor were identified during the field review based on their contribution to the setting and context of the corridor (CHL 3 and CHL 4); and
- No properties located in the study corridor have been designated under the *Ontario Heritage Act*.

5.0 RECOMMENDATIONS

Road improvements can have a variety of impacts upon built heritage resources and cultural heritage landscapes. These include the loss or displacement of resources through removal or demolition and the disruption of resources by introducing physical, visual, audible or atmospheric elements that are not in keeping with the resources and/or their setting.

Cultural heritage resources may also be directly affected where the study routes intersect adjoining road rights-of-way that form roadscapes (these are landscapes that are historically associated with the original township surveys, agricultural settlement and transportation). Typically these adjoining roadscapes are two lane, paved surfaces, with gravel shoulders, flanked by grassed ditches, fences and/or tree lines. Any

adverse effects are usually limited to intersection modifications such as vegetation removal for sight lines and daylight triangles, and installing concrete curbs and portions of sidewalks.

Based on the results of the field review and identification of potential impacts, the following mitigation measures are recommended:

1. Road improvements should be suitably planned in a manner that avoids identified, above ground, cultural heritage resources;

2. Wherever possible, historic roadscapes should be maintained through the use of landscaping with historic plant materials for berms or vegetative screens, and identified tree and fence lines, as well as hedge rows should be preserved where extant; and

3. When detailed road improvements plans are complete, specific impacts of the undertaking should be identified and appropriate mitigation measures developed, including, but not limited to, requirements for heritage impact assessments, documentation reports, and/or buffering strategies.

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