REVISED REPORT

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February 2011

INTERIM STAGE 2 ARCHAEOLOGICAL ASSESSMENT

Grand Renewable Energy Park, Various Lots
Concessions 1N-3N and 1S-5S
The Earl Tract, The Haldimand Tract and
The Sheehan Tract, Dunn Township
Concessions 1-9, Rainham Township
Concessions 1N, 1S, 2, 3 and
The Jones Tract, North Cayuga Township
Concessions 3-7 and the Fradenburgh Tract
South Cayuga Township and
Concessions 1-12, Walpole Township
Haldimand County, Ontario

Submitted to:
Mr. Rob Nadolny
Stantec Consulting Ltd.
70 Southgate Drive, Suite 1
Guelph, Ontario N1G 4P5
Tel: (519) 836-6050 Fax: (519) 836-2493

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Golder Associates

Executive Summary

A Stage 1 archaeological background study was previously conducted on behalf of Samsung Renewable Energy Inc. by Stantec Consulting Ltd. for a project area located in the Geographic Townships of Dunn, Rainham, South Cayuga, North Cayuga and Walpole in Haldimand County, Ontario. This area is proposed to be the site of approximately 69 wind turbines, at least three areas of solar panels and project-related infrastructure comprising the Grand Renewable Energy Park.

The Stage 1 archaeological assessment resulted in the determination that the potential for pre-contact Aboriginal and Euro-Canadian sites was deemed to be moderate to high. As a result, Stage 2 archaeological assessment was recommended for any areas to be impacted by turbine or solar panel construction, access road construction or other infrastructure construction related activities.

The Stage 2 archaeological assessment of a portion of the proposed project was undertaken by Golder Associates Ltd., on behalf of Stantec Consulting Ltd., in order to meet the requirements of an environmental assessment conducted under the Renewable Energy Act, as outlined in Ontario Regulation 359/09 section 22(3). The Stage 2 assessment focused upon the proposed wind turbine and solar lands layout, including turbine sites, collector cable routes, access roads, construction roads, transmission lines, laydown areas and substations. A total of approximately 75 hectares was subject to Stage 2 archaeological assessment, including 34 hectares of land that could not be ploughed and therefore assessed using the test pit method at an interval of five metres and 40.5 hectares of ploughed fields which was assessed using the standard pedestrian survey method at an interval of five metres.

The remainder of the project area, consisting entirely of ploughed agricultural fields (total of approximately102 hectares), will be assessed when weather conditions allow using the pedestrian survey method at five metre intervals. In total, 20 turbine locations, 11 access road or collector cable routes and two portions of solar panel lands still need to be assessed. This remaining work is estimated to take a crew of 6 individuals, three field days, after which time the Stage 2 assessment will be complete.

The Stage 2 archaeological assessment conducted by Golder Associates Ltd. resulted in the identification of 55 locations, comprising 54 pre-contact Aboriginal sites and one historic Euro-Canadian site. In summary, 25 of the 55 archaeological locations identified within the study area are recommended for Stage 3 assessment. It is recommended that these sites be subject to a Stage 3 archaeological investigation to further evaluate their cultural heritage value or interest.

This assessment was undertaken in order to meet the requirements of an environmental assessment conducted under the Renewable Energy Approval (REA) process, as outlined in Ontario Regulation 359/09 section 22(3). For the purposes of this Stage 2 Assessment the Ministry of Tourism and Culture's 1993 *Archaeological Assessment Technical Guidelines (Stages 1-3 & Reporting Format)* was followed, but whenever possible the new 2010 Ministry of Tourism and Culture's *Standards and Guidelines for Consultant Archaeologists* were employed as best practices.

The Ontario Ministry of Tourism and Culture is asked to review the results presented and to accept this report into the Ontario Public Register of Archaeological Reports. Additional archaeological assessment is still required and so the archaeological sites recommended for further archaeological fieldwork remain subject to Section 48(1) of the *Ontario Heritage Act* and may not be altered, or have artifacts removed, except by a person holding an archaeological licence.

The Executive Summary highlights key points from the report only; for complete information and findings, as well as the limitations, the reader should examine the complete report.

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Acknowledgments

Project Director	Jim Wilson (P001), M.A., Associate
Project Manager	Tracie Carmichael (R140), B.A., B.Ed.
Licensed Consultant Archaeologist	Scott Martin (P218), Ph.D.
Principal Field Investigator	Adam Hossack (P084), B.A.
Report Production	Scott Martin, Ph.D., Adam Hossack, B.A., Stacey Carson
Field Assistants	Aaron Clemens (R329), B.A., Enrico Di Franco, B.A., B.Ed., Marco DiFronzo, B.A., Catherine Dupont, B.A., Chris Gervais, Mike Gullons, Sheriff Hossain, B.A., Justin Kovacs, B.A., Sebastian Laforce, B.A., Hailey Latour, B.A., Scott Martin (P218), Ph.D., Carey Matthews, B.A., Jeff Schuster (R334), B.A., Jason Silver, Sheila Silver, Nicholas Smith, B.A., Thomas Andrew Smith, B.A., Andrew Stobie, Sean Thomson, Dennis Wilson, B.A., Peter Wronowieki
Office Assistants	Amanda Laprise, B.A., Jeffrey Muir (R304), B.A., Cassandra Duckworth-Robb
Graphics Production	Ben Clark, B.A., Paul Pengelly, B.A., Adam Hossack (P084), B.A.
Senior Review	Jim Wilson, M.A., Associate
Proponent Contact	Mr. Rob Nadolny

1.0 INTRODUCTION

A Stage 1 archaeological background study was previously conducted on behalf of Samsung Renewable Energy Inc. (Samsung) by Stantec Consulting Ltd. (Stantec) for a project area located in the Geographic Townships of Dunn, Rainham, South Cayuga, North Cayuga and Walpole in Haldimand County, Ontario (Stantec 2010a, 2010b). This area is proposed to be the site of approximately 69 wind turbines, at least three areas of solar panels and project-related infrastructure (Stantec 2010a:2, 2010b:i), comprising the Grand Renewable Energy Park (Figure 1).

The Stage 1 archaeological assessment resulted in the determination that the potential for pre-contact Aboriginal and Euro-Canadian sites was deemed to be moderate to high on these properties. As a result, Stage 2 archaeological assessment was recommended for any areas to be impacted by turbine or solar panel construction, access road construction or other infrastructure construction related activities.

The Stage 2 archaeological assessment of a portion of the proposed project was undertaken by Golder Associates Ltd. (Golder), on behalf of Stantec, in order to meet the requirements of an environmental assessment conducted under the Renewable Energy Act, as outlined in Ontario Regulation 359/09 section 22(3). The Stage 2 Assessment was conducted from December 2nd, 2010 to December 22nd, 2010 and January 2nd, 2011 to January 3rd, 2011. This work was conducted under archaeological consulting licence P218, issued to Scott Martin, Ph.D., by the Ontario Ministry of Tourism and Culture. The Stage 2 assessment focused upon the proposed wind turbine and solar lands layout, including turbine sites, collector cable routes, access roads, construction roads, transmission lines, laydown areas and substations. A total of approximately 75 hectares was subject to Stage 2 archaeological assessment, including 34 hectares of land that could not be ploughed and therefore assessed using the test pit method at an interval of five metres and 40.5 hectares of ploughed fields which was assessed using the standard pedestrian survey method at an interval of five metres.

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The Stage 2 archaeological assessment resulted in the identification of 55 locations, comprising 54 pre-contact Aboriginal sites and one historic Euro-Canadian site. In summary, 25 of the 55 archaeological locations identified within the study area are recommended for Stage 3 assessment. It is recommended that these sites be subject to a Stage 3 archaeological investigation to further evaluate their cultural heritage value or interest.

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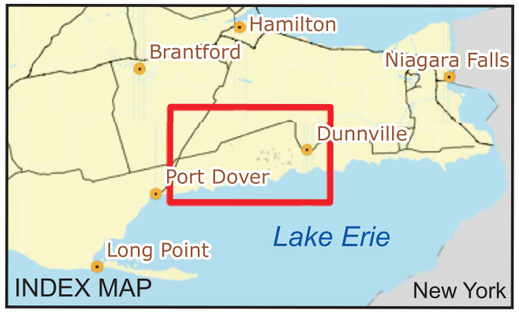

LEGEND

- Project Area
- Community
- Principal Highway
- Major Road
- Local road
- Waterbody

REFERENCE

Base Data - MNR NRVIS, obtained 2004, CANMAP v2006.4
Produced by Golder Associates Ltd under licence from
Ontario Ministry of Natural Resources, © Queens Printer 2008
Projection: Transverse Mercator Datum: NAD 83 Coordinate System: UTM Zone 17

NOTES

THIS DRAWING IS SCHEMATIC ONLY AND IS TO BE READ IN CONJUNCTION WITH ACCOMPANYING TEXT.

ALL LOCATIONS ARE APPROXIMATE.

PROJECT
INTERIM STAGE 2 ARCHAEOLOGICAL ASSESSMENT
GRAND RENEWABLE ENERGY PARK
HALDIMAND COUNTY, ONTARIO

TITLE
LOCATION OF STUDY AREA

Golder Associates

PROJECT No.			10-1136-0072
CADD	PP	JAN 19/11	
CHECK			

FILE No. 1011360072-R02001
SCALE AS SHOWN REV.

FIGURE 1

The Ontario Ministry of Tourism and Culture is asked to review the results presented and to accept this report into the Ontario Public Register of Archaeological Reports.

Additional archaeological assessment is still required and so the archaeological sites recommended for further archaeological fieldwork remain subject to Section 48(1) of the *Ontario Heritage Act* and may not be altered, or have artifacts removed, except by a person holding an archaeological licence.

2.0 SUMMARY OF STAGE 1 ARCHAEOLOGICAL INVESTIGATIONS

A Stage 1 archaeological assessment of the study area was previously conducted by Stantec (2010b:i). In compliance with the provincial standards and guidelines set out in the *Draft Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2009), the Stage 1 Archaeological Overview/Background Study included:

- review of aerial imagery
- consideration of existing archaeological potential mapping
- examination of the Ontario Ministry of Tourism and Culture's Archaeological Sites Database (ASDB) to determine the presence of known archaeological sites in and around the study area.
- appraisal of local physiography and topography; and
- scrutiny of 19th Century Census returns and mapping

In addition to the Stage 1 background research conducted by Stantec, Golder also examined additional background data sources located at the Ministry of Tourism and Culture Office in Toronto, the University of Western Ontario Map and Data Library in London, the Haldimand County Museum and Archives in Cayuga, Mills Memorial Library, McMaster University in Hamilton and Golder's corporate library.

2.1 Natural Environment

The study area is located in Haldimand County, in the Geographic Townships of Dunn, Rainham, South Cayuga, North Cayuga and Walpole, covering a total area of approximately 43,000 hectares of developed agricultural land (Stantec 2010b:1). Within this area, a number of separate properties and lots across these five townships comprise the study area itself.

The study area falls within the Haldimand Clay Plain, which makes up much of the Niagara Peninsula. (Chapman and Putnam 1984:156-159) and comprises approximately 3500 square kilometres of southern Ontario (MacDonald 1980:3). The northern portion of the Clay Plain, extending south from the Niagara escarpment is made up of recessional moraines (Chapman and Putnam 1984). The middle section is deeply cut by the southeast-flowing Grand River. The southern section, bounded by Lake Erie, is mainly low-lying, flat and poorly-drained and comprises back-shore wetlands and coastal marshes, but also sand ridges, dunes and limestone and cobble pavements (Chapman and Putnam 1984; MacDonald 1980). Presently, much of the land is devoted to cash crops of corn, soybeans and some wheat, as well as hayfields and pasture with some undeveloped wooded areas. Villages and small towns are found throughout the study area, often at the cross-roads of historic transportation routes. The study area is a level lake plain consisting primarily of lacustrine silty clay from the Haldimand and Smithville series (Presant and Acton 1984). There are also small deposits of lacustrine clays, some with thin loamy or sand caps from the Lincoln series, between the Nanticoke, Sandusk and Stoney watersheds (Presant and Acton 1984).

Alluvial deposits are found within river valley floodplains (Chapman and Putnam 1984; Presant and Acton 1984). Areas consisting of Haldimand and Smithville series soils would have been suitable for pre-contact Aboriginal agriculture. However, the Lincoln series soils would not have been suitable for pre-contact Aboriginal agricultural practices, given their poor drainage and high clay characteristics (Presant and Acton 1984:37, 40 and 47).

Historic records for Haldimand County indicate that inland areas, away from Lake Erie, the Grand River and other principal streams, were wet and swampy (H.R. Page & Co. 1879:5). Initially, the lumber industry developed in these inland areas, later replaced with large-scale farming (Chapmand and Putnam 1984; H.R. Page & Co. 1879:5, 7). Potable water sources within the study area include Nanticoke Creek, Sandusk Creek, Stoney Creek, Hemlock Creek and several other small tributaries, most of which draining into Lake Erie and some into the Grand River before reaching Lake Erie. The Grand River forms the northern and/or eastern boundary of the study area.

2.2 Previously Known Archaeological Resources and Surveys

According to the Ontario Archaeological Sites Database (ASDB) (Government of Ontario 2011; Robert von Bitter, personal communication, January 17th, 2011), there are two recorded historic Euro-Canadian sites, four sites with historic Euro-Canadian and pre-contact components and one site with historic Aboriginal and pre-contact components within the study area. There are also 10 designated heritage properties in the vicinity of the study area (Stantec 2010b:9). Previous archaeological assessments and research surveys in Haldimand County have demonstrated that the area was also intensively utilized by pre-contact Aboriginal communities. Given the known pre-contact and historic use of Haldimand County by Aboriginal people, Stage 2 archaeological assessment included engagement with members of Six Nations of the Grand (see Appendix A). According to ASDB (Government of Ontario 2011; Robert von Bitter, personal communication, January 17th, 2011; see also Stantec 2010b:8), there are 210 pre-contact Aboriginal archaeological sites or site components for multi-component sites registered within the study area. These comprise eight Palaeo-Indian (c. 9000-8000 B.C.) sites or site components, 67 Archaic (c. 8000-1000 B.C.) sites or site components, 35 Woodland (c. 1000 B.C. - A.D. 1650) sites or site components, 69 sites or site components designated as undetermined with respect to age or cultural affiliation and 51 sites or site components entered without further information for age or cultural affiliation. This high number of registered sites within the study area attests to the long history of human occupation in this part of southern Ontario. In terms of raw materials for stone tool production, Haldimand County is considered resource rich. Known Onondaga, Bois Blanc and Dundee Formation chert outcrops are located close to the study area (Eley and von Bitter 1989; Ellis *et al.* 2009) and their use has been documented on nearby sites such as the Slack-Caswell Quarry (Jamieson 1986), Cayuga Quarry (Jackson 1995) and Stelco 1 (Timmins 1995). In 1670, Sulpician Father Galinée reported that there was good hunting in the area now known as Canborough Township (MacDonald 1992:5).

While it is difficult to know ethnic and linguistic affiliations of the people who left behind artifacts, such as stone tools or ceramics, it is possible that the first inhabitants of this region spoke Algonkian languages. Northern Iroquoian speakers also occupied this area, although it is unsure when they first entered south-central Ontario and Haldimand County. Some suggest Northern Iroquois immigration around 4000 B.C. (e.g. Wright 1999:618)

or before (Fiedel 2001:122). It is most often accepted that Iroquoian speakers were in southern Ontario by AD 500, in the form of the Princess Point Complex (c. A.D. 500-1000) (see Martin 2008). Princess Point Complex communities lived in Haldimand County for example in the Selkirk (e.g. Fox 1982:18; Stothers 1977:51) and Cayuga (Crawford and Smith 2002; Smith and Crawford 1997) areas. These people were some of the first maize or corn growers in southern Ontario and appear to have been the ancestors of Early, Middle and Late Ontario Iroquoian agriculturalists. The latter are best represented in the Niagara Peninsula by the Neutral Nation, for a time the most populous and powerful of the Northern Iroquoian confederacies (e.g. Noble 1985:137-138; White 1978:410). This power and influence appears to have been at its height during the early 1600s, just as French explorers and missionaries were making their first forays into south-central Ontario and the Lake Erie watershed (Jamieson 1992:78-79; Noble 1985:137-138). In Haldimand County, about a dozen historic Neutral sites or possible historic Neutral sites are found along the Lower Grand River (Poulton et al. 1989:10). These sites are in the general location of a possible Neutral community known as the Antouaronon (White 1978:408; cf. Poulton et al. 1989:9-10).

2.3 Historic Research

The earliest recorded history of Haldimand County begins with the Aboriginal Neutral period. Little first-hand documentation of the Neutral by Europeans exists, however. Although Champlain is accredited with coining the name 'Neutral' for these communities in 1615 (Biggar (ed.) 1922-1936[3]:99-100; White 1978:410), the general location of their territory first appeared on a map somewhat later in 1632 (Biggar (ed.) 1922-1936[3]:Plate 10; White 1978:407). Visits to Neutral country by Europeans took place from bases in Huronia, where French traders and missionaries were already well-established. Champlain's protégé, Etienne Brûlé, reportedly passed through Neutral territory in 1615 and 1625, although no first-hand documentation was left (Finlayson 1998:26). French Recollet Father Daillon, likely inspired by Brûlé, visited the Neutral in 1626, spending three months there (White 1978:409). Daillon was adopted by the Tsouharissen, the supreme chief of the Neutral (Sagard 1866:[3]802; see also Noble 1985:133; White 1978:409). Daillon reportedly travelled the entire length of the Grand River and counted 28 Neutral villages in the area (Harper 1950:10-11; White 1978:410). Later, Jesuit Fathers Brébeuf and Chaumonot visited in 1640-1641, reporting nearly 40 villages for the Neutral (Thwaites (ed.) 1896-1901; cf. Noble 1985:134; White 1978:410).

The ability of the Neutral and their Middle Ontario Iroquoian ancestors (i.e. Middleport phase) to direct exchange networks into south-central Ontario from the Midwest, Allegheny Piedmont and Middle Atlantic coast and to redirect those materials away from competitors, such as the Huron of the southeastern Georgian Bay area and Five Nation Iroquois of New York (Jamieson 1992) may have been a factor in the retaliation of the Five Nations Iroquois during the early and mid-1600s. Population decline among the Neutral due to European-introduced epidemics in the late 1630s (White 1978:410) may have also encouraged this.

In 1647, the Seneca attacked one eastern group of the Neutral (White 1978:410) and, by 1653, the Neutral had been 'dispersed' and/or assimilated by the Five Nations (Jamieson 1992:80; Noble 1978:161). Most of those Neutral survivors who were adopted or assimilated were likely taken in by the Seneca, the western-most of the Five Nations (Noble 1978:161).

The Five Nations at least sparsely populated southern Ontario during the third quarter of the 1600s. The Seneca village of Quinaouatoua or Tinawatawa, near the western end of Lake Ontario, was reportedly visited by La Salle and the Sulpician Fathers Dollier de Casson and Galinée in 1669 (MacDonald 1992:4-7; Noble 1978:161-162; Stothers 1977:7). The Five Nations appear to have relinquished the Niagara Peninsula and northern Lake Ontario area before 1700, however, at which time the Algonkian-speaking Mississaugas began to move southwards from the Lake Huron watershed into the Lake Ontario and Lake Erie watersheds (Konrad 1981). Other migrations occurred during the 1700s, for example with Five Nations accepting the Tuscarora in 1722 (Pendergast 1995:107) in New York, together becoming the Six Nations.

During the American War of Independence, some factions within Six Nations sided with the British and others with the American cause. After the British defeat, United Empire Loyalists began to be granted land in southern Ontario and elsewhere in Eastern Canada. One proponent of the First Nation allies was the former Swiss mercenary, Sir Frederick Haldimand, Governor of Québec. Haldimand made preparations to grant a large plot of land in south-central Ontario to those Six Nations who were allies of the Crown (MacDonald 2004:10-12; Weaver 1978:525). Haldimand arranged for the purchase of territory in south-central Ontario from the Mississaugas. This is the Haldimand Tract, also known as the 1795 Crown Grant to the Six Nations, provided for in the Haldimand Proclamation of October 25th, 1784, which was intended to extend to six miles on each side of the Grand River over its entire length from mouth to source (or from Lake Erie to the 'Nichol block', see Weaver 1978:525). Regarding this tract, Haldimand proclaimed:

> *Whereas His Majesty having been pleased to direct that in consideration of the early attachment to His cause manifested by the Mohawk Indians and of the loss of their settlement which they thereby sustained that a convenient tract of land under His protection should be chosen as a safe and comfortable retreat for them and other Six Nations who have either lost their settlements within the Territory of the American States or wish to retire from them to the British. I have at the earnest desire of many of these His Majesty's faithful allies purchased a tract of land from the Indians situated between the Lakes Ontario, Erie and Huron, and I do hereby in His Majesty's name authorize and permit the said Mohawk Nation and such others of the Six Nations Indians as wish to settle in that quarter and to take possession of and settle upon the banks of the river commonly called Ouse or Grand River, running into Lake Erie, allotting to them for that purpose six miles deep from each side of the river...which them and their prosperity are to enjoy forever.*
>
> (Canada 1891:251)

Prior to the formation of the county and townships, a portion of the study area appears in the historic record as part of Treaty Number 3 made between the British and the Mississaugas on:

> *7th December, 1792, though purchased as early as 1784. This purchase in 1784 was to procure for that part of the Six Nation Indians coming into Canada a permanent abode.*
>
> *The area included in this Treaty is, Lincoln County excepting Niagara Township; Saltfleet, Binbrook, Barton, Glanford and Ancaster Townships, in Wentworth County; Brantford, Onondaga, Tusc[aro]ra, Oakland and Burford Township in Brant County; East and West Oxford, North and South Norwich, and Dereham Townships in Oxford County; North Dorchester Township in Middlesex County; South Dorchester, Malahide and Bayham Townships in Elgin County; all Norfolk and Haldimand Counties; [and] Pelham, Wainfleet, Thorold, Cumberland and Humberstone Townships in Welland County ...*

(Morris 1943:17-18)

Near the end of the American War of Independence, between 1779 and 1783, some Six Nations people were moving from New York into Ontario along the Niagara River (H.R. Page & Co. 1879:8). Beginning in late 1784 and early 1785, 1843 members of Six Nations, some from each member nation, as well as some other allies, relocated to the Haldimand Tract with Joseph Brant (Tanner (ed.) 1987:77-78; Weaver 1978:525). Most of those belonging to Six Nations relocated to the Brantford area, although Seneca, Delaware and Lower Cayuga initially settled along the Lower Grand River (Tanner (ed.) 1987:75; Weaver 1978:525). Parcels of land from this tract were being lost through various means not long after its establishment (MacDonald 2004; H.R. Page & Co. 1879:4; Weaver 1978:525). Indeed, in 1793, the Simcoe Patent reinforced that lands of the tract could not be sold by Six Nations to Euro-Canadians except on approval by the Crown. This position, which reinforced a disparity between Euro-Canadian Loyalists, who could sell their land, and Six Nations' land which was to be held in trust for Six Nations by the Crown, was rejected by Brant and other chiefs. By 1834, it was accepted by the Crown that losses of portions of the Haldimand Tract to Euro-Canadian settlers were too numerous for all lands to be returned. Lands in the Lower Grand River area were surrendered by the Six Nations to the Government in 1832 at which point most Six Nations people moved into Tuscarora Township in Brant County and a narrow portion of Oneida Township (H.R. Page & Co. 1879:8; Tanner (ed.) 1987:127; Weaver 1978:526). By the late 1830s, most of the Six Nations population lived, with some exceptions, on small farms averaging 20 acres, where corn and potatoes were grown and some kept hogs, cows and oxen (Weaver 1978:525-526).

The study area is located in Haldimand County in the Geographic Townships of Dunn, Rainham, South Cayuga, North Cayuga and Walpole. By 1792 the County system replaced the previous district administrative structure for Upper Canada. Nineteen counties were initially established and more were added in 1800. Following legislation passed in 1798, Haldimand County was officially proclaimed in 1800 (MacDonald 2004:120; Middleton and Landon 1927), splitting from Norfolk County, itself established in 1792 (MacDonald 2011). It was named after Sir Frederick Haldimand. In 1851, Haldimand County was divided into 10 townships Oneida, Seneca, Dunn, Rainham, South Cayuga, North Cayuga, Walpole, Canborough, Moulton and Sherbrooke (MacDonald 2004:108; Middleton and Landon 1927). From 1974 to 2001, Haldimand was re-amalgamated with Norfolk to create the Regional Municipality of Haldimand-Norfolk. Since 2001, Haldimand County has had the legal status of City, but retains the designation 'county' for historical reasons (Jackson and Gayler 2011).

Despite the early presence of Aboriginal communities and Euro-Canadian settlers along the Grand River and Lake Erie, inland settlement came more slowly (MacDonald 2004). Haldimand County was somewhat distant from the administrative centres at Niagara-on-the-Lake and Toronto (York) (H.R. Page & Co. 1879:4). Early surveys of Walpole and Rainham Townships, for example, were reportedly underway as early as 1795. The official surveys were not completed however until the 19th century, when they assumed the initial road and lot patterns.

The earliest surveys were undertaken in order to grant land to the United Empire Loyalists who sought refuge following the American Revolution. The Loyalists traveled to Upper Canada through Buffalo, New York and settled throughout the Niagara Peninsula and westward along Lake Erie.

Prior to the War of 1812, the majority of the early Euro-Canadian settlement in Haldimand County was concentrated within the Haldimand tract. Some of these properties were given or leased by Joseph Brant to his friends from the 'Butler's Rangers', when they also relocated to Ontario following the American War of Independence (H.R. Page & Co. 1879:4). The first of these Euro-Canadian families were the Nelles and Young

families, who settled in Seneca Township. No roads existed at that time. Some early settlement activity, however, also occurred outside the Haldimand Tract, for example, the Hoovers, a Pennsylvanian Mennonite family, settled near the present town of Selkirk, in Walpole Township, in 1791 (H.R. Page & Co. 1879:5) and held land in Rainham Township as well (H.R. Page & Co. 1879:9).

Following population decline and the surrender of most of their lands along the Credit River by 1818, the Mississaugas were given 6000 acres of land on the Six Nations Reserve, establishing the Mississaugas of New Credit First Nation in 1847 (Smith 2002:119; cf. Weaver 1978:527). Some Mississaugas lived on the Grand River with the Mohawks at Davisville in the 1820s (Warrick 2005:2).

Major roadways had not been established, or were in such bad shape they were almost unusable. Nonetheless, as the county opened up, and further official surveys were undertaken between the 1820s and 1840s, the second wave of settlement occurred. Many settlers came to Haldimand from Great Britain. In the wake of the Napoleonic wars, many British soldiers were left unemployed and so they emigrated in the pursuit of a new life in Upper Canada. The Industrial Revolution had brought jobs to Great Britain, but some sought to escape the harsh working environment and cramped living conditions. Years later, the Potato Famine forced many Irish people to emigrate to Canada.

A small number of main roads were important in providing transportation of goods and people in the study area from the middle of the 19th Century.

The Lake Shore Road was one of the earliest travelled paths in the townships. Aptly named, it follows the shoreline of Lake Erie and may have been a path originally travelled by the region's First Nations population. The route was also used by the earliest settlers of the county, as they travelled from the Niagara Peninsula to seek their new homes. Due to its location along the lakeshore, much of the road was winding and would have been constantly subject to flooding, making the journey exceptionally difficult. When the Township was surveyed, the Lake Shore Road became the Broken Front/First Concession Road (H.R. Page & Co. 1879).

The beginnings of the Rainham Road stem from the Hoover Family. In 1817, Benjamin Hoover was designated pathmaster for a route extending from Stoney Creek to the Indian Line. Much of this road passed through property occupied by his family members. The road was later extended to Dunnville in the east and Port Dover in the west. When the Township was surveyed in 1829, the Rainham Road was selected as the second Concession Road.

The building of roads off the original survey grid provided faster, more efficient access between commercial centres. It also spurred the beginnings of other communities, located at major crossroads. The town of Jarvis grew from the intersection of the Talbot Road and the Hamilton and Port Dover Road, constructed between 1839 and 1843.

The plank road initially operated as a toll road, but fell to disrepair by the 1860s. In 1863, a petition was sent to the legislature by County Council to have the road repaired. Eventually, the County assumed responsibility for the road, and tolls ceased. The road also was a key factor in encouraging settlement in the area; nearly five years after the road's completion, almost all the land along the road had been cleared and settled (Harper 1950).

The Talbot Road was originally designed as a military road by Colonel Thomas Talbot. The road led from the Talbot settlement in Elgin County to Brantford (Harper 1950; H.R. Page & Co. 1879). In 1920, the Talbot Road became part of the newly designated King's Highway 3, which connected Windsor to Fort Erie.

Rail lines also bisect the study area and allowed for rapid overland movement of people and goods. The Great Western Loop Line was completed in 1870. It crossed through Jarvis, intersecting with the Hamilton and Lake Erie line. The Loop Line branched off the main line of the Great Western at Glencoe, southwest of London. It ran though Norfolk and Haldimand Counties. In Haldimand, it made station stops in Jarvis, Nelles Corners, Decewsville, Cayuga and Canfield. The Great Western Railway Company was taken over by Grand Trunk in 1882 and eventually merged as part of the CN. By the 1950s this line only carried freight traffic. In 1970, a spur line was constructed from the loop line south of Jarvis to Nanticoke. Although sections of the line remain in service today, most of the line was abandoned in stages in the late 1990s and early 2000s (Andreae 1997; H.R. Page & Co. 1879).

The Hamilton and Lake Erie Railway Company was established in 1896. Their line was constructed from Hamilton to Caledonia. In 1873, the line was extended to Jarvis. The company joined with the Hamilton and Northwestern Railway Company in 1875 and, in three years, the line was extended again to Port Dover. Use of the line began to decline in the late 1880s. As a revival scheme, it was rehabilitated in the 1890s for use in Shenango coal imports across Lake Erie. The company saw several amalgamations and changes in ownership, eventually merging with other companies to become the Canadian National (CN) Railways in 1923. By 1931 the section between Jarvis and Port Dover had been decommissioned and the entire line was abandoned by 1935 (Andreae 1997; H.R. Page & Co. 1879).

Dunn, Rainham, South Cayuga, North Cayuga and Walpole Townships are mapped in the *Illustrated Historical Atlas of the County of Haldimand* (H.R. Page & Co. 1879). This resource provides both the names of the landowners and the majority of structures as they were located on properties throughout the county. In addition to houses, the structures noted include brickyards, cemeteries, churches, hotels, manufactories, mills and schools. Even though locations are only approximate on these maps, they do give an idea of potential for significant archaeological historic remains that could be impacted within the study area. Typically, these locations no longer exhibit any visible evidence of their former structure.

The earliest Euro-Canadian settlement in Dunn Township (Figure 2) occurred about 1784 with Hugh Earl and William Butler Sheehan (Nelles 1905; H.R. Page & Co. 1879:4; Stantec 2010b:9). These men were former ‘Butler’s Rangers’, the former Joseph Brant’s brother-in-law and Brant leased each of them 1000 acres, their lands respectively known as the ‘Earl Tract’ and ‘Sheehan Tract’. Another parcel of 1000 acres was leased to James Muirhead in 1803 and was also known as the ‘Haldimand Tract’ (Nelles 1905; Stantec 2010b:9). In 1835, the township was home to 200 people and, a decade later, 1500 acres were under cultivation. By the 1861 Census, the township’s population was 955, farming 4000 acres or nearly half the township’s total area (Cowell 1967; Irwin and Burnham Publishers 1867; Stantec 2010b:10).

LEGEND

PROJECT AREA

REFERENCE

DRAWING BASED ON Base Data - MNR NRVIS, obtained 2004, CANMAP v2008.4
Haldimand Conservation Boundary provided by Long Point Region Conservation Authority
Constraints data - TCIR
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NOTES

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ALL LOCATIONS ARE APPROXIMATE.

PROJECT
INTERIM STAGE 2 ARCHAEOLOGICAL ASSESSMENT
GRAND RENEWABLE ENERGY PARK
HALDIMAND COUNTY, ONTARIO

TITLE
A PORTION OF THE 1879 MAP OF DUNN TOWNSHIP

Golder Associates

PROJECT No.		10-1136-0072	FILE No.	1011360072-R01002
			SCALE	NOT TO SCALE REV.
CADD	AH	JAN 19/11		
CHECK			**FIGURE 2**	

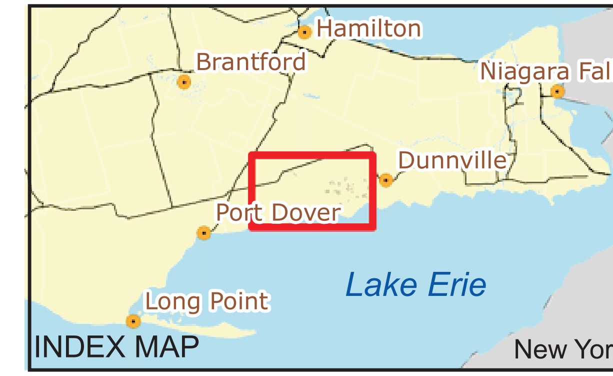
In 1825, a mill and dam were constructed in Dunnville on the Lower Grand River to the east. The dam allowed boats from the Welland Canal to enter Dunnville, creating an important commercial centre for the County. The residents of Rainham Township recognized the importance of constructing a direct route to Dunnville and petitioned the government to survey one. The district surveyor agreed to this petition, provided that the residents of the township covered the costs of the survey. They were unable to do this, and a settler, Peter Culver, was chosen to survey it himself with a pocket compass (Harper 1950; H.R. Page & Co. 1879). The road was later extended to Port Dover.

Rainham Township (Figure 3) had been occupied by Euro-Canadians since 1791 with the Hoover family. Only six families lived in the township in 1816 (Nelles 1905). It was not until 1829, however, that the township was officially surveyed by Samuel Smith, using the double front survey system. This produced rows of five 100 acre lots between side roads. The lots backed on to each other so that each lot faced onto a concession road. By the Census of 1861, 2116 people lived in Rainham Township. At this time, 15,000 acres of the total 23,000 acres of good soil were under cultivation (Irwin and Burnham Publishers 1867). At the time of the 1879 map there were two post offices: Fisherville and Rainham Centre.

Fisherville is located at the centre of the German community in Rainham Township with approximately 150 residences; it once had a wagon shop, a hotel and a blacksmith shop as well as other businesses (H.R. Page & Co. 1879:12). Rainham Centre housed fewer than 75 residences in the late 19th century and no businesses appear to have existed in the community at that time (H.R. Page & Co. 1879:12). There were two churches, associated cemeteries as well as a schoolhouse and a town hall at this location. Buildings have been abandoned and removed from these settlements. Some known historic remains, however, were not recorded in the 1879 historical atlas. Two examples are the abandoned Bretzler family cemetery on Lot 5, Concession 3 (Haldimand County Branch, Ontario Genealogical Society 2001) and the Fisherville Redeemer Lutheran cemetery on Lot 5, Concession 4 (Haldimand County Branch, Ontario Genealogical Society 2006).

South Cayuga Township (Figure 4) was first opened to Euro-Canadian settlement by a lease from Joseph Brant to John Dochstader, a former 'Butler's Ranger', in about 1784 (H.R. Page & Co. 1879:13). Dochstader sided with the American cause during the War of 1812 and his lands were inherited by Wilhelm Fradenburgh, who had married one of Dochstader's daughters. Six Nations chiefs renamed the tract after Fradenburgh (H.R. Page & Co. 1879:13). The official opening of the township came in 1832, after the land was surrendered by Six Nations, although the first documented Euro-Canadian settler of this time, John Honsburger, did not arrive until 1835 (Harper 1950; H.R. Page & Co. 1879:13). Most of the earliest settlers in South Cayuga were of German heritage, some of these being Mennonites. By the 1861 Census, about half of the 14,000 acres that made up the township was under cultivation (Irwin and Burnham Publishers 1867).

North Cayuga Township (Figure 5) was first settled by Euro-Canadians with a lease by Joseph Brant to John Huff, a former 'Butler's Ranger' (H.R. Page & Co. 1879:13). After siding with the American cause during the War of 1812, the 'Huff tract' was reappropriated. Later, in 1826, 15,300 acres was leased to William Claus. This land was taken back by the Government in 1832 and lands opened for public sale in 1834, after survey by Augustus Jones, who was given land along the Grand River in payment for his services (H.R. Page & Co. 1879:13). Population increased exponentially in North Cayuga between 1835 and the Census of 1861 (Stantec 2010b:11). By 1861, nearly half of the North Cayuga's 30,000 acres was being farmed (Irwin and Burnham Publishers 1867; Stantec 2010b:11).



LEGEND

PROJECT AREA

REFERENCE

DRAWING BASED ON Base Data - MNR NRVIS, obtained 2004, CANMAP v2008.4
Haldimand Conservation Boundary provided by Long Point
Region Conservation Authority
Constraints data - TCIR
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H.R. Page and Co's 1879 Illustrated Historic Atlas of Haldimand County.

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ALL LOCATIONS ARE APPROXIMATE.

PROJECT

INTERIM STAGE 2 ARCHAEOLOGICAL ASSESSMENT
GRAND RENEWABLE ENERGY PARK
HALDIMAND COUNTY, ONTARIO

TITLE

A PORTION OF THE 1879 MAP OF RAINHAM TOWNSHIP

Golder Associates

PROJECT No.	10-1136-0072	FILE No.	1011360072-R02003
		SCALE	NOT TO SCALE REV.
CADD	AH	JAN 19/11	
CHECK			

FIGURE 3

LEGEND

PROJECT AREA

REFERENCE

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Constraints data - TCIR
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PROJECT
INTERIM STAGE 2 ARCHAEOLOGICAL ASSESSMENT
GRAND RENEWABLE ENERGY PARK
HALDIMAND COUNTY, ONTARIO

TITLE
A PORTION OF THE 1879 MAP OF SOUTH CAYUGA TOWNSHIP

Golder Associates

PROJECT No.		10-1136-0072	FILE No.	1011360072-R02004
			SCALE	NOT TO SCALE REV.
CADD	AH	JAN 19/11		
CHECK				

FIGURE 4

LEGEND

PROJECT AREA

REFERENCE

DRAWING BASED ON Base Data - MNR NRVIS, obtained 2004, CANMAP v2008.4
Haldimand Conservation Boundary provided by Long Point
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Constraints data - TCIR
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PROJECT
INTERIM STAGE 2 ARCHAEOLOGICAL ASSESSMENT
GRAND RENEWABLE ENERGY PARK
HALDIMAND COUNTY, ONTARIO

TITLE
A PORTION OF THE 1879 MAP OF NORTH CAYUGA TOWNSHIP

Golder Associates

PROJECT No.		10-1136-0072	FILE No.	1011360072-R02005
			SCALE	NOT TO SCALE REV.
CADD	AH	JAN 19/11		
CHECK				

FIGURE 5

Walpole Township (Figure 6) was first surveyed in 1780 by Thomas Walsh (Brueton 1967:7). The single front sectional system was used to survey Walpole Township, which created a grid of five narrow 200 acre lots between sideroads. The concession roads bordered both the front and rear of the lots. Walpole was described as an area of unbroken forest with large areas of swampy land. Due to these wet conditions, by 1833 the original survey markers had either rotted or were covered by undergrowth. In order to increase settlement in Walpole, the township's inhabitants petitioned the Lieutenant-Governor to have the township resurveyed (Brueton 1967:10). This petition was denied.

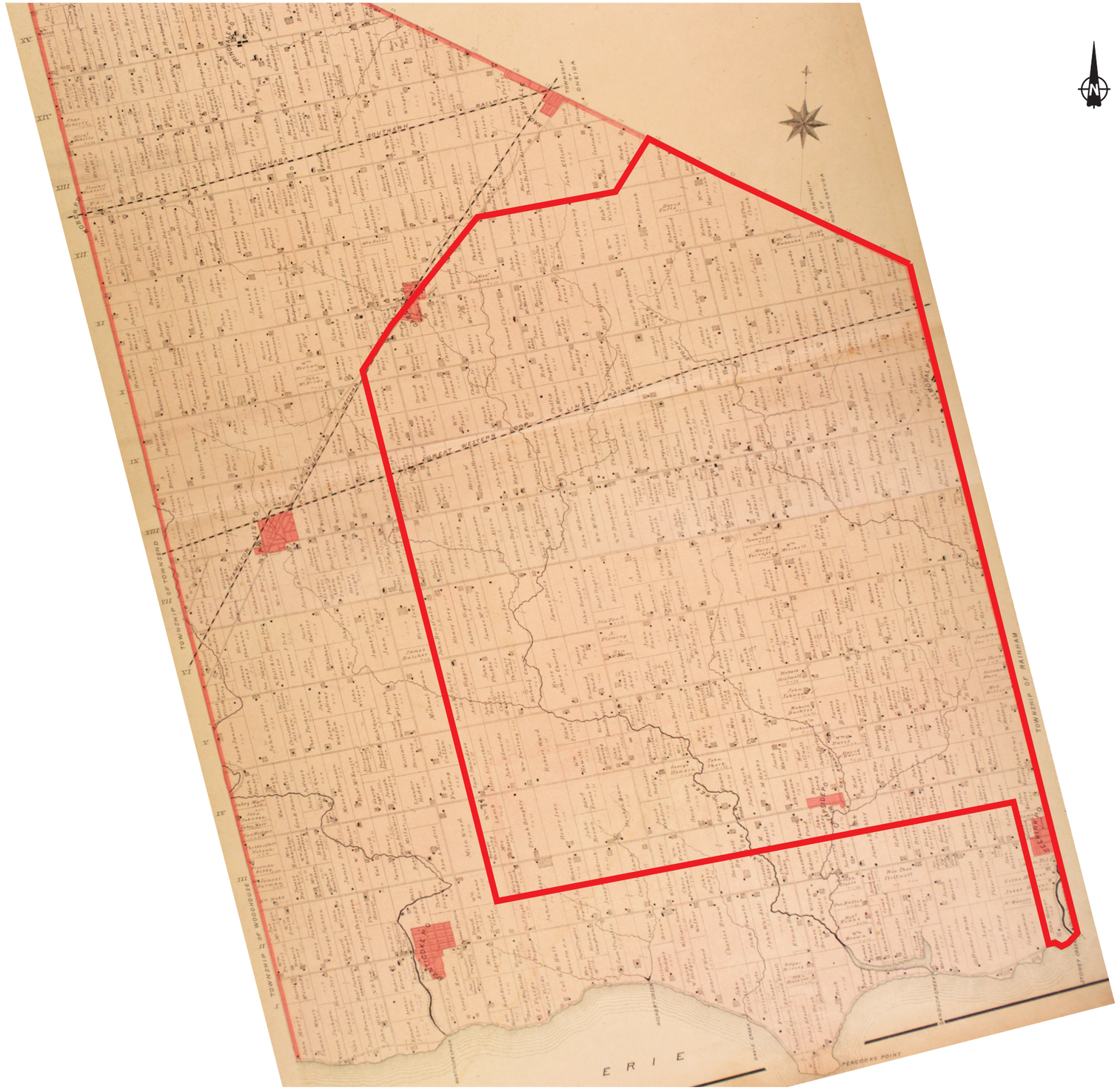
The original township map, completed by Thomas Walsh, had numerous additions made to it over the years, from the early 19th century until 1911. The names of lot occupants indicated on the map appear to have been added once settlers moved into the area and in some cases names on various lots have been overwritten with the names of later landowners. Also of interest are lands that were marked with a blue watercolour oval; these lands were originally designated as Clergy Reserves. This meant that all proceeds from the Crown Patent went in support of the Protestant clergy, usually the Anglican Church. However, all Clergy Reserve lands were secularized by 1854 (Fahey 2011).

Close examination of the study area as depicted on the original township map does not reveal any squatters recorded prior to the initial township survey and does not record Aboriginal settlement in the area. Early notable Euro-Canadian settlers who settled in Walpole Township included the Hoover family (Brueton 1967:7). The Hoovers played an important role in the development of the townships. Jesse Hoover, for example, built the first water powered grist and saw mill in Walpole along Stoney Creek in 1802 (Harper 1950:28; H.R. Page & Co. 1879:9). Despite their early presence in the townships, the Hoover properties are not recorded on the original survey maps for Rainham or Walpole Townships. The late 19th century historical atlas maps (H.R. Page & Co. 1879), however, depict several properties belonging to the surviving Hoovers and their descendants in both Rainham and Walpole Townships (see Figures 3 and 6).

Peter Klinger Smith, also known as White Peter, was another notable early Euro-Canadian resident of the township. According to oral tradition, Peter Klinger Smith was born in Pennsylvania in 1770 but, upon the murder of his parents, he was adopted by an Aboriginal woman and taken to Montréal (Brueton 1967:9; Harper 1950:30-31; cf. H.R. Page & Co. 1879:9). Around the age of 20, Peter moved to the lands granted to Joseph Brant and later settled on Lot 6, Concession 1 where he lived until his death in 1855 (Brueton 1967:9; Harper 1950:31).

The generally good quality agricultural land lay behind the relatively rapid settlement of Walpole growing from a population of 683 in 1835 to 4842 at the time of the 1861 Census (Stantec 2010b:11). Over half of the 60,000 acres in Walpole Township were being farmed in the 1860s (Irwin and Burnham 1867; Stantec 2010b:11).

By 1879, Walpole Township had one principal village, Jarvis. Jarvis grew up as a result of the construction of the Plank Road, now Highway 6, which connected Port Dover to Hamilton. It was opened for travel in 1834 and was surveyed by Peter Culver (Harper 1950:46). Another early road in the township that was heavily relied upon was the Talbot Road, now known as Highway 3. The construction of this road was initiated in the 1810s but was abandoned until the 1820s. Most of the major roads in the Townships of Rainham and Walpole were constructed by early settlers in order to provide access to other settlement areas with mills or to act as links to larger commercial centres. These roads were surveyed and made passable sometimes decades before the townships were officially surveyed.



LEGEND

PROJECT AREA

REFERENCE

DRAWING BASED ON Base Data - MNR NRVIS, obtained 2004, CANMAP v2008.4
Haldimand Conservation Boundary provided by Long Point
Region Conservation Authority
Constraints data - TCIR
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NOTES

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ALL LOCATIONS ARE APPROXIMATE.

PROJECT
INTERIM STAGE 2 ARCHAEOLOGICAL ASSESSMENT
GRAND RENEWABLE ENERGY PARK
HALDIMAND COUNTY, ONTARIO

TITLE
A PORTION OF THE 1879 MAP OF WALPOLE TOWNSHIP

Golder Associates

PROJECT No.			10-1136-0072
CADD	AH	JAN 19/11	
CHECK			

FILE No. 1011360072-R02006
SCALE NOT TO SCALE REV.

FIGURE 6

2.4 Archaeological Potential

As discussed in the Stage 1 archaeological assessment, the archaeological potential for pre-contact Aboriginal sites is judged to be moderate to high (Stantec 2010b:12-13). This judgement is based on the presence of nearby potable water sources, level topography, agriculturally suitable soils and known archaeological sites. Similarly, the archaeological potential for historic Euro-Canadian sites is judged to be moderate to high. This assessment is based on historic documentation indicating occupation from the late 18th Century onwards (H.R. Page & Co. 1879) as well as the presence of historic transportation routes (MacDonald (ed.) 2004).

3.0 STAGE 2 STUDY METHODS AND RESULTS

3.1 Stage 2 Field Assessment Methods

The study area encompasses the portion of the wind farm and solar farm layout assessed by Golder. Only those areas to be affected by the construction, operation, and decommissioning of the wind farm and solar lands have undergone archaeological assessment. Those areas include: turbine locations; laydown areas related to the construction of the wind farm; underground or overhead collector cables running between turbines and substations; access roads between turbines, substations, the existing road grid and construction roads between the turbines, the substations, and the existing road grid. Access routes were assessed with 50-metre wide survey corridors. Circular turbine locations were assessed on 70-metre radii. Buried cable routes were assessed with 30-metre wide survey corridors. Specified areas of open agricultural fields, where construction activity is planned, were assessed for proposed solar panels.

The Stage 2 assessment (see Appendix B) focused upon the proposed wind turbine and solar lands layout, including turbine sites, collector cable routes, access roads, construction roads, transmission lines, laydown areas and substations. A total of approximately 75 hectares was subject to Stage 2 archaeological assessment. Stage 2 assessment of approximately 34 hectares of any bush lots, tree farms and residential land that could not be ploughed was completed during the winter of 2010 using the test pit method at intervals of five metres (see Plates 1 to 4). Each test pit was approximately 30 centimetres in diameter, excavated to subsoil, and then back filled. All soil was screened through six millimetre hardware cloth in order to facilitate the recovery of artifacts. In the event that a test pit yielded artifacts, further test pits were excavated at 2.5 metre-intervals on cardinal points surrounding the positive test pit. Stage 2 assessment of approximately 40.5 hectares of well-weathered ploughed fields was conducted by the standard pedestrian survey method at transect intervals of five metres (see Plates 5 to 6). Ground visibility was excellent. In the event that an artifact was encountered during pedestrian survey, survey intervals were intensified to one metre within a twenty-metre radius of the find. Areas of previous disturbance (e.g. Plates 7, 9, 10, 12, 13 and 14) or poor drainage (e.g. Plates 8 and 11) were judged to have low archaeological potential and were not assessed. Plate locations and photograph directions are provided in Figure 7.

Numerous areas existed within the study area where pedestrian survey and test pit survey were possible, despite conditions visible on aerial photography. These included seasonal watercourses of widths less than one metre in width (in both ploughed and unploughed areas) and treed windbreaks of less than five metres in width (in ploughed agricultural fields). At the request of the Ministry of Tourism and Culture, the locations of small seasonal watercourses have been mapped in Appendix B as narrow areas of poor drainage. Their presence did not impact test pit distribution or pedestrian survey transects since they were generally accommodated between five metre transects, being less than one metre in width. The presence of treed windbreaks of less than five metres width is not indicated in Appendix B, as their presence did not preclude pedestrian survey at five metre intervals surrounding them and therefore test pit survey was not employed to assess them.

LEGEND

- Turbine Location
- Haldimand Tract
- Project Area
- Access Road
- Underground Cable
- Principal Highway
- Major Road
- Local road
- Photograph Locus and Direction

REFERENCE

Base Data - MNR NRVIS, obtained 2004, CANMAP v2006.4
Produced by Golder Associates Ltd under licence from
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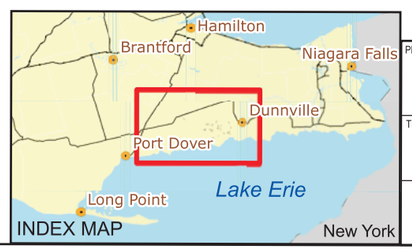
Projection: Transverse Mercator Datum: NAD 83 Coordinate System: UTM Zone 17



0 1 2 4 6 8 10
SCALE 1:200,000 KILOMETERS

PROJECT
Interim Stage 2 Archaeological Assessment
Grand Renewable Energy Park
Haldimand County, Ontario

TITLE
Plate Locations and Photographic Direction

Golder Associates
Mississauga, Ontario

PROJECT No. 10-1136-0072		SCALE AS SHOWN	REV. 0.0
DESIGN	PP	14 Apr. 2008	
GIS	PP	24 Jul. 2008	
CHECK			
REVIEW			

FIGURE 7

Plate 1: Field Conditions, Disturbed Area (Gravel Drive and House), Not Assessed, Facing North

Plate 2: Test Pit Survey, Field Conditions, Test Pitted at Five-Metre Intervals, Facing Southeast

Plate 3: Test Pit Survey, Field Conditions, Test Pitted at Five-Metre Intervals, Facing East

Plate 4: Test Pit Survey, Field Conditions, Test Pitted at Five-Metre Intervals, Facing North

Plate 5: Pedestrian Survey, Field Conditions, Meadow Property, Walked at Five-Metre Intervals, Facing North

Plate 6: Pedestrian Survey, Field Conditions, Walked at Five-Metre Intervals, Facing South

Plate 7: Field Conditions, Disturbed Area (Chipped Stone Parking Lot), Not Assessed, Facing West

Plate 8: Field Conditions, Area of Poor Drainage, Not Assessed, Facing West

Plate 9: Field Conditions, Disturbed Area (Farm Buildings), Not Assessed, Facing North

Plate 10: Field Conditions, Disturbed Area (Gravel Drive), Not Assessed, Facing West

Plate 11: Field Conditions, Area of Poor Drainage, Not Assessed, Facing Southwest

Plate 12: Field Conditions, Disturbed Area (Farm Buildings and Asphalt Drive), Not Assessed, Facing Southwest

Plate 13: Field Conditions, Disturbed Area (Ruined Farm Buildings), Not Assessed, Facing North

Plate 14: Field Conditions, Disturbed Area (Area of Aggregate Extraction), Not Assessed, Facing South

UTM coordinates (see Appendix D) were recorded for isolated surface finds and positive test pits, and centroid coordinates were recorded for surface artifact scatters and scatters of positive test pits. Coordinates were recorded by a Trimble Recon handheld GPS unit and/or a Garmin eTrex Legend handheld GPS unit, both using the North American Datum (NAD) 83. GPS readings were accurate to five metres or better.

The weather during the Stage 2 assessment ranged from sunny and cold to overcast and cold. At no time were the conditions detrimental to the recovery of archaeological material. Field visibility during the pedestrian surveys was excellent. Permission to enter the property and remove artifacts was given by proponent contact, Mr. Rob Nadolny. All recovered artifacts will be housed at Golder's London office until their transfer to the Ontario Ministry of Tourism and Culture collections facility located at 900 Highbury Avenue, London.

3.2 Stage 2 Field Assessment Results

The Stage 2 assessment resulted in a total of 55 archaeological locations being identified with 54 of these representing pre-contact lithic-producing sites. Each location, both pre-contact and historic Euro-Canadian, and associated artifactual finds are discussed separately below, plotted on maps in Appendix B and provided with UTM coordinates in Appendix D. A complete Stage 2 catalogue is provided as Appendix C. The chert types identified at each location are summarised here:

- **Ancaster chert:** a moderate quality Middle Silurian raw material that outcrops in the Lockport formation near Hamilton. Secondary deposits can be found as far east as Grimsby (Eley and von Bitter 1989).
- **Collingwood chert:** a relatively high quality Middle Silurian material that outcrops in the southern Georgian Bay area and can be found in glacial deposits near the chert outcrops. Although Collingwood seldom appears in till in the southwestern part of the province, it was used extensively in fluted point industries during the Early Palaeo-Indian Period (Eley and von Bitter 1989).
- **Dundee chert:** a moderate quality Middle Devonian raw material that outcrops close to the embouchure of the Grand River along the north shore of Lake Erie. It is distinguishable from Selkirk chert, also found in the Dundee formation, by its predominantly mottled or banded grey colour. Its distribution as a secondary source material is similar to Onondaga chert and it is frequently encountered as far west as the Chatham area (Eley and von Bitter 1989).
- **Haldimand chert:** a relatively high quality Lower Devonian raw material that outcrops along the Bois Blanc formation between Kohler and Hagersville, as well as in Cayuga, Ontario (Eley and von Bitter 1989; see also Chapman and Putnam 1984:Figure16).
- **Kettle Point chert:** a relatively high quality Upper Devonian raw material that outcrops between Kettle Point and Ipperwash, on Lake Huron. Currently, Kettle Point occurs as submerged outcrops extending for approximately 1350 metres into Lake Huron. Secondary deposits of Kettle Point chert have been reported in Essex County and in the Ausable Basin (Eley and von Bitter 1989).
- **Onondaga chert:** a high quality Middle Devonian raw material that outcrops along the north shore of Lake Erie east of the embouchure of the Grand River. This material can also be recovered from

secondary, glacial deposits across much of southwestern Ontario, east of Chatham (Eley and von Bitter 1989).

- **Selkirk chert:** a relatively high quality Middle Devonian raw material that outcrops close to the embouchure of the Grand River along the north shore of Lake Erie. Also from the Dundee formation, it is distinguishable by its predominantly brown colour and relatively vitreous fabric compared to Dundee chert. Its distribution is the same as Dundee chert (Eley and von Bitter 1989).
- **Indiana Hornstone:** a relatively high quality Mississippian raw material of the Ste. Genevieve Formation that outcrops in south-central Indiana and north-central Kentucky, particularly in the Lower Ohio River Valley. This material ranges from a light grey or blue-grey to a dark grey and can be concentrically banded, sometimes exhibiting 'bullseye' effect (DeRegnaucourt and Georgiady 1998).

Finally, one nearly transparent quartz biface exhibiting white banding was recovered. Its geological provenance is unknown, but may ultimately come from a source in northern Ontario.

3.2.1 Location 1

1 CDE, not recommended:

Location 1 is a pre-contact Aboriginal site consisting of a surface find of one isolated Onondaga chert flake. This piece of chipping detritus was not retained for laboratory analysis at this time. As detailed in Section 3.1, survey intervals were intensified to one metre within a twenty metre radius of the find but no further artifacts were found. Given that this flake is the only find at this location and it is temporally non-diagnostic, the cultural heritage value or interest of this site is low and no further archaeological assessment is recommended.

3.2.2 Location 2 (AfGw-168)

21 CDE, recommended:

Location 2 (AfGw-168) is a pre-contact Aboriginal site, approximately 20 metres by 45 metres in size. The site consists of a surface lithic scatter of 21 Onondaga chert flakes. The chipping detritus was not retained for laboratory analysis at this time. It is recommended that this site be subject to a Stage 3 archaeological investigation to further evaluate its cultural heritage value or interest. The Stage 3 assessment would include the mapping of any surface finds and the hand excavation of a series of one-metre square test units.

3.2.3 Location 3

1 CDE, not recommended:

Location 3 is a pre-contact Aboriginal site consisting of a surface find of one isolated Onondaga chert flake. This piece of chipping detritus was not retained for laboratory analysis at this time. As detailed in Section 3.1, survey intervals were intensified to one metre within a twenty metre radius of the find but no further artifacts were found. Given that this flake is the only find at this location and it is temporally non-diagnostic the cultural heritage value or interest of this site is low and no further archaeological assessment is recommended.

3.2.4 Location 4

6 CDE, not recommended:

Location 4 is a pre-contact Aboriginal site, approximately 5 metres by 5 metres in size. The site consists of a surface lithic scatter of six Onondaga chert flakes. The chipping detritus was not retained for laboratory analysis at this time. Given that these flakes are temporally non-diagnostic the cultural heritage value or interest of this site is low and no further archaeological assessment is recommended.

3.2.5 Location 5 (AfGw-169)

1 BIF, 18 CDE, recommended:

Location 5 (AfGw-169) is a pre-contact Aboriginal site, approximately 10 metres by 25 metres in size. The site consists of a surface lithic scatter of one biface base (Plate 10:1) manufactured from Onondaga chert (Plate 15), and 18 Onondaga chert flakes. The surviving portion of thibiface measures 32.2 millimetres long by 28.7 millimetres wide and 7.6 millimetres thick. The chipping detritus was not retained for laboratory analysis at this time.

It is recommended that this site be subject to a Stage 3 archaeological investigation to further evaluate its cultural heritage value or interest. The Stage 3 assessment would include the mapping of any surface finds and the hand excavation of a series of one-metre square test units.

Plate 15: Location 5 (AfGw-169) Biface (actual size)

1. Biface

3.2.6 Location 6

1 SCR, not recommended:

Location 6 is a pre-contact Aboriginal site consisting of a surface find of one isolated end scraper exhibiting a graver spur protruding laterally from the vertex of the lateral margin and scraper bit. It is manufactured from Onondaga chert. This scraper was not retained for laboratory analysis at this time.

As detailed in Section 3.1, survey intervals were intensified to one metre within a twenty metre radius of the find but no further artifacts were found. Given that this scraper is the only find at this location and it is temporally non-diagnostic the cultural heritage value or interest of this site is low and no further archaeological assessment is recommended.

3.2.7 Location 7

1 RTF, not recommended:

Location 7 is a pre-contact Aboriginal site consisting of a surface find of one isolated edge fragment of a retouched flake manufactured from Onondaga chert. This retouched flake was not retained for laboratory analysis at this time. As detailed in Section 3.1, survey intervals were intensified to one metre within a twenty metre radius of the find but no further artifacts were found. Given that this is the only find at this location and it is temporally non-diagnostic the cultural heritage value or interest of this site is low and no further archaeological assessment is recommended.

3.2.8 Location 8

5 CDE, not recommended:

Location 8 is a pre-contact Aboriginal site, approximately 25 metres by 25 metres in size. The site consists of a surface lithic scatter of five Onondaga chert flakes. The chipping detritus was not retained for laboratory analysis at this time. Given that these flakes are temporally non-diagnostic the cultural heritage value or interest of this site is low and no further archaeological assessment is recommended.

3.2.9 Location 9

1 CDE, not recommended:

Location 9 is a pre-contact Aboriginal site consisting of a surface find of one isolated Onondaga chert flake. This piece of chipping detritus was not retained for laboratory analysis at this time. As detailed in Section 3.1, survey intervals were intensified to one metre within a twenty metre radius of the find but no further artifacts were found. Given that this flake is the only find at this location and it is temporally non-diagnostic the cultural heritage value or interest of this site is low and no further archaeological assessment is recommended.

3.2.10 Location 10

6 CDE, not recommended:

Location 10 is a pre-contact Aboriginal site, approximately 30 metres by 30 metres in size. The site consists of a surface lithic scatter of six Onondaga chert flakes. The chipping detritus was not retained for laboratory analysis at this time. Given that these flakes are temporally non-diagnostic the cultural heritage value or interest of this site is low and no further archaeological assessment is recommended.

3.2.11 Location 11

1 CDE, not recommended:

Location 11 is a pre-contact Aboriginal site consisting of a surface find of one isolated Onondaga chert flake. This piece of chipping detritus was not retained for laboratory analysis at this time. As detailed in Section 3.1, survey intervals were intensified to one metre within a twenty metre radius of the find, but no further artifacts were found. Given that this flake is the only find at this location and it is temporally non-diagnostic the cultural heritage value or interest of this site is low and no further archaeological assessment is recommended.

3.2.12 Location 12 (AfGw-170)

1 PPO, 1 SCR, 1 BIF, 4 CDE, recommended:

Location 12 (AfGw-170) is a pre-contact Aboriginal site, approximately 30 metres by 30 metres in size. The site consists of a surface lithic scatter of one Brewerton Side-Notched type projectile point (Plate 16:1) (Kenyon 1981:11; Ritchie 1971:19), missing its tip manufactured from Onondaga chert; one biface midsection exhibiting a single side notch an area of retouch along one lateral margin (Plate 16:2) – possibly indicating reuse as a side scraper – manufactured from Onondaga chert; one biface fragment manufactured from Onondaga chert and four

Onondaga chert flakes. The projectile point is of the Middle Archaic Brewerton Side-Notched type and is missing its tip and one barb (Plate 11). In Ontario, this projectile point type dates to *circa* 3780-3200 B.C. (see Ellis et al. 2009:808). The surviving portion of this projectile point measures 45.9 millimetres long by 36.3 millimetres wide at the shoulder and is 9.9 millimetres thick. The bifacial side scraper measures 42.9 millimetres long by 23.6 millimetres wide and is 5.6 millimetres thick. The chipping detritus and biface fragment were not retained for laboratory analysis at this time. It is recommended that this site be subject to a Stage 3 archaeological investigation to further evaluate its cultural heritage value or interest. The Stage 3 assessment would include the mapping of any surface finds and the hand excavation of a series of one-metre square test units.

Plate 16: Location 12 (AfGw-170) Projectile Point and Scraper (actual size)

1. Projectile Point 2. Biface

3.2.13 Location 13

8 CDE, not recommended:

Location 13 is a pre-contact Aboriginal site, approximately 5 metres by 10 metres in size. The site consists of a surface lithic scatter of eight Onondaga chert flakes.

The chipping detritus was not retained for laboratory analysis at this time. Given that these flakes are temporally non-diagnostic the cultural heritage value or interest of this site is low and no further archaeological assessment is recommended.

3.2.14 Location 14

1 CDE, not recommended:

Location 14 is a pre-contact Aboriginal site consisting of a surface find of one isolated Onondaga chert flake. This piece of chipping detritus was not retained for laboratory analysis at this time. As detailed in Section 3.1, survey intervals were intensified to one metre within a twenty metre radius of the find but no further artifacts were found. Given that this flake is the only find at this location and it is temporally non-diagnostic the cultural heritage value or interest of this site is low and no further archaeological assessment is recommended.

3.2.15 Location 15 (AfGw-171)

2 BIF, 1 RTF, 12 CDE, recommended:

Location 15 (AfGw-171) is a pre-contact Aboriginal site, approximately 20 metres by 25 metres in size. The site consists of a surface lithic scatter of one biface fragment manufactured from Onondaga chert, one biface tip manufactured from Flint Ridge chalcedony, one retouched flake edge fragment manufactured from Onondaga chert and 12 Onondaga chert flakes. The biface fragments, retouched flake and chipping detritus were not retained for laboratory analysis at this time. It is recommended that this site be subject to a Stage 3 archaeological investigation to further evaluate its cultural heritage value or interest. The Stage 3 assessment would include the mapping of any surface finds and the hand excavation of a series of one-metre square test units.

3.2.16 Location 16 (AfGw-172)

1 BIF, 1 SCR, 8 CDE, recommended:

Location 16 (AfGw-172) is a pre-contact Aboriginal site, approximately 35 metres by 35 metres in size. The site consists of a surface lithic scatter of one biface manufactured from quartz crystal (Plate 17:1), one side scraper manufactured from Onondaga chert, and eight Onondaga chert flakes. The biface is missing its tip and the surviving portion measures 45.1 millimetres long by 32.4 millimetres wide and is 11.9 millimetres thick. The chipping detritus and scraper were not retained for laboratory analysis at this time. It is recommended that this site be subject to a Stage 3 archaeological investigation to further evaluate its cultural heritage value or interest. The Stage 3 assessment would include the mapping of any surface finds and the hand excavation of a series of one-metre square test units.

Plate 17: Location 16 (AfGw-172) Biface (actual size)

1. Biface

3.2.17 Location 17 (AfGw-173)

1 BIF, 23 CDE, recommended:

Location 17 (AfGw-173) is a pre-contact Aboriginal site, approximately 30 metres by 40 metres in size. The site consists of a surface lithic scatter of one biface manufactured from Onondaga chert and 23 Onondaga chert flakes. The biface is complete, ovate in shape and exhibits signs of water-rolling, but it is not a formal type or diagnostic artifact and therefore was not retained for laboratory analysis at this time. The 23 pieces of chipping detritus were not retained for laboratory analysis at this time. It is recommended that this site be subject to a Stage 3 archaeological investigation to further evaluate its cultural heritage value or interest. The Stage 3 assessment would include the mapping of any surface finds and the hand excavation of a series of one-metre square test units.

3.2.18 Location 18 (AfGw-174)

1 PPO, 2 CDE, recommended:

Location 18 (AfGw-174) is a pre-contact Aboriginal site, approximately 5 metres by 10 metres in size. The site consists of a small surface lithic scatter of one projectile point manufactured from Haldimand chert (Plate 13:1) and two Onondaga chert flakes. The projectile point, comprising the tip and blade portion, may have been stemmed or notched but is missing the majority of its stem or tang area below the shoulder as well as one barb (Plate 18:1). The surviving portion of the projectile point measures 28.1 millimetres long by 16.7 millimetres wide and is 3.6 millimetres thick. The chipping detritus was not retained for laboratory analysis at this time. It is recommended that this site be subject to a Stage 3 archaeological investigation to further evaluate its cultural heritage value or interest. The Stage 3 assessment would include the mapping of any surface finds and the hand excavation of a series of one-metre square test units.

Plate 18: Location 18 (AfGw-174) Projectile Point (actual size)

1. Projectile Point

3.2.19 Location 19

2 CDE, not recommended:

Location 19 is a pre-contact Aboriginal site consisting of a surface lithic scatter of two Onondaga chert flakes located approximately 5 metres apart. The chipping detritus was not retained for laboratory analysis at this time. Given that these flakes are temporally non-diagnostic the cultural heritage value or interest of this site is low and no further archaeological assessment is recommended.

3.2.20 Location 20

3 CDE, not recommended:

Location 20 is a pre-contact Aboriginal site, approximately 32 metres by 5 metres in size. The site consists of a surface lithic scatter of three Onondaga chert flakes. The chipping detritus was not retained for laboratory analysis at this time. Given that these flakes are temporally non-diagnostic the cultural heritage value or interest of this site is low and no further archaeological assessment is recommended.

3.2.21 Location 21 (AfGw-175)

11 CDE, recommended:

Location 21 (AfGw-175) is a pre-contact Aboriginal site, approximately 25 metres by 10 metres in size. The site consists of a surface lithic scatter of 11 Onondaga chert flakes. The chipping detritus was not retained for laboratory analysis at this time. It is recommended that this site be subject to a Stage 3 archaeological investigation to further evaluate its cultural heritage value or interest. The Stage 3 assessment would include the mapping of any surface finds and the hand excavation of a series of one-metre square test units.

3.2.22 Location 22

1 CDE, not recommended:

Location 22 is a pre-contact Aboriginal site consisting of a surface find of one isolated Onondaga chert flake. This piece of chipping detritus was not retained for laboratory analysis at this time. As detailed in Section 3.1, survey intervals were intensified to one metre within a twenty metre radius of the find but no further artifacts were found. Given that this flake is the only find at this location and it is temporally non-diagnostic the cultural heritage value or interest of this site is low and no further archaeological assessment is recommended.

3.2.23 Location 23

3 CDE, not recommended:

Location 23 is a pre-contact Aboriginal site, approximately 10 metres by 10 metres in size. The site consists of a surface lithic scatter of three Selkirk chert flakes. The chipping detritus was not retained for laboratory analysis at this time. Given that these flakes are temporally non-diagnostic the cultural heritage value or interest of this site is low and no further archaeological assessment is recommended.

3.2.24 Location 24 (AfGw-176)

1 BIF, 1 RTF, 12 CDE, recommended:

Location 24 (AfGw-176) is a pre-contact Aboriginal site, approximately 40 metres by 20 metres in size. The site consists of a surface lithic scatter of one biface fragment manufactured from Onondaga chert, one retouched flake manufactured from Onondaga chert and 12 Selkirk chert flakes. The biface, retouched flake and chipping detritus were not retained for laboratory analysis at this time. It is recommended that this site be subject to a Stage 3 archaeological investigation to further evaluate its cultural heritage value or interest. The Stage 3 assessment would include the mapping of any surface finds and the hand excavation of a series of one-metre square test units.

3.2.25 Location 25

6 CDE, not recommended:

Location 25 is a pre-contact Aboriginal site, approximately 5 metres by 5 metres in size. The site consists of a surface lithic scatter of six Selkirk chert flakes. The chipping detritus was not retained for laboratory analysis at this time. Given that these flakes are temporally non-diagnostic the cultural heritage value or interest of this site is low and no further archaeological assessment is recommended.

3.2.26 Location 26

1 CDE, not recommended:

Location 26 is a pre-contact Aboriginal site consisting of a surface find of one isolated Onondaga chert flake. This piece of chipping detritus was not retained for laboratory analysis at this time. As detailed in Section 3.1, survey intervals were intensified to one metre within a twenty metre radius of the find but no further artifacts were found. Given that this flake is the only find at this location and it is temporally non-diagnostic the cultural heritage value or interest of this site is low and no further archaeological assessment is recommended.

3.2.27 Location 27

2 CDE, not recommended:

Location 27 is a pre-contact Aboriginal site consisting of a surface lithic scatter of two Onondaga chert flakes located approximately 7 metres apart. The chipping detritus was not retained for laboratory analysis at this time. Given that these flakes are temporally non-diagnostic the cultural heritage value or interest of this site is low and no further archaeological assessment is recommended.

3.2.28 Location 28

1 CDE, not recommended:

Location 28 is a pre-contact site consisting of a surface find of one isolated Onondaga chert flake. This piece of chipping detritus was not retained for laboratory analysis at this time. As detailed in Section 3.1, survey intervals were intensified to one metre within a twenty metre radius of the find but no further artifacts were found. Given that this flake is the only find at this location and it is temporally non-diagnostic the cultural heritage value or interest of this site is low and no further archaeological assessment is recommended.

3.2.29 Location 29 (AfGw-177)

1 BIF, recommended:

Location 29 (AfGw-177) is a pre-contact Aboriginal site, consisting of a surface find of one biface manufactured from Indiana Hornstone (Plate 19:1). The biface is missing its tip but is otherwise complete. The surviving portion of the biface measures 52.3 millimetres long by 37.0 millimetres wide and is 7.9 millimetres thick. As

detailed in Section 3.1, survey intervals were intensified to one metre within a twenty metre radius of the find but no further artifacts were found.

Due to the exotic nature of the material from which this biface was manufactured it is recommended that this site be subject to a Stage 3 archaeological investigation to further evaluate its cultural heritage value or interest. The Stage 3 assessment would include the mapping of any surface finds and the hand excavation of a series of one-metre square test units.

Plate 19: Location 29 (AfGw-177) Biface (actual size)

1. Biface

3.2.30 Location 30 (AfGw-178)

17 CDE, recommended:

Location 30 (AfGw-178) is a pre-contact Aboriginal site, approximately 15 metres by 15 metres in size. The site consists of a surface lithic scatter of 17 Selkirk chert flakes. The chipping detritus was not retained for laboratory analysis at this time. It is recommended that this site be subject to a Stage 3 archaeological investigation to further evaluate its cultural heritage value or interest. The Stage 3 assessment would include the mapping of any surface finds and the hand excavation of a series of one-metre square test units.

3.2.31 Location 31

1 UFL, 3 CDE, not recommended:

Location 31 is a pre-contact Aboriginal site, approximately 5 metres by 15 metres in size. The site consists of a surface lithic scatter of one utilized flake manufactured from Onondaga chert and three Onondaga chert flakes. The utilized flake and chipping detritus was not retained for laboratory analysis at this time. Given that these

flakes are temporally non-diagnostic the cultural heritage value or interest of this site is low and no further archaeological assessment is recommended.

3.2.32 Location 32

4 CDE, not recommended:

Location 23 is a pre-contact Aboriginal site, approximately 25 metres by 15 metres in size. The site consists of a surface lithic scatter of four Onondaga flakes. The chipping detritus was not retained for laboratory analysis at this time. Given that these finds are temporally non-diagnostic the cultural heritage value or interest of this site is low and no further archaeological assessment is recommended.

3.2.33 Location 33

2 CDE, not recommended:

Location 33 is a pre-contact Aboriginal site consisting of a surface lithic scatter of two Onondaga flakes located approximately 15 metres apart. The chipping detritus was not retained for laboratory analysis at this time. Given that these flakes are temporally non-diagnostic the cultural heritage value or interest of this site is low and no further archaeological assessment is recommended.

3.2.34 Location 34 (AfGw-179)

1 PPO, 1 BIF, 2 CDE, recommended:

Location 34 (AfGw-179) is pre-contact Aboriginal site, approximately 15 metres by 20 metres in size. The site consists of a surface lithic scatter of one Kramer type projectile point manufactured from Onondaga chert (Plate 20:1), one biface manufactured from Onondaga chert, as well as two Onondaga chert flakes. The Kramer projectile point, which appears to have been burnt, is missing a small portion of its tip and exhibits a broken shoulder or barb. The surviving portion measures 43.8 millimetres long by millimetres 25.9 wide and is 6.4 millimetres thick. In Ontario, Kramer projectile points date to the Early to Middle Woodland period *circa* 500 B.C.-A.D. 1 (Parker 1992:8). The chipping detritus and biface were not retained for laboratory analysis at this time. It is recommended that this site be subject to a Stage 3 archaeological investigation to further evaluate its cultural heritage value or interest. The Stage 3 assessment would include the mapping of any surface finds and the hand excavation of a series of one-metre square test units.

Plate 20: Location 34 (AfGw-179) Kramer Projectile Point (actual size)

1. Projectile Point

3.2.35 Location 35

3 CDE, not recommended:

Location 35 is a pre-contact Aboriginal site, approximately 5 metres by 5 metres in size. The site consists of a surface lithic scatter of three Onondaga flakes. The chipping detritus was not retained for laboratory analysis at this time. Given that these flakes are temporally non-diagnostic the cultural heritage value or interest of this site is low and no further archaeological assessment is recommended.

3.2.36 Location 36

1 PPO, not recommended:

Location 36 is a pre-contact Aboriginal site consisting of a surface find of one isolated projectile point manufactured from Onondaga chert (Plate 21:1). The projectile point is missing its tip and the majority of one lateral edge as well as most of its hafting element. It was originally corner-notched prior to the loss of most of its tang and exhibits heavy retouch on one lateral margin indicating that it may have been reused as a side-scraper. The surviving portion of this point measures 45.1 millimetres long by 27.9 millimetres wide and is 5.1 millimetres thick. Due to its poor condition this projectile point cannot be assigned to a discrete typological category. As detailed in Section 3.1, survey intervals were intensified to one metre within a twenty metre radius of the find but no further artifacts were found. Given that the projectile point is the only find at this location and it is temporally non-diagnostic the cultural heritage value or interest of this site is low and no further archaeological assessment is recommended.

Plate 21: Location 36 Projectile Point (actual size)

1. Projectile Point

3.2.37 Location 37

1 BIF, not recommended:

Location 37 is a pre-contact Aboriginal site consisting of a surface find of one isolated biface manufactured from Selkirk chert. The biface was not retained for laboratory analysis at this time. As detailed in Section 3.1, survey intervals were intensified to one metre within a twenty metre radius of the find but no further artifacts were found. Given that the biface is the only find at this location and it is temporally non-diagnostic the cultural heritage value or interest of this site is low and no further archaeological assessment is recommended.

3.2.38 Location 38 (AfGw-180)

1 SCR, recommended:

Location 38 (AfGw-180) is a pre-contact Aboriginal site consisting of one positive test pit (TP1). Test pit depth was 20 centimetres. This test pit produced one unifacial scraper bit fragment, manufactured from Onondaga chert (Plate 22:1). The scraper fragment retains a heavily use-worn bit edge of steeply angled retouch along one margin and measures 19.9 millimetres long by 17.9 millimetres wide by 7.1 millimetres thick. It is recommended that this site be subject to a Stage 3 archaeological investigation to further evaluate its cultural heritage value or interest. The Stage 3 assessment would include the mapping of any surface finds and the hand excavation of a series of one-metre square test units.

Plate 22: Location 38 (AfGw-180) Scraper (actual size)

1. Scraper

3.2.39 Location 39 (AfGx-722)

3 CDE, recommended:

Location 39 (AfGx-722) is a pre-contact Aboriginal site consisting of three positive test pits (TP1, TP12 and TP13) over an area 6 metres by 10 metres in size. Each of these three test pits contained one Onondaga chert flake. Test pit depths ranged from 17 to 21 centimetres. The chipping detritus was not retained for laboratory analysis at this time. It is recommended that this site be subject to a Stage 3 archaeological investigation to further evaluate its cultural heritage value or interest. The Stage 3 assessment would include the mapping of any surface finds and the hand excavation of a series of one-metre square test units.

3.2.40 Location 40 (AfGw-181)

NWI, BRI, GWI, WEEP and COAL, not recommended:

Location 40 (AfGw-181) is an historic Euro-Canadian site consisting of the remains of four buildings covering an area approximately 40 metres by 80 metres (Plate 2). These remains consist of one open foundation constructed of cut and mortared limestone walls laid in an ashlar pattern, three open foundations constructed of formed concrete and a mortared stone- and formed concrete-lined well. In total, seven test pits (TP1 to TP7) excavated in the immediate vicinity of these foundations yielded artifacts. Test pit depths ranged from 18 to 22 centimetres. Artifacts consisted of seven red brick fragments (Plate 23:1), two window glass fragments measuring 2.0 and 2.2mm in thickness (Plate 23:2), one small wire nail (Plate 23:3), one small piece of coal (Plate 23:4) and one fragment of refined yellow earthenware drainage or weeping tile (Plate 23:5). These artifacts together with the use of formed concrete in the foundation walls of three of the four structures suggest a late 19th Century or early 20th Century to mid 20th Century period of occupation for Location 40. Given the relatively recent age of this site the cultural heritage value or interest is low and no further archaeological assessment is recommended.

Plate 23: Location 40 (AfGw-181) Historic Finds (actual size)

3.2.41 Location 41 (AfGw-182)

54 CDE, recommended:

Location 41 (AfGw-182) is a pre-contact Aboriginal site consisting of 12 positive test pits (TP1 to TP12) over an area 5 metres by 5 metres in size. Test pit depths ranged from 14 to 27 centimetres. These test pits yielded a total of 54 Onondaga chert flakes. Chipping detritus finds by test pit ranged from 1 piece to 25 pieces. The chipping detritus was not retained for laboratory analysis at this time. It is recommended that this site be subject to a Stage 3 archaeological investigation to further evaluate its cultural heritage value or interest. The Stage 3 assessment would include the mapping of any surface finds and the hand excavation of a series of one-metre square test units.

3.2.42 Location 42

1 BIF, not recommended:

Location 42 is a pre-contact Aboriginal site consisting of a surface find of one isolated biface tip manufactured from Onondaga chert. The biface was not retained for laboratory analysis at this time. As detailed in Section 3.1, survey intervals were intensified to one metre within a twenty metre radius of the find but no further artifacts

were found. Given that the biface fragment is the only find at this location and it is temporally non-diagnostic the cultural heritage value or interest of this site is low and no further archaeological assessment is recommended.

3.2.43 Location 43

1 UFL, not recommended:

Location 43 is a pre-contact Aboriginal site consisting of a surface find of one isolated utilized Onondaga chert flake edge fragment. This fragmented flake was not retained for laboratory analysis at this time. As detailed in Section 3.1, survey intervals were intensified to one metre within a twenty metre radius of the find, but no further artifacts were found. Given that the flake fragment is the only find at this location and it is temporally non-diagnostic the cultural heritage value or interest of this site is low and no further archaeological assessment is recommended.

3.2.44 Location 44 (AfGw-183)

28 CDE, recommended:

Location 44 (AfGw-183) is a pre-contact Aboriginal site, approximately 15 metres by 25 metres in size. The site consists of a surface lithic scatter of 28 Onondaga chert flakes. The chipping detritus was not retained for laboratory analysis at this time. It is recommended that this site be subject to a Stage 3 archaeological investigation to further evaluate its cultural heritage value or interest. The Stage 3 assessment would include the mapping of any surface finds and the hand excavation of a series of one-metre square test units.

3.2.45 Location 45 (AfGx-723)

10 CDE, recommended:

Location 45 (AfGx-723) is a pre-contact Aboriginal site, approximately 5 metres by 15 metres in size. The site consists of a surface lithic scatter of 10 Onondaga chert flakes. The chipping detritus was not retained for laboratory analysis at this time. It is recommended that this site be subject to a Stage 3 archaeological investigation to further evaluate its cultural heritage value or interest. The Stage 3 assessment would include the mapping of any surface finds and the hand excavation of a series of one-metre square test units.

3.2.46 Location 46 (AfGx-724)

1 SCR, 1 COR, 11 CDE, recommended:

Location 46 (AfGx-724) is pre-contact Aboriginal site, approximately 15 metres by 30 metres in size. The site consists of a surface lithic scatter of one end scraper bit fragment manufactured from Onondaga chert, one multidirectional core manufactured from Onondaga chert, as well as 11 Onondaga chert flakes. The scraper, core and chipping detritus were not retained for laboratory analysis at this time.

It is recommended that this site be subject to a Stage 3 archaeological investigation to further evaluate its cultural heritage value or interest. The Stage 3 assessment would include the mapping of any surface finds and the hand excavation of a series of one-metre square test units.

3.2.47 Location 47 (AfGx-725)

1 COR, 28 CDE, recommended:

Location 47 (AfGx-725) is pre-contact Aboriginal site, approximately 10 metres by 30 metres in size. The site consists of a surface lithic scatter of one multidirectional core manufactured from Onondaga chert and 28 Onondaga chert flakes. The core and chipping detritus were not retained for laboratory analysis at this time. It is recommended that this site be subject to a Stage 3 archaeological investigation to further evaluate its cultural heritage value or interest. The Stage 3 assessment would include the mapping of any surface finds and the hand excavation of a series of one-metre square test units.

3.2.48 Location 48 (AfGx-726)

10 CDE, recommended:

Location 48 (AfGx-726) is a pre-contact Aboriginal site, approximately 5 metres by 5 metres in size. The site consists of a surface lithic scatter of 10 Onondaga chert flakes. The chipping detritus was not retained for laboratory analysis at this time. It is recommended that this site be subject to a Stage 3 archaeological investigation to further evaluate its cultural heritage value or interest. The Stage 3 assessment would include the mapping of any surface finds and the hand excavation of a series of one-metre square test units.

3.2.49 Location 49 (AfGx-727)

10 CDE, recommended:

Location 49 (AfGx-727) is a pre-contact Aboriginal site, approximately 5 metres by 5 metres in size. The site consists of a surface lithic scatter of 10 Onondaga chert flakes. The chipping detritus was not retained for laboratory analysis at this time. It is recommended that this site be subject to a Stage 3 archaeological investigation to further evaluate its cultural heritage value or interest. The Stage 3 assessment would include the mapping of any surface finds and the hand excavation of a series of one-metre square test units.

3.2.50 Location 50 (AfGx-728)

1 BIF, 1 COR, 35 CDE, recommended:

Location 50 (AfGx-728) is pre-contact Aboriginal site, approximately 10 metres by 25 metres in size. The site consists of a surface lithic scatter of one biface tip fragment manufactured from Onondaga chert (Plate 24:1), one multidirectional core manufactured on Onondaga chert, as well as 20 Onondaga chert flakes and 15 Dundee chert flakes. The biface appears to have been intentionally broken near its base and the surviving portion measures 43.6 millimetres long by 28.9 millimetres wide by 9.8 millimetres thick. The core and chipping detritus were not retained for laboratory analysis at this time. It is recommended that this site be subject to a Stage 3 archaeological investigation to further evaluate its cultural heritage value or interest. The Stage 3 assessment would include the mapping of any surface finds and the hand excavation of a series of one-metre square test units.

Plate 24: Location 50 (AfGx-728) Biface (actual size)

1. Biface

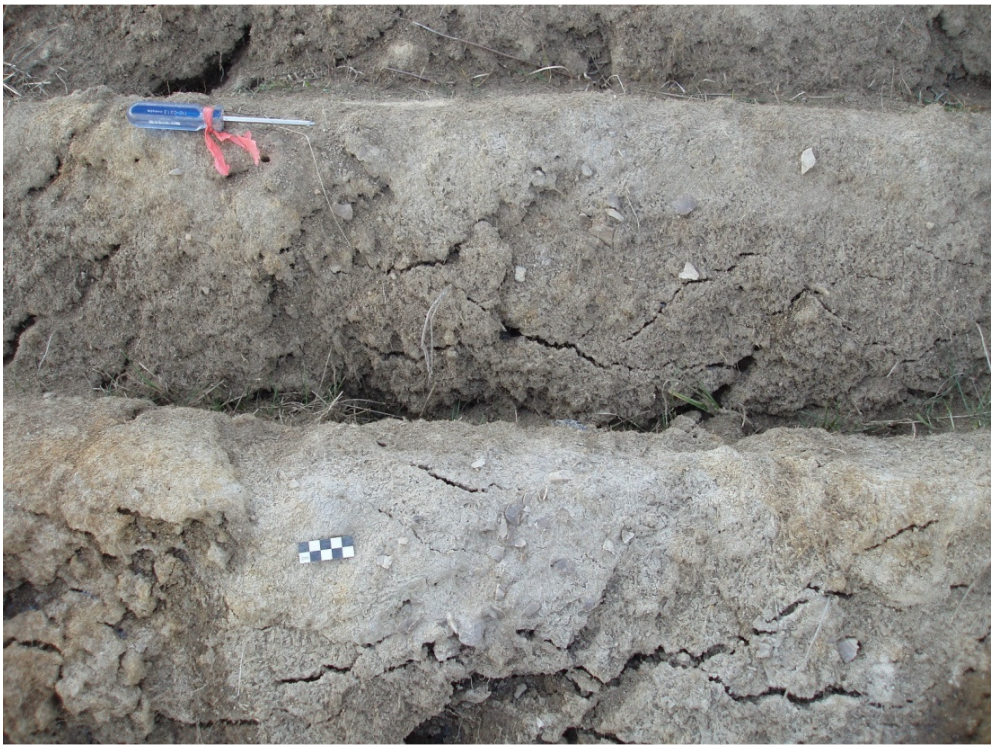
3.2.51 Location 51 (AfGx-729)

1 BIF, 1 SCR, 1 UFL, 3 COR, 174 CDE, recommended:

Location 51 (AfGx-729) is pre-contact site, approximately 35 metres by 45 metres in size. The site consists of a surface lithic scatter of one biface manufactured from Onondaga chert, one scraper bit fragment manufactured from Haldimand chert, one utilized flake edge fragment manufactured from Onondaga chert, three multidirectional cores manufactured from Onondaga chert and 78 Onondaga chert flakes. Additionally, two features appeared to have been partially uncovered by the ploughing. Each was visible on plough ridges and furrows as lighter-coloured yellowish sandy clay subsoil with dense concentrations of brownish-patinated Onondaga chert chipping detritus. The ploughed surface of Feature 1 (Plate 25) contained 59 Onondaga chert flakes, while the ploughed surface of Feature 2 contained 37 Onondaga chert flakes.

The biface, scraper, utilized flake, cores and chipping detritus were not retained for laboratory analysis at this time. It is recommended that this site be subject to a Stage 3 archaeological investigation to further evaluate its cultural heritage value or interest. The Stage 3 assessment would include the mapping of any surface finds and the hand excavation of a series of one-metre square test units.

Plate 25: Location 51 (AfGx-729) Surface of Feature 1 with Lithics visible in Ploughzone



3.2.52 Location 52 (AfGx-730)

1 COR, 27 CDE, recommended:

Location 52 (AfGx-730) is pre-contact Aboriginal site, approximately 15 metres by 25 metres in size. The site consists of a surface lithic scatter of one multidirectional core manufactured from Onondaga chert and 27 Onondaga chert flakes. The core and chipping detritus were not retained for laboratory analysis at this time. It is recommended that this site be subject to a Stage 3 archaeological investigation to further evaluate its cultural heritage value or interest. The Stage 3 assessment would include the mapping of any surface finds and the hand excavation of a series of one-metre square test units.

3.2.53 Location 53 (AfGx-731)

1 BIF, 1 COR, 48 CDE, recommended:

Location 53 (AfGx-731) is pre-contact Aboriginal site, approximately 30 metres by 40 metres in size. The site consists of a surface lithic scatter of one biface manufactured from Onondaga chert, one multidirectional core manufactured from Onondaga chert and 48 Onondaga chert flakes. The biface, core and chipping detritus were not retained for laboratory analysis at this time. It is recommended that this site be subject to a Stage 3 archaeological investigation to further evaluate its cultural heritage value or interest. The Stage 3 assessment would include the mapping of any surface finds and the hand excavation of a series of one-metre square test units.

3.2.54 Location 54

4 CDE, not recommended:

Location 54 is a pre-contact Aboriginal site, approximately 5 metres by 5 metres in size. The site consists of a surface lithic scatter of four Onondaga chert flakes. The chipping detritus was not retained for laboratory analysis at this time. Given that these flakes are temporally non-diagnostic the cultural heritage value or interest of this site is low and no further archaeological assessment is recommended.

3.2.55 Location 55

6 CDE, not recommended:

Location 55 is a pre-contact Aboriginal site, approximately 10 metres by 10 metres in size. The site consists of a surface lithic scatter of six Haldimand chert flakes. The chipping detritus was not retained for laboratory analysis

at this time. Given that these flakes are temporally non-diagnostic the cultural heritage value or interest of this site is low and no further archaeological assessment is recommended.

4.0 SUMMARY OF STAGE 2 INVESTIGATIONS

The pre-contact Aboriginal locations documented during the Stage 2 assessment of the study area range in age at least from the Middle Archaic to the Early or Middle Woodland. Of the 54 pre-contact Aboriginal locations recovered, two can be assigned date ranges. Table 1 presents a summary of the sites and their cultural and temporal affiliations. Table 2 presents a detailed listing of each site's cultural and temporal affiliation with the typological artifact identified.

Table 1: Summary of Temporal Affiliations of Pre-contact Aboriginal Sites in Study Area

Affiliation	# of Sites	Date Range
Palaeo-Indian		9000 - 8000 B.C.
Late Palaeo-Indian		8400 - 8000 B.C.
Early Archaic		8000 - 6000 B.C.
Middle Archaic	1	6000 - 2500 B.C.
Middle/Late Archaic		6000 - 1400 B.C.
Narrow Point Late Archaic		2500 - 1800 B.C.
Broad Point Late Archaic		1800 - 1500 B.C.
Broad Point/Small Point Late Archaic		1800 - 1100 B.C.
Small Point Late Archaic		1500 - 1100 B.C.
Terminal Archaic		1100 - 950 B.C.
Early Woodland		950 - 400 B.C.
Middle Woodland		100 B.C. - A.D. 200
Early/Middle Woodland	1	950 B.C. - A.D. 200
Middle/Late Woodland		A.D. 500 - 1100
Late Woodland		A.D. 1100 - 1650

Table 2: Pre-contact Aboriginal Sites in Study Area with Known Cultural and Temporal Assignments

Loc.	Borden #	Based On	Time Period	Date Range
12	AfGw-170	Brewerton Side-Notched projectile point	Middle Archaic	c. 3780-3200 B.C.
34	AfGw-179	Kramer projectile point	Early/Middle Woodland	c. 500 B.C. - A.D. 1

5.0 RECOMMENDATIONS AND ADVICE ON COMPLIANCE WITH LEGISLATION

A Stage 1 archaeological background study was previously conducted on behalf of Samsung Renewable Energy Inc. by Stantec Consulting Ltd. for a parcel of approximately 75 hectares in the Geographic Townships of Dunn, Rainham, South Cayuga, North Cayuga and Walpole in Haldimand County, Ontario (Stantec 2010b). This area is proposed to be the site of approximately 69 wind turbines, at least three areas of solar panels and project-related infrastructure (Stantec 2010a:2, 2010b:i), comprising the Grand Renewable Energy Park (Figure 1).

The Stage 1 archaeological assessment resulted in the determination that the potential for pre-contact Aboriginal and Euro-Canadian sites was deemed to be moderate to high on these properties. As a result, Stage 2 archaeological assessment was recommended for any areas to be impacted by turbine or solar panel construction, access road construction, or other infrastructure construction related activities.

The Stage 2 archaeological assessment of a portion of the proposed project was undertaken by Golder, on behalf of Stantec, in order to meet the requirements of an environmental assessment conducted under the Renewable Energy Act, as outlined in Ontario Regulation 359/09 section 22(3). The Stage 2 Assessment was conducted from December 2nd, 2010 to December 22nd, 2010 and January 2nd, 2011 to January 3rd, 2011. This work was conducted under archaeological consulting licence P218, issued to Scott Martin, Ph.D., by the Ontario Ministry of Tourism and Culture. The Stage 2 assessment focused upon the proposed wind turbine and solar lands layout, including turbine sites, collector cable routes, access roads, construction roads, transmission lines, laydown areas and substations. A total of approximately 75 hectares was subject to Stage 2 archaeological assessment.

The remainder of the project area, consisting entirely of ploughed agricultural fields (total of approximately102 hectares), will be assessed when weather conditions allow using the pedestrian survey method at five metre intervals. In total, 20 turbine locations, 11 access road or collector cable routes and two portions of solar panel lands still need to be assessed. This remaining work is estimated to take a crew of 6 individuals, three field days, after which time the Stage 2 assessment will be complete.

The Stage 2 archaeological assessment resulted in the identification of 55 locations, comprising 54 pre-contact Aboriginal sites and one historic Euro-Canadian site. In summary, 25 of the 55 archaeological locations identified within the study area are recommended for Stage 3 assessment. It is recommended that these sites be subject to a Stage 3 archaeological investigation to further evaluate their cultural heritage value or interest.

The following recommendations are made concerning these locations.

5.1 Sites Recommended for Stage 3 Assessment

Table 3 lists the pre-contact Aboriginal sites requiring Stage 3 assessment. Of the 54 pre-contact Aboriginal archaeological locations recorded, 25 of them are being recommended for further archaeological assessment.

Table 3: Pre-contact Aboriginal Sites Requiring Stage 3 Archaeological Assessment

Site Name	Borden Number	Cultural Affiliation	Date
Location 2	AfGw-168	pre-contact Aboriginal	indeterminate
Location 5	AfGw-169	pre-contact Aboriginal	indeterminate
Location 12	AfGw-170	pre-contact Aboriginal	c. 3780-3200 B.C.
Location 15	AfGw-171	pre-contact Aboriginal	indeterminate
Location 16	AfGw-172	pre-contact Aboriginal	indeterminate
Location 17	AfGw-173	pre-contact Aboriginal	indeterminate
Location 18	AfGw-174	pre-contact Aboriginal	indeterminate
Location 21	AfGw-175	pre-contact Aboriginal	indeterminate
Location 24	AfGw-176	pre-contact Aboriginal	indeterminate
Location 29	AfGw-177	pre-contact Aboriginal	indeterminate
Location 30	AfGw-178	pre-contact Aboriginal	indeterminate
Location 34	AfGw-179	pre-contact Aboriginal	c. 500 B.C. - A.D. 1
Location 38	AfGw-180	pre-contact Aboriginal	indeterminate
Location 39	AfGx-722	pre-contact Aboriginal	indeterminate
Location 41	AfGw-182	pre-contact Aboriginal	indeterminate
Location 44	AfGw-183	pre-contact Aboriginal	indeterminate
Location 45	AfGx-723	pre-contact Aboriginal	indeterminate
Location 46	AfGx-724	pre-contact Aboriginal	indeterminate
Location 47	AfGx-725	pre-contact Aboriginal	indeterminate
Location 48	AfGx-726	pre-contact Aboriginal	indeterminate
Location 49	AfGx-727	pre-contact Aboriginal	indeterminate
Location 50	AfGx-728	pre-contact Aboriginal	indeterminate
Location 51	AfGx-729	pre-contact Aboriginal	indeterminate
Location 52	AfGx-730	pre-contact Aboriginal	indeterminate
Location 53	AfGx-731	pre-contact Aboriginal	indeterminate

5.2 Sites Not Requiring any Further Archaeological Assessment

Table 4 lists the pre-contact Aboriginal sites not requiring Stage 3 assessment. Of the 54 pre-contact Aboriginal archaeological locations recorded, 29 of them have been sufficiently documented and require no further archaeological assessment.

Table 5 lists the single historic Euro-Canadian site not requiring Stage 3 assessment. Of the one Historic Euro-Canadian archaeological location recorded, zero of them are being recommended for further archaeological assessment.

Table 4: Pre-contact Aboriginal Sites Not Requiring Any Further Archaeological Assessment

Site Name	Borden Number	Cultural Affiliation	Date
Location 1	none	pre-contact Aboriginal	indeterminate
Location 3	none	pre-contact Aboriginal	indeterminate
Location 4	none	pre-contact Aboriginal	indeterminate
Location 6	none	pre-contact Aboriginal	indeterminate
Location 7	none	pre-contact Aboriginal	indeterminate
Location 8	none	pre-contact Aboriginal	indeterminate
Location 9	none	pre-contact Aboriginal	indeterminate
Location 10	none	pre-contact Aboriginal	indeterminate
Location 11	none	pre-contact Aboriginal	indeterminate
Location 13	none	pre-contact Aboriginal	indeterminate
Location 14	none	pre-contact Aboriginal	indeterminate
Location 19	none	pre-contact Aboriginal	indeterminate
Location 20	none	pre-contact Aboriginal	indeterminate
Location 22	none	pre-contact Aboriginal	indeterminate
Location 23	none	pre-contact Aboriginal	indeterminate
Location 25	none	pre-contact Aboriginal	indeterminate
Location 26	none	pre-contact Aboriginal	indeterminate
Location 27	none	pre-contact Aboriginal	indeterminate
Location 28	none	pre-contact Aboriginal	indeterminate
Location 31	none	pre-contact Aboriginal	indeterminate
Location 32	none	pre-contact Aboriginal	indeterminate
Location 33	none	pre-contact Aboriginal	indeterminate
Location 35	none	pre-contact Aboriginal	indeterminate
Location 36	none	pre-contact Aboriginal	indeterminate
Location 37	none	pre-contact Aboriginal	indeterminate
Location 42	none	pre-contact Aboriginal	indeterminate
Location 43	none	pre-contact Aboriginal	indeterminate
Location 54	none	pre-contact Aboriginal	indeterminate
Location 55	none	pre-contact Aboriginal	indeterminate

Table 5: Historic Euro-Canadian Sites Not Requiring Any Further Archaeological Assessment

Site Name	Borden Number	Cultural Affiliation	Date
Location 40	AfGw-181	historic Euro-Canadian	Late 19th Century

In summary, 25 of the 55 archaeological locations identified within the study area are recommended for Stage 3 assessment since they are judged to be of cultural heritage value or interest requiring further documentation.

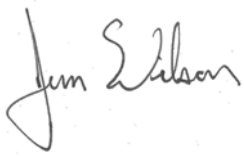
This assessment was undertaken in order to meet the requirements of an environmental assessment conducted under the Renewable Energy Approval (REA) process, as outlined in Ontario Regulation 359/09 section 22(3). The Ontario Ministry of Tourism and Culture is asked to review the results presented and to accept this report into the Ontario Public Register of Archaeological Reports. Additional archaeological assessment is still required and so the archaeological sites recommended for further archaeological fieldwork remain subject to Section 48(1) of the *Ontario Heritage Act* and may not be altered, or have artifacts removed, except by a person holding an archaeological licence.

This report is submitted to the Minister of Culture as a condition of licensing in accordance with Part VI of the *Ontario Heritage Act*, R.S.O. 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, protection and preservation 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*.

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

GOLDER ASSOCIATES LTD.



Tracie Carmichael, B.A., B.Ed.
Project Archaeologist

Jim Wilson, M.A.
Associate, Senior Archaeologist

SWJM/JAW/TLC/sc

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7.0 IMPORTANT INFORMATION AND LIMITATIONS OF THIS REPORT

Golder Associates Ltd. (Golder) has prepared this report in a manner consistent with that level of care and skill ordinarily exercised by members of the archaeological profession currently practicing under similar conditions in the jurisdiction in which the services are provided, subject to the time limits and physical constraints applicable to this report. No other warranty, expressed or implied is made.

This report has been prepared for the specific site, design objective; developments and purpose described to Golder, by Stantec Consulting Ltd. The factual data, interpretations and recommendations pertain to a specific project as described in this report and are not applicable to any other project or site location.

The information, recommendations and opinions expressed in this report are for the sole benefit of the Client. No other party may use or rely on this report or any portion thereof without Golder's express written consent. If the report was prepared to be included for a specific permit application process, then upon the reasonable request of the Client, Golder may authorize in writing the use of this report by the regulatory agency as an Approved User for the specific and identified purpose of the applicable permit review process. Any other use of this report by others is prohibited and is without responsibility to Golder. The report, all plans, data, drawings and other documents as well as electronic media prepared by Golder are considered its professional work product and shall remain the copyright property of Golder, who authorizes only the Client and Approved Users to make copies of the report, but only in such quantities as are reasonably necessary for the use of the report by those parties. The Client and Approved Users may not give, lend, sell, or otherwise make available the report or any portion thereof to any other party without the express written permission of Golder. The Client acknowledges the electronic media is susceptible to unauthorized modification, deterioration and incompatibility and therefore the Client cannot rely upon the electronic media versions of Golder's report or other work products.

Unless otherwise stated, the suggestions, recommendations and opinions given in this report are intended only for the guidance of the Client in the design of the specific project.

Special risks occur whenever archaeological investigations are applied to identify subsurface conditions and even a comprehensive investigation, sampling and testing program may fail to detect all or certain archaeological resources. The sampling strategies incorporated in this study comply with those identified in the Ministry of Tourism and Culture's *Draft Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2009).

APPENDIX A

Aboriginal Engagement

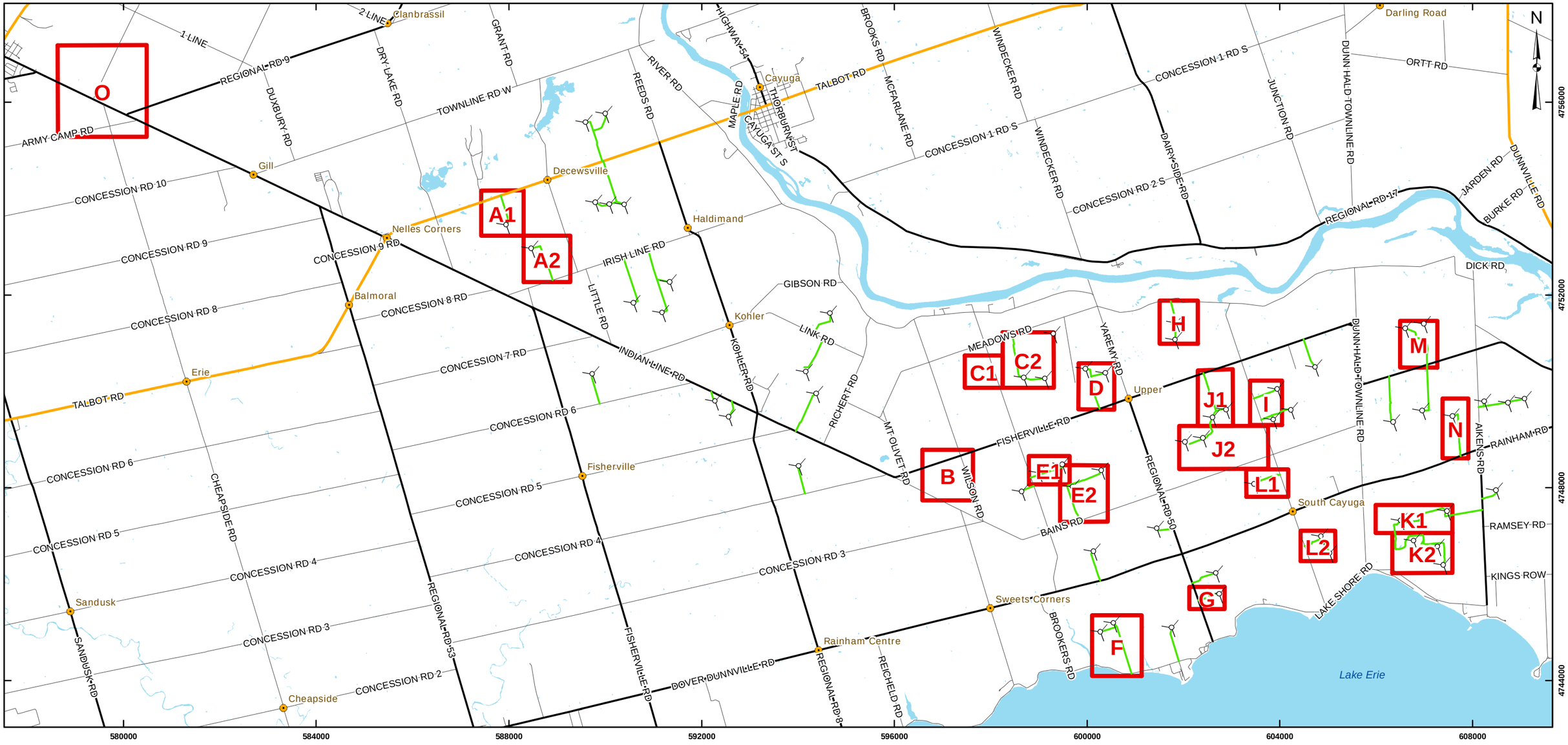
APPENDIX A
ABORIGINAL ENGAGEMENT

The Stage 2 archaeological assessment of the Grand Renewable Energy Park has involved consultation with and participation by First Nations people whose traditional territories are affected by the study area. The study area falls within the territory outlined by Treaty Number 3 made between the British and the Mississaugas, on Dec. 7th, 1792, though purchased as early as 1784. Treaty Number 3 served to set aside lands for Six Nations settlement in the Grand River Valley through the Haldimand Proclamation of October 25th, 1784. Given the historic connection between Six Nations, the Grand River Valley and Haldimand County, two members of Six Nations, Jason Silver and Sheila Silver, were asked to take part in the Stage 2 Archaeological Assessment for the Grand Renewable Energy Park. Both Jason and Sheila worked as archaeological field technicians for Golder Associates in 2010. Aside from their duties as archaeological field technicians, Jason and Sheila also work as First Nations monitors for the Haldimand Tract and report annually to Mr. Paul General of the Six Nations Eco-Centre on archaeological projects conducted within the Tract.

Mrs. Silver was present in the field on December 6th and Dec. 11th, 2010. Mr. Silver was present in the field on Dec. 6th, 2010. With the expanding role that First Nations engagement is taking in Ontario Cultural Resource Management, it is expected and understood that the involvement of First Nations will increase if any Stage 3 or Stage 4 archaeological assessment is to be conducted within this study area.

APPENDIX B

Stage 2 Study Methods and Results



LEGEND

- Turbine Location
- Community
- Access Road
- Principal Highway
- Major Road
- Local Road
- Map Tile
- Waterbody

REFERENCE

Base Data - MNR NRVIS, obtained 2004, CANMAP v2006.4
Produced by Golder Associates Ltd under licence from
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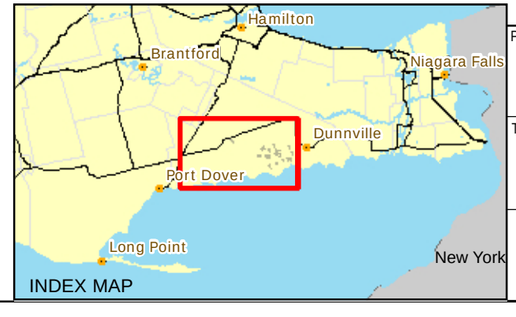
Projection: Transverse Mercator Datum: NAD 83 Coordinate System: UTM Zone 17



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PROJECT
Interim Stage 2 Archaeological Assessment
Grand Renewable Energy Park
Haldimand County, Ontario

TITLE
Stage 2 Methods and Results

Golder Associates
Mississauga, Ontario

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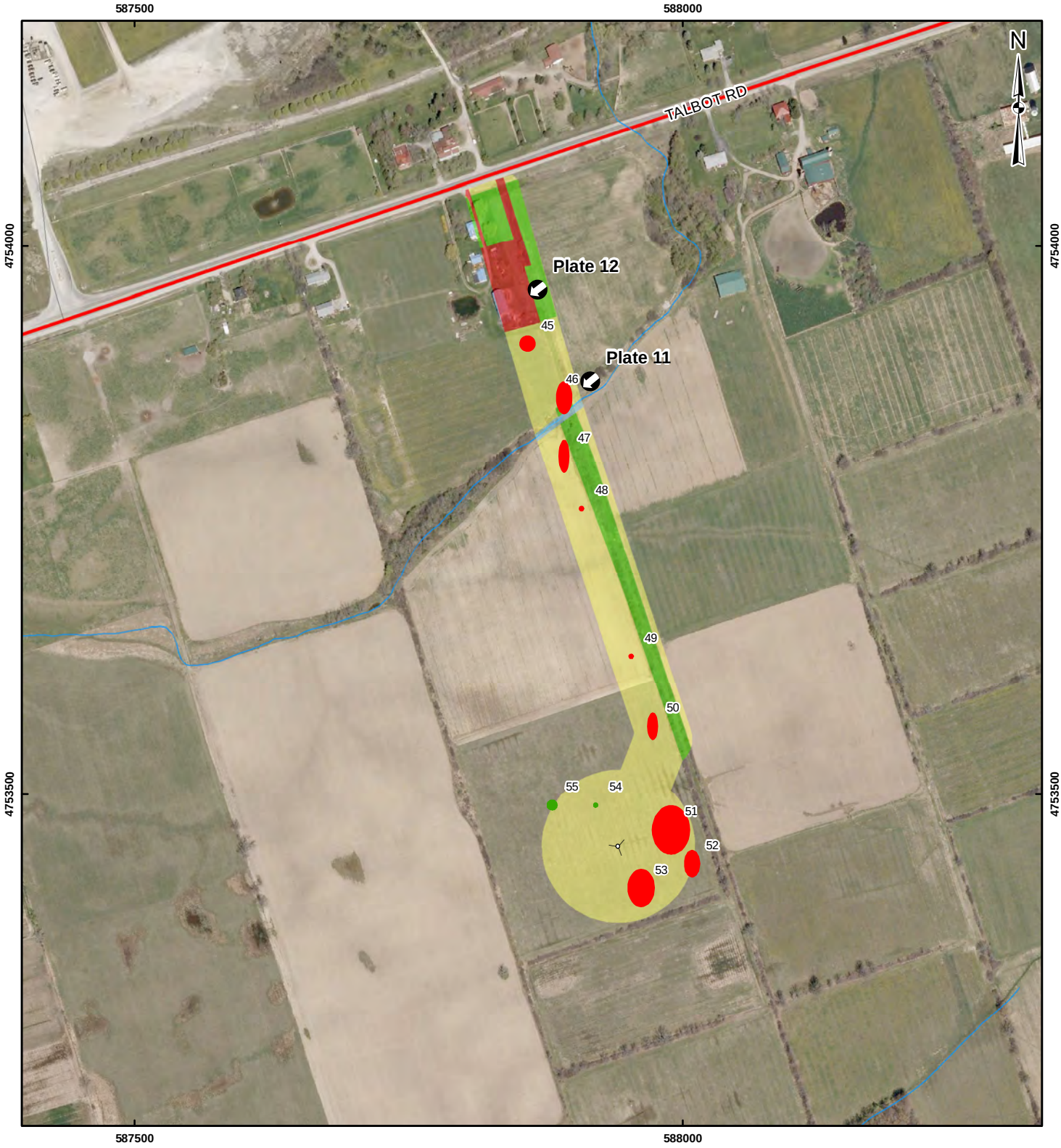

LEGEND

- Turbine Location
- Archaeological Site (No Stage 3 Required)
- Archaeological Site (Stage 3 Required)
- Photograph Locus and Direction
- Watercourse
- Disturbed Area
- Poorly Drained Area
- Surveyed Area (Pedestrian 5m Intervals)
- Surveyed Area (Test Pitted 5m Intervals)

150 75 0 150

SCALE 1:5,000 METRES

PROJECT

Interim Stage 2 Archaeological Assessment
Grand Renewable Energy Park
Haldimand County, Ontario

TITLE

Stage 2 Methods and Results

REFERENCE

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Ontario Ministry of Natural Resources, © Queens Printer 2008
Projection: Transverse Mercator Datum: NAD 83 Coordinate System: UTM Zone 17

Golder Associates
Mississauga, Ontario

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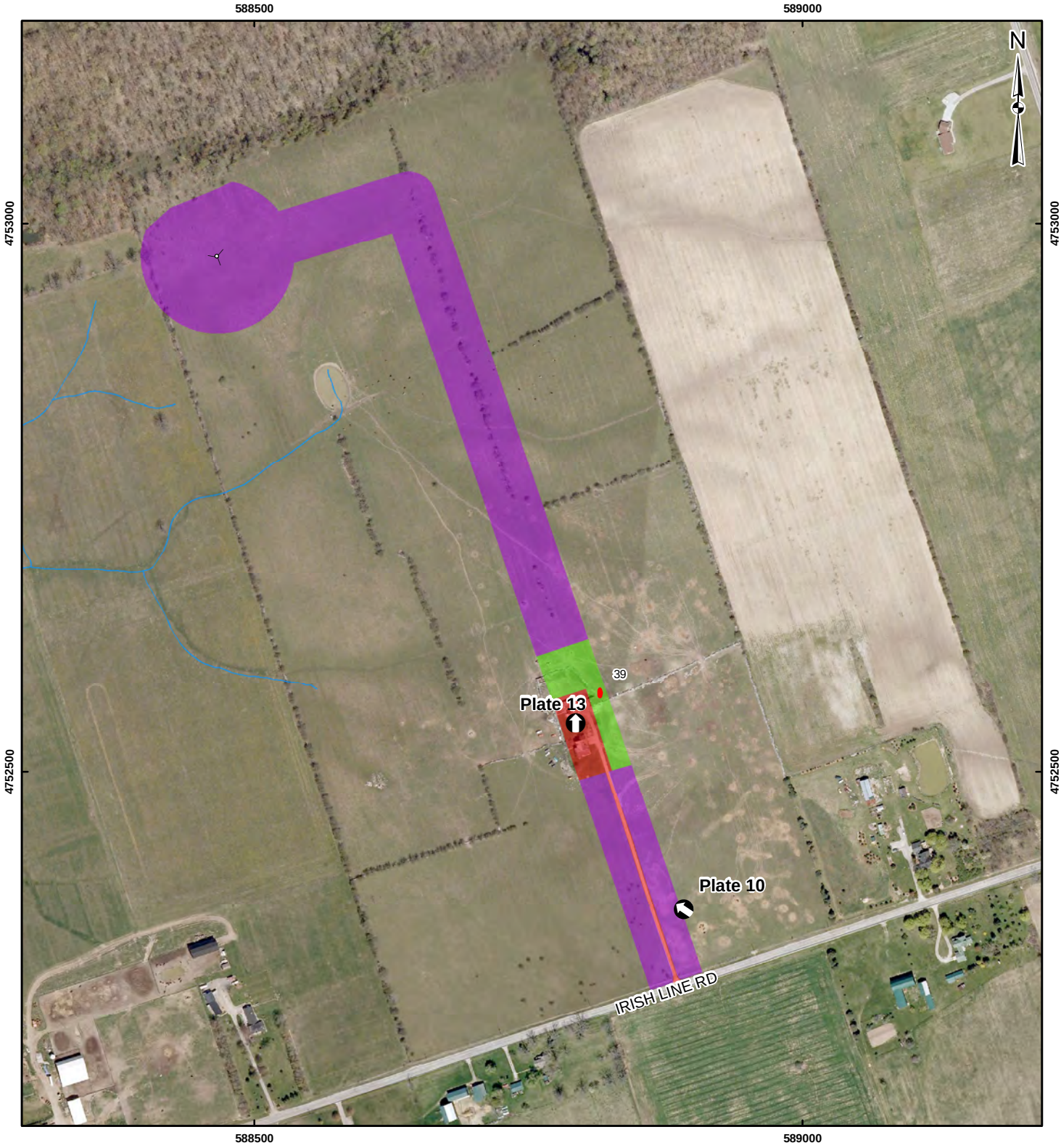

LEGEND

- Turbine Location
- Archaeological Site (Stage 3 Required)
- Photograph Locus and Direction
- Watercourse
- Disturbed Area
- Stage 2 to be Completed (Pedestrian Assessment)
- Surveyed Area (Pedestrian 5m Intervals)
- Surveyed Area (Test Pitted 5m Intervals)

150 75 0 150

SCALE 1:5,000 METRES

PROJECT

Interim Stage 2 Archaeological Assessment
Grand Renewable Energy Park
Haldimand County, Ontario

TITLE

Stage 2 Methods and Results

REFERENCE

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Projection: Transverse Mercator Datum: NAD 83 Coordinate System: UTM Zone 17

Golder Associates
Mississauga, Ontario

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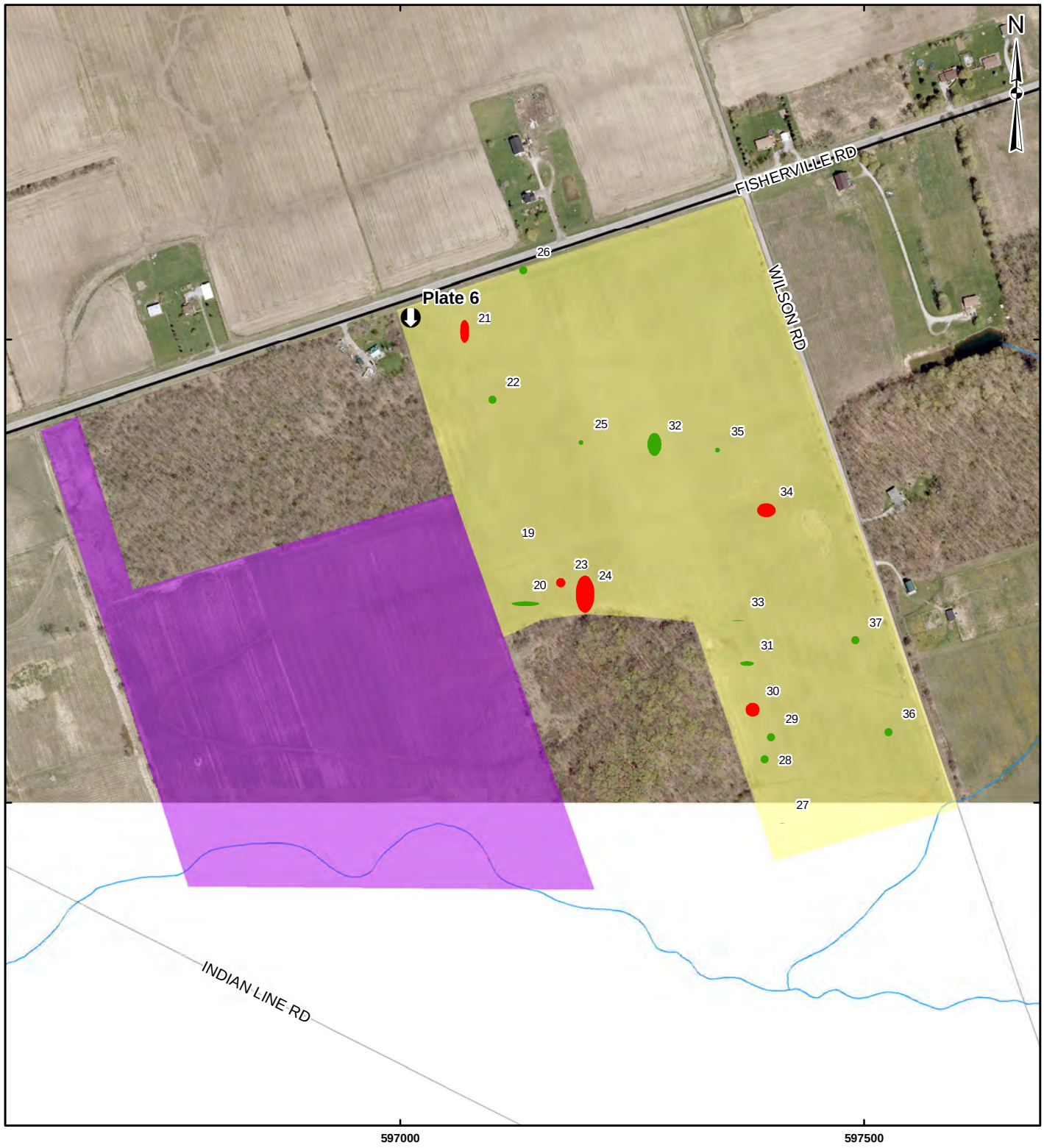

LEGEND

- Archaeological Site (No Stage 3 Required)
- Archaeological Site (Stage 3 Required)
- Watercourse
- Stage 2 to be Completed (Pedestrian Assessment)
- Surveyed Area (Pedestrian 5m Intervals)

150 75 0 150

SCALE 1:6,000 METRES

PROJECT

Interim Stage 2 Archaeological Assessment
Grand Renewable Energy Park
Haldimand County, Ontario

TITLE

Stage 2 Methods and Results

REFERENCE

Base Data - MNR NRVIS, obtained 2004, CANMAP v2006.4
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GIS	JO	1 Feb. 2011	
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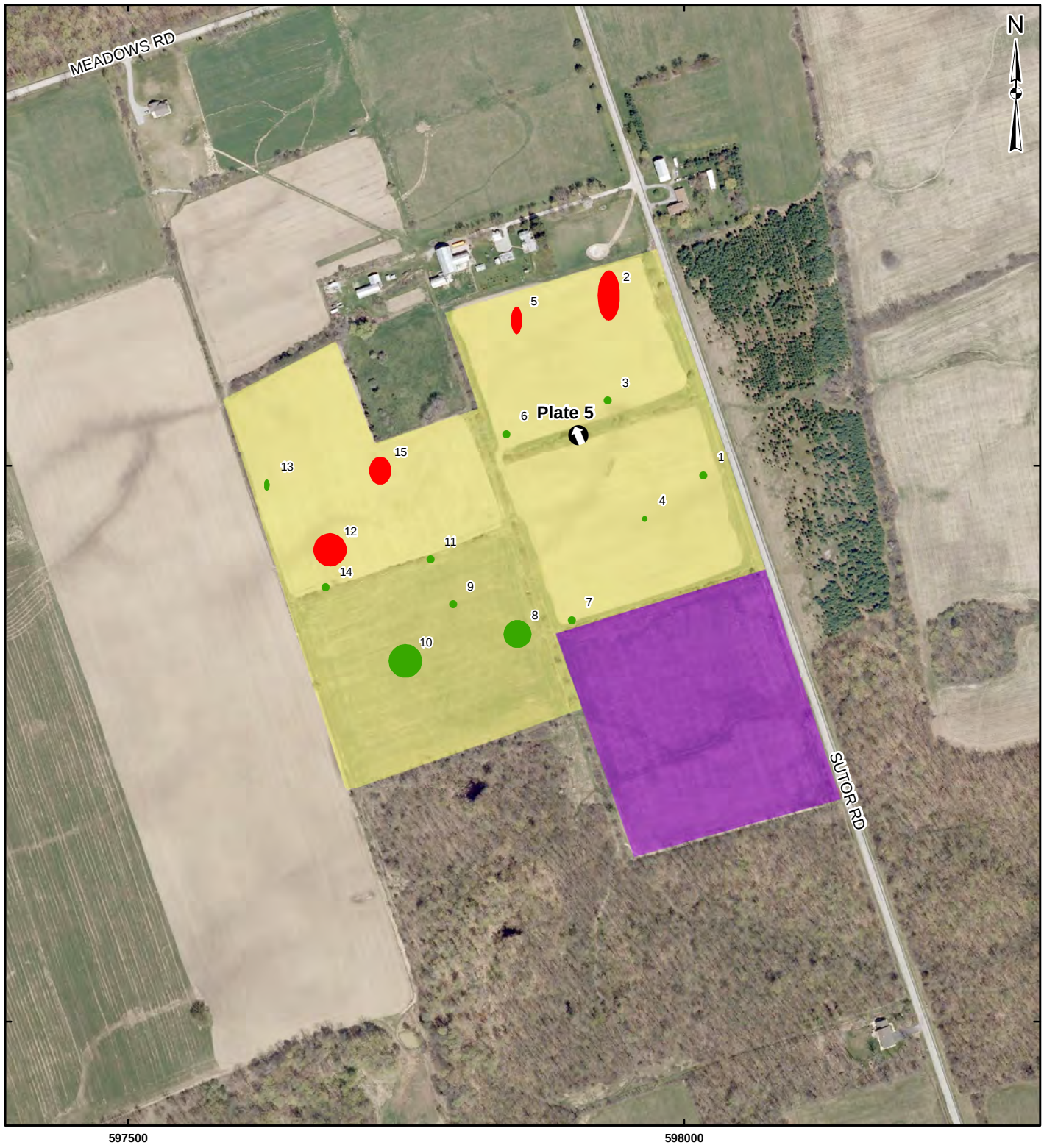

LEGEND

- Archaeological Site (No Stage 3 Required)
- Archaeological Site (Stage 3 Required)
- Photograph Locus and Direction
- Stage 2 to be Completed (Pedestrian Assessment)
- Surveyed Area (Pedestrian 5m Intervals)

150 75 0 150

SCALE 1:5,000 METRES

PROJECT

Interim Stage 2 Archaeological Assessment
Grand Renewable Energy Park
Haldimand County, Ontario

TITLE

Stage 2 Methods and Results

REFERENCE

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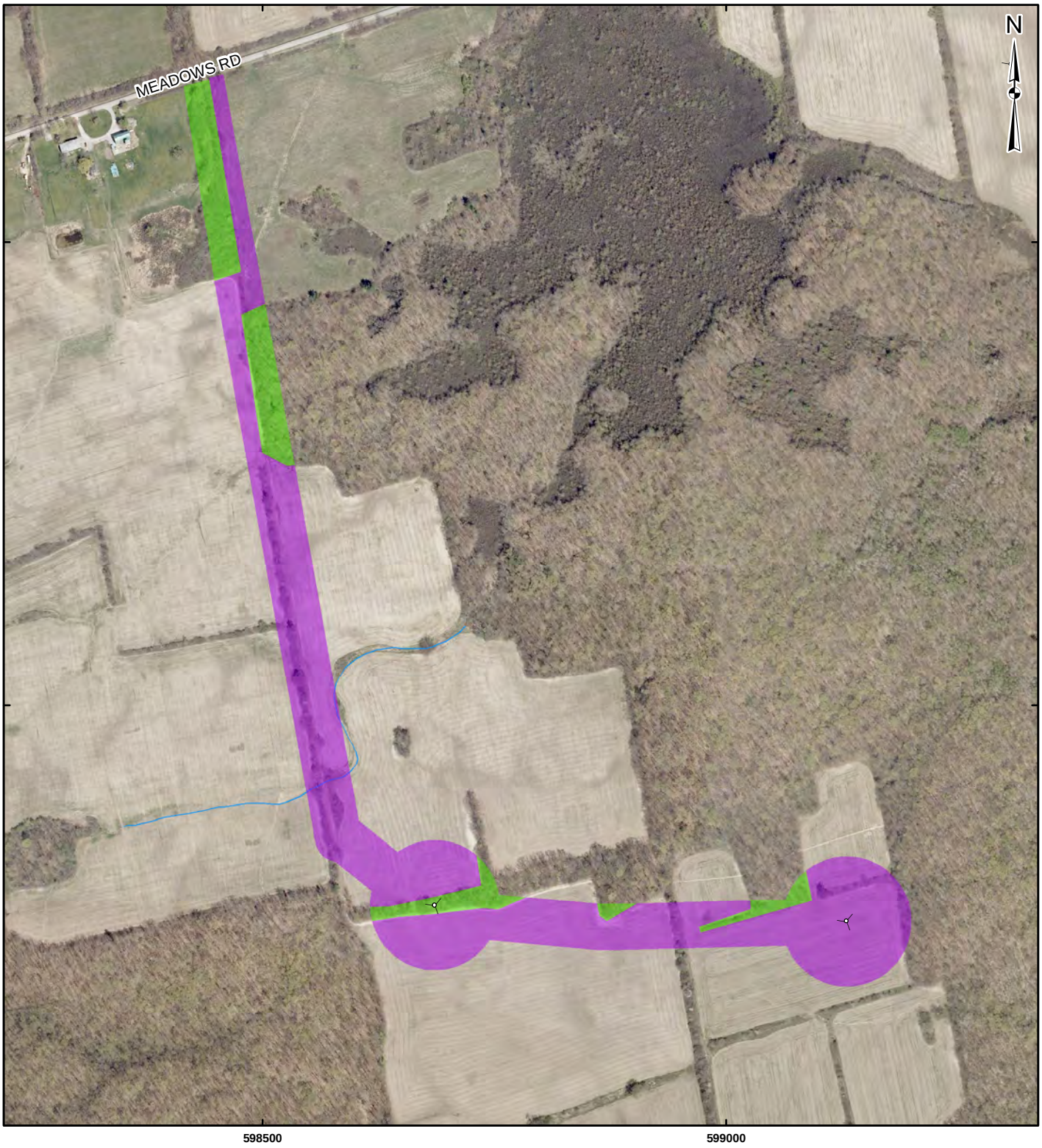

LEGEND

- Turbine Location
- Watercourse
- Stage 2 to be Completed (Pedestrian Assessment)
- Surveyed Area (Test Pitted 5m Intervals)

150 75 0 150

SCALE 1:6,000 METRES

PROJECT

Interim Stage 2 Archaeological Assessment
Grand Renewable Energy Park
Haldimand County, Ontario

TITLE

Stage 2 Methods and Results

REFERENCE

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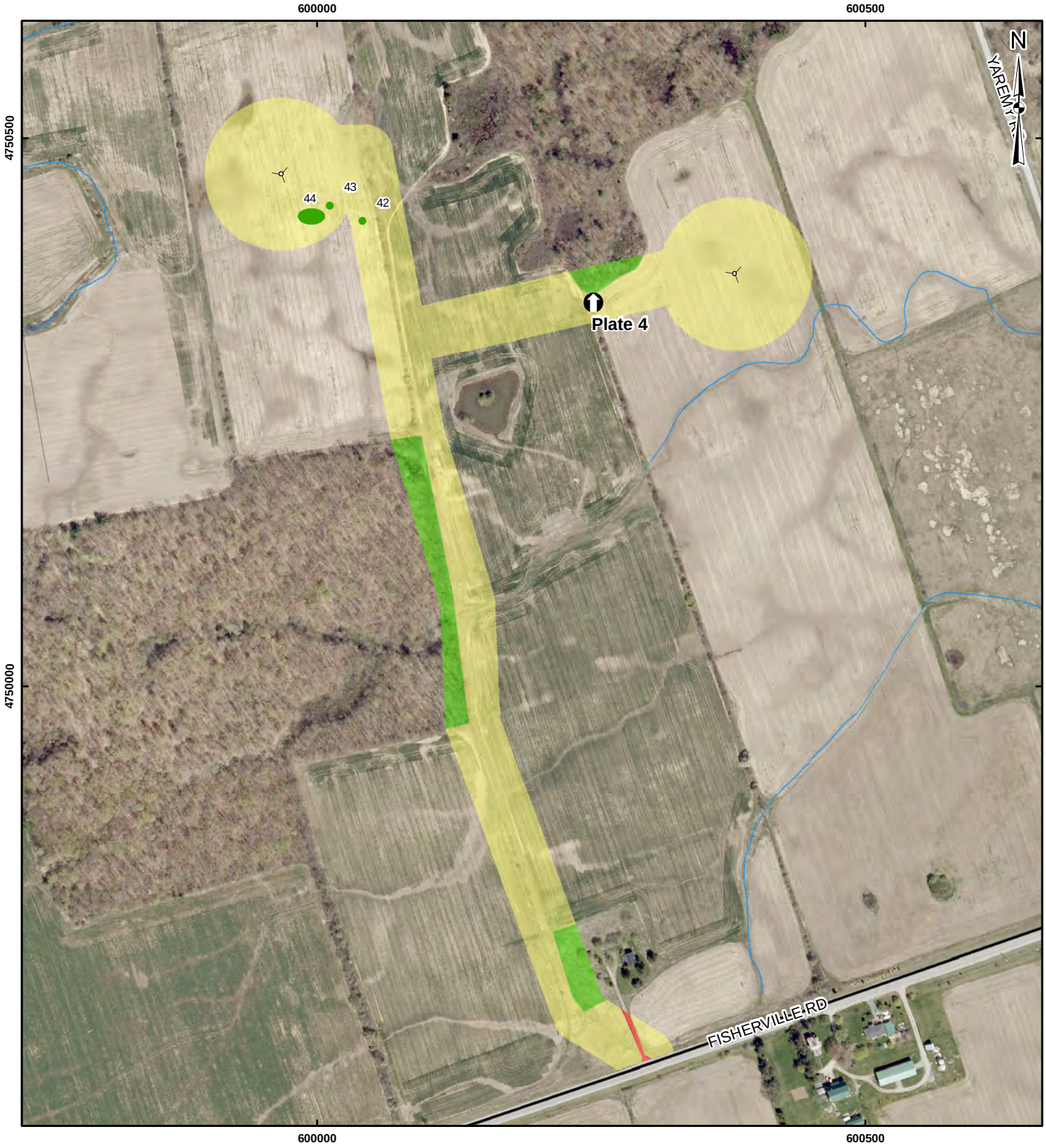

LEGEND

- Turbine Location
- Archaeological Site (No Stage 3 Required)
- Photograph Locus and Direction
- Watercourse
- Disturbed Area
- Surveyed Area (Pedestrian 5m Intervals)
- Surveyed Area (Test Pitted 5m Intervals)

150 75 0 150

SCALE 1:5,000 METRES

PROJECT

Interim Stage 2 Archaeological Assessment
Grand Renewable Energy Park
Haldimand County, Ontario

TITLE

Stage 2 Methods and Results

REFERENCE

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GIS	JO	1 Feb. 2011		
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REVIEW				

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LEGEND

- Turbine Location
- Watercourse
- Stage 2 to be Completed (Pedestrian Assessment)
- Surveyed Area (Test Pitted 5m Intervals)

150 75 0 150

SCALE 1:5,000 METRES

PROJECT

Interim Stage 2 Archaeological Assessment
Grand Renewable Energy Park
Haldimand County, Ontario

TITLE

Stage 2 Methods and Results

REFERENCE

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GIS	JO	1 Feb. 2011	
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LEGEND

- Turbine Location
- Watercourse
- Stage 2 to be Completed (Pedestrian Assessment)
- Surveyed Area (Test Pitted 5m Intervals)
- Poorly Drained Area

150 75 0 150

SCALE 1:6,000 METRES

PROJECT

Interim Stage 2 Archaeological Assessment
Grand Renewable Energy Park
Haldimand County, Ontario

TITLE

Stage 2 Methods and Results

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CHECK			
REVIEW			

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LEGEND

- Turbine Location
- Archaeological Site (Stage 3 Required)
- Watercourse
- Surveyed Area (Test Pitted 5m Intervals)

150 75 0 150

SCALE 1:6,000 METRES

PROJECT

Interim Stage 2 Archaeological Assessment
Grand Renewable Energy Park
Haldimand County, Ontario

TITLE

Stage 2 Methods and Results

REFERENCE

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PROJECT NO. 10-1136-0072			SCALE AS SHOWN	REV. 0.0
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GIS	JO	1 Feb. 2011		
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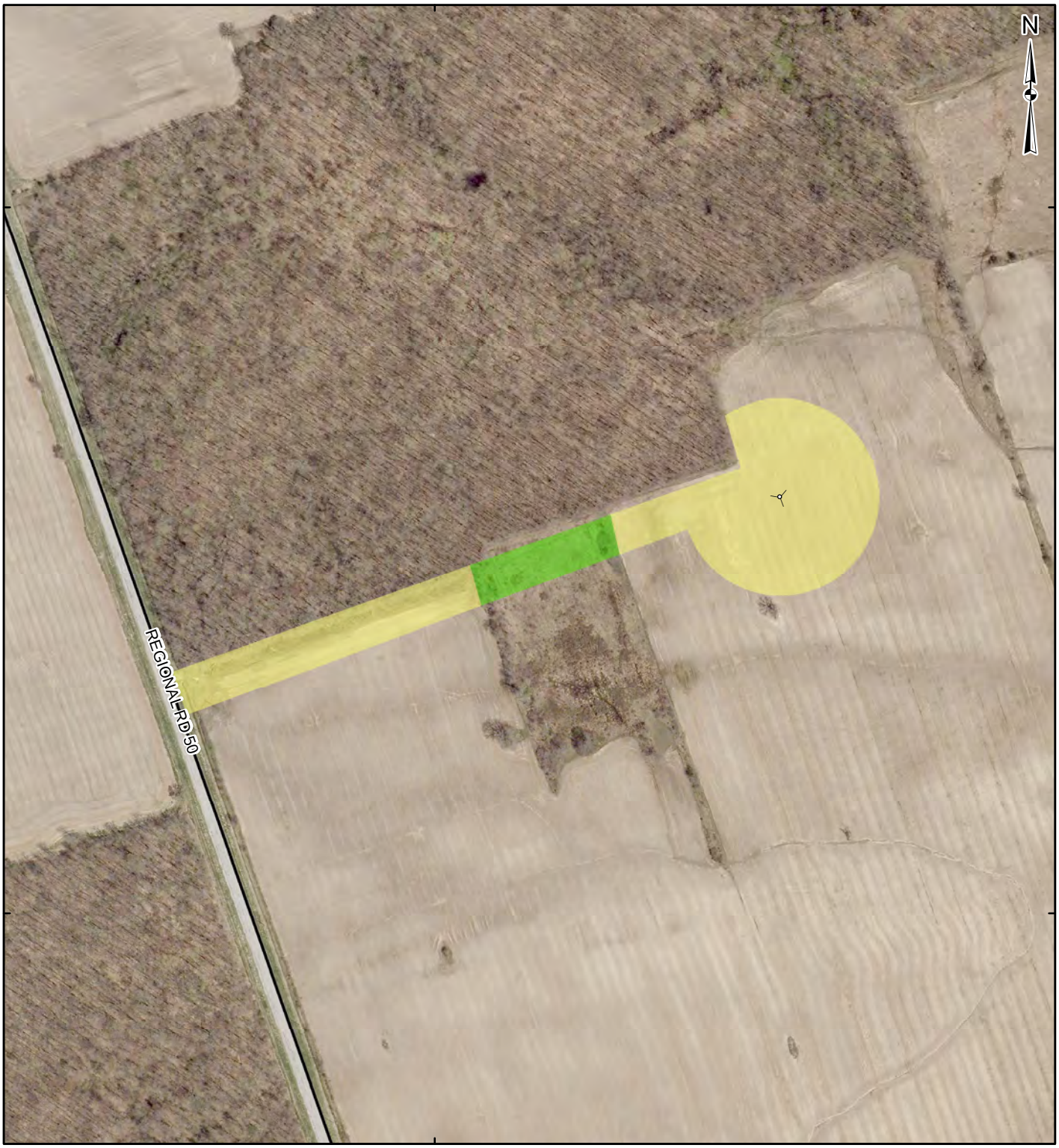

LEGEND

- Turbine Location
- Surveyed Area (Pedestrian 5m Intervals)
- Surveyed Area (Test Pitted 5m Intervals)

100 50 0 100

SCALE 1:4,000 METRES

PROJECT

Interim Stage 2 Archaeological Assessment
Grand Renewable Energy Park
Haldimand County, Ontario

TITLE

Stage 2 Methods and Results

REFERENCE

Base Data - MNR NRVIS, obtained 2004, CANMAP v2006.4
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PROJECT NO. 10-1136-0072			SCALE AS SHOWN	REV. 0.0
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GIS	JO	1 Feb. 2011		
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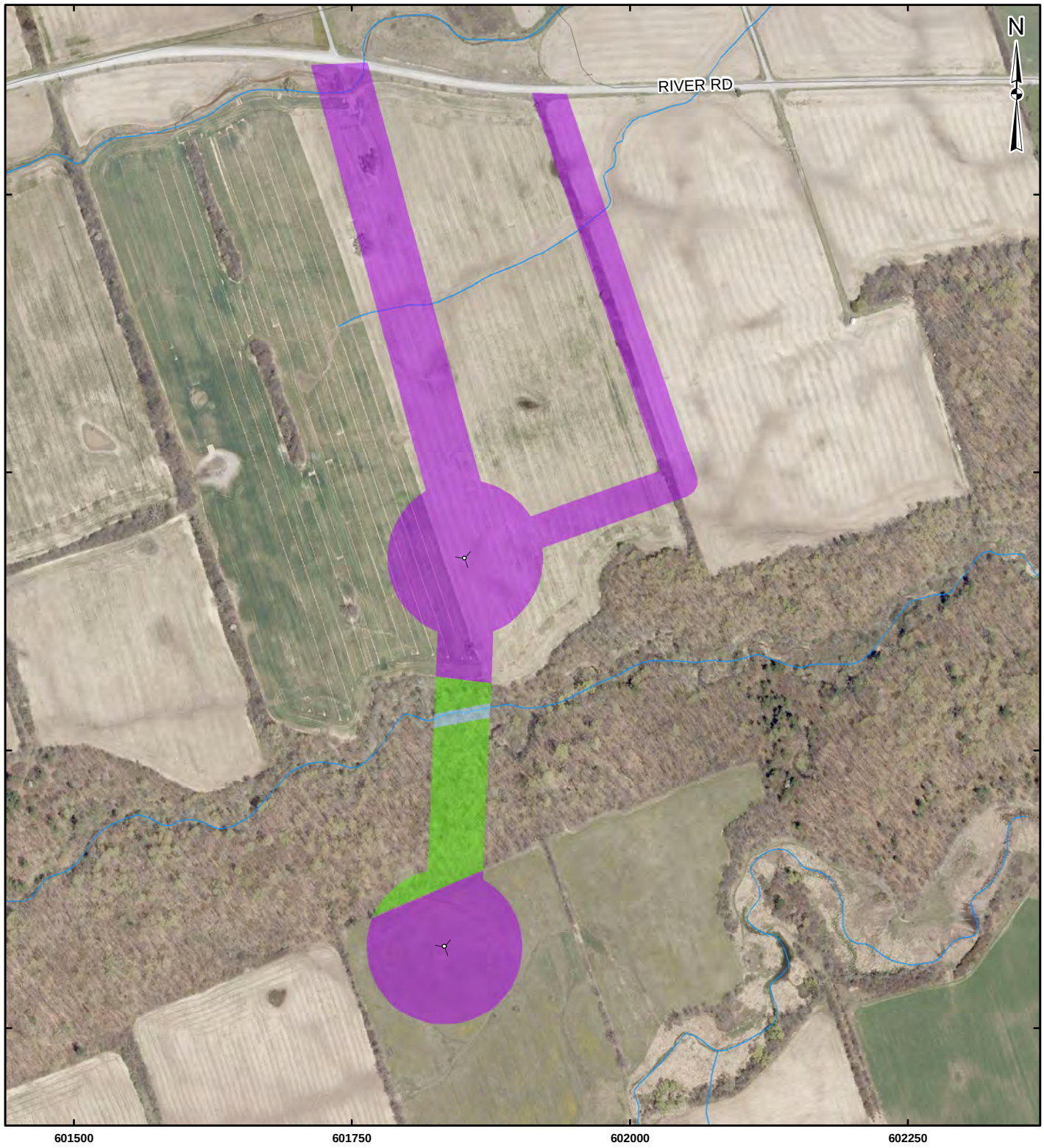

LEGEND

- Turbine Location
- Watercourse
- Stage 2 to be Completed (Pedestrian Assessment)
- Surveyed Area (Test Pitted 5m Intervals)
- Poorly Drained Area

150 75 0 150

SCALE 1:5,000 METRES

PROJECT

Interim Stage 2 Archaeological Assessment
Grand Renewable Energy Park
Haldimand County, Ontario

TITLE

Stage 2 Methods and Results

REFERENCE

Base Data - MNR NRVIS, obtained 2004, CANMAP v2006.4
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PROJECT NO. 10-1136-0072			SCALE AS SHOWN	REV. 0.0
DESIGN	AH	12 Jan. 2011	TILE H	
GIS	JO	1 Feb. 2011		
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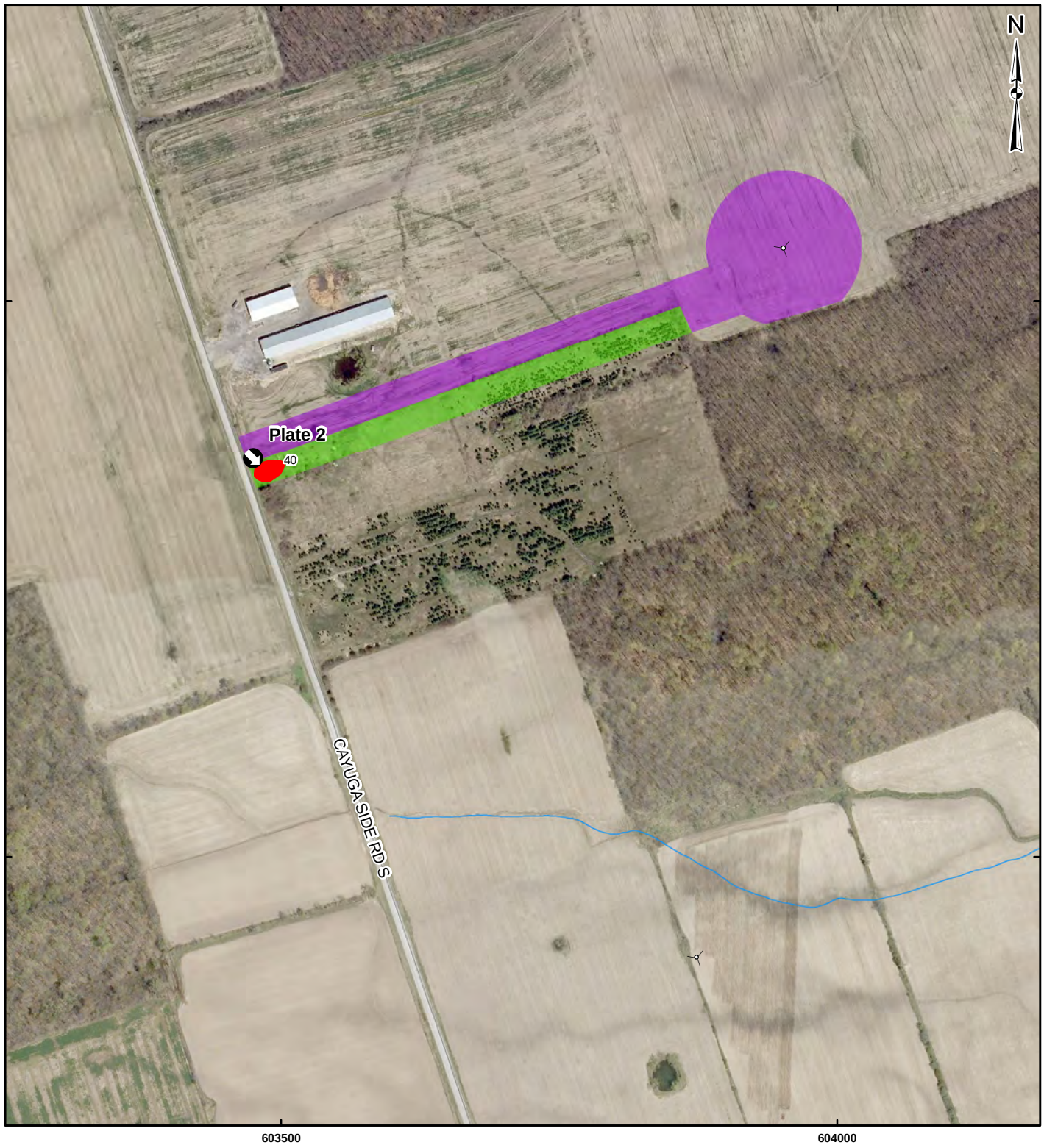

LEGEND

- Turbine Location
- Archaeological Site (Stage 3 Required)
- Photograph Locus and Direction
- Watercourse
- Stage 2 to be Completed (Pedestrian Assessment)
- Surveyed Area (Test Pitted 5m Intervals)

150 75 0 150

SCALE 1:5,000 METRES

PROJECT

Interim Stage 2 Archaeological Assessment
Grand Renewable Energy Park
Haldimand County, Ontario

TITLE

Stage 2 Methods and Results

REFERENCE

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PROJECT NO. 10-1136-0072		SCALE AS SHOWN	REV. 0.0
DESIGN	AH	12 Jan. 2011	TILE I
GIS	JO	1 Feb. 2011	
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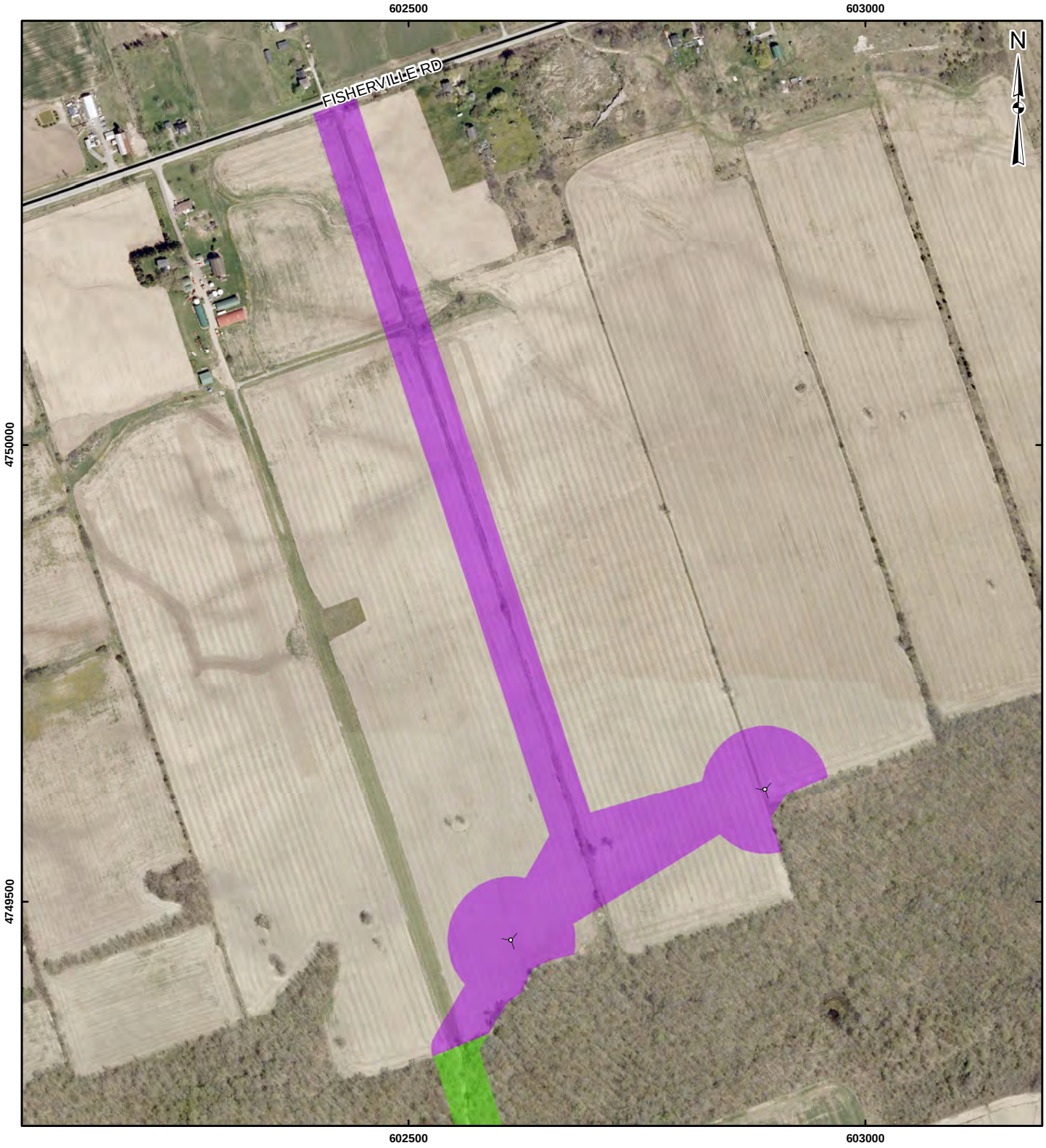

LEGEND

Turbine Location

Stage 2 to be Completed (Pedestrian Assessment)

Surveyed Area (Test Pitted 5m Intervals)

150 75 0 150

SCALE 1:6,000 METRES

PROJECT

Interim Stage 2 Archaeological Assessment
Grand Renewable Energy Park
Haldimand County, Ontario

TITLE

Stage 2 Methods and Results

REFERENCE

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PROJECT NO. 10-1136-0072			SCALE AS SHOWN	REV. 0.0
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GIS	BC	12 Jan. 2011		
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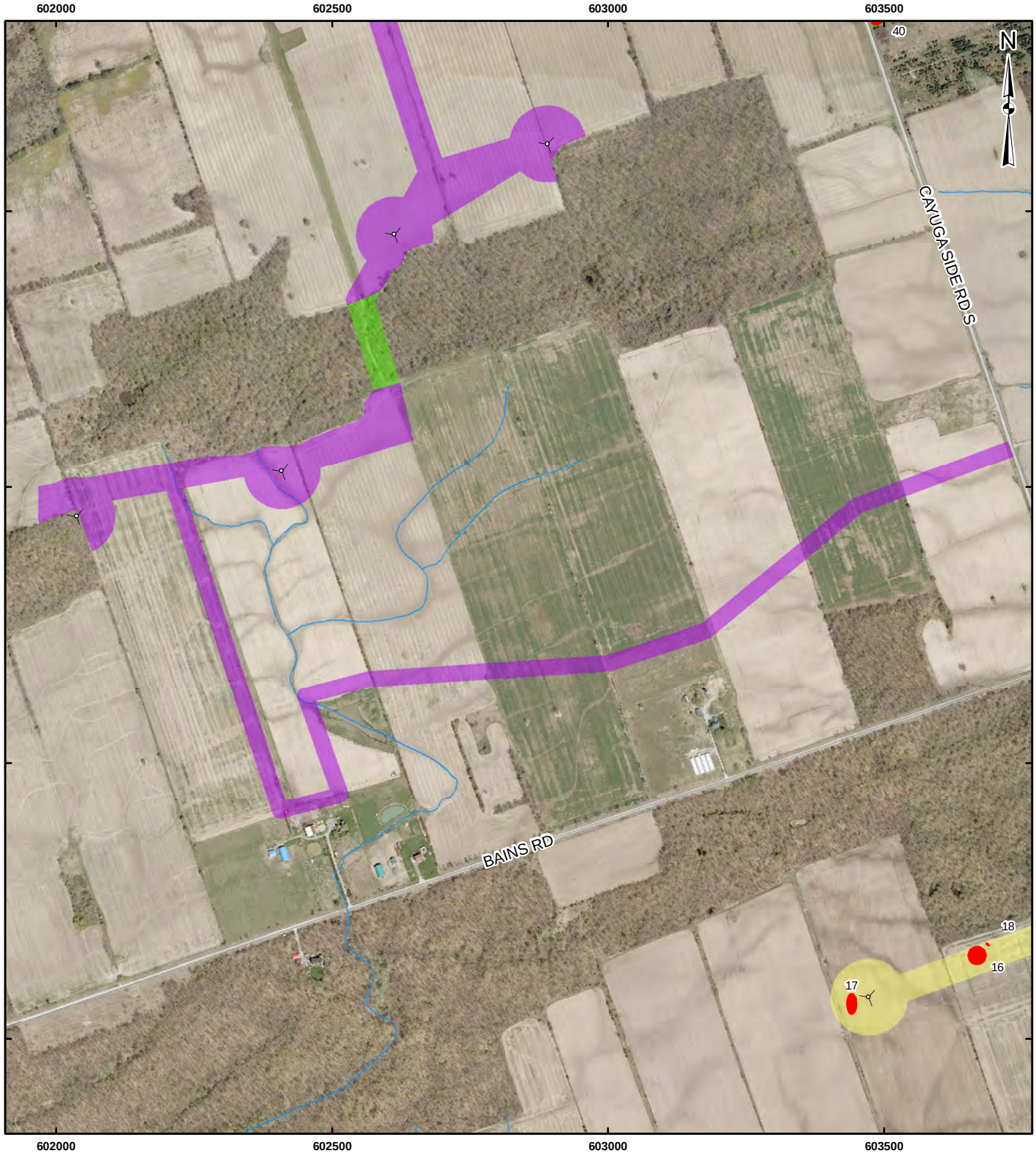

LEGEND

- Turbine Location
- Archaeological Site (Stage 3 Required)
- Watercourse
- Stage 2 to be Completed (Pedestrian Assessment)
- Surveyed Area (Pedestrian 5m Intervals)
- Surveyed Area (Test Pitted 5m Intervals)

250 125 0 250

SCALE 1:10,000 METRES

PROJECT

Interim Stage 2 Archaeological Assessment
Grand Renewable Energy Park
Haldimand County, Ontario

TITLE

Stage 2 Methods and Results

REFERENCE

Base Data - MNR NRVIS, obtained 2004, CANMAP v2006.4
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PROJECT NO. 10-1136-0072			SCALE AS SHOWN	REV. 0.0
DESIGN	AH	12 Jan. 2011	TILE J2	
GIS	BC	12 Jan. 2011		
CHECK				
REVIEW				

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LEGEND

- Turbine Location
- Watercourse
- Disturbed Area
- Stage 2 to be Completed (Pedestrian Assessment)
- Surveyed Area (Test Pitted 5m Intervals)
- Poorly Drained Area

200 100 0 200

SCALE 1:7,000 METRES

PROJECT

Interim Stage 2 Archaeological Assessment
Grand Renewable Energy Park
Haldimand County, Ontario

TITLE

Stage 2 Methods and Results

REFERENCE

Base Data - MNR NRVIS, obtained 2004, CANMAP v2006.4
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PROJECT NO. 10-1136-0072		SCALE AS SHOWN	REV. 0.0
DESIGN	AH	12 Jan. 2011	TILE K1
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REVIEW			

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LEGEND

- Turbine Location
- Watercourse
- Disturbed Area
- Stage 2 to be Completed (Pedestrian Assessment)
- Surveyed Area (Test Pitted 5m Intervals)

150 75 0 150

SCALE 1:6,000 METRES

PROJECT

Interim Stage 2 Archaeological Assessment
Grand Renewable Energy Park
Haldimand County, Ontario

TITLE

Stage 2 Methods and Results

REFERENCE

Base Data - MNR NRVIS, obtained 2004, CANMAP v2006.4
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PROJECT NO. 10-1136-0072		SCALE AS SHOWN	REV. 0.0
DESIGN	AH	12 Jan. 2011	TILE K2
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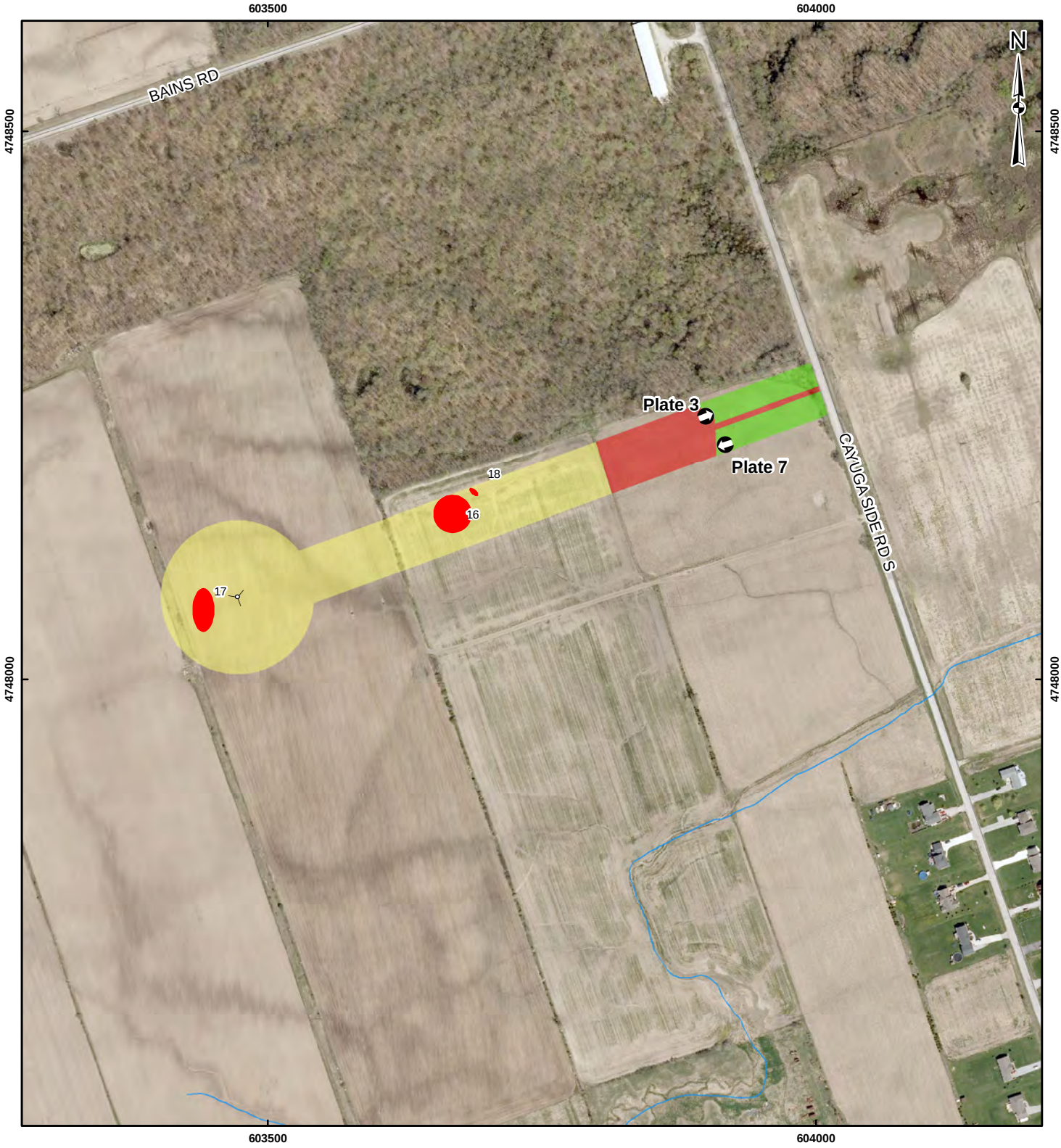

LEGEND

- Turbine Location
- Archaeological Site (Stage 3 Required)
- Photograph Locus and Direction
- Watercourse
- Disturbed Area
- Surveyed Area (Pedestrian 5m Intervals)
- Surveyed Area (Test Pitted 5m Intervals)

150 75 0 150

SCALE 1:5,000 METRES

PROJECT

Interim Stage 2 Archaeological Assessment
Grand Renewable Energy Park
Haldimand County, Ontario

TITLE

Stage 2 Methods and Results

REFERENCE

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PROJECT NO. 10-1136-0072		SCALE AS SHOWN	REV. 0.0
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LEGEND

- Turbine Location
- Photograph Locus and Direction
- Watercourse
- Poorly Drained Area
- Surveyed Area (Pedestrian 5m Intervals)
- Surveyed Area (Test Pitted 5m Intervals)

150 75 0 150

SCALE 1:5,000 METRES

PROJECT

Interim Stage 2 Archaeological Assessment
Grand Renewable Energy Park
Haldimand County, Ontario

TITLE

Stage 2 Methods and Results

REFERENCE

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PROJECT NO. 10-1136-0072			SCALE AS SHOWN	REV. 0.0
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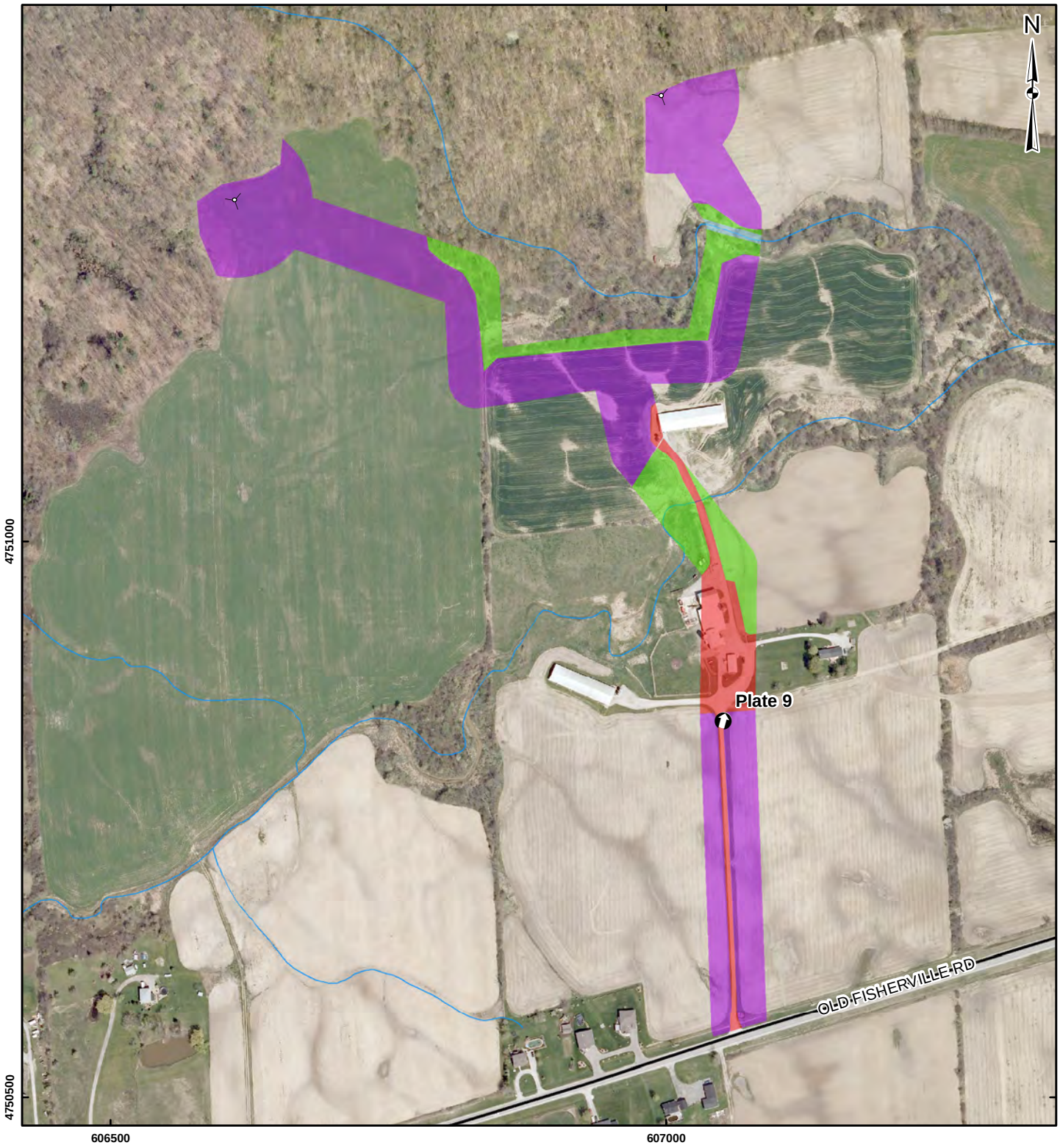

LEGEND

- Turbine Location
- Photograph Locus and Direction
- Watercourse
- Disturbed Area
- Stage 2 to be Completed (Pedestrian Assessment)
- Surveyed Area (Test Pitted 5m Intervals)
- Poorly Drained Area

150 75 0 150

SCALE 1:5,000 METRES

PROJECT

Interim Stage 2 Archaeological Assessment
Grand Renewable Energy Park
Haldimand County, Ontario

TITLE

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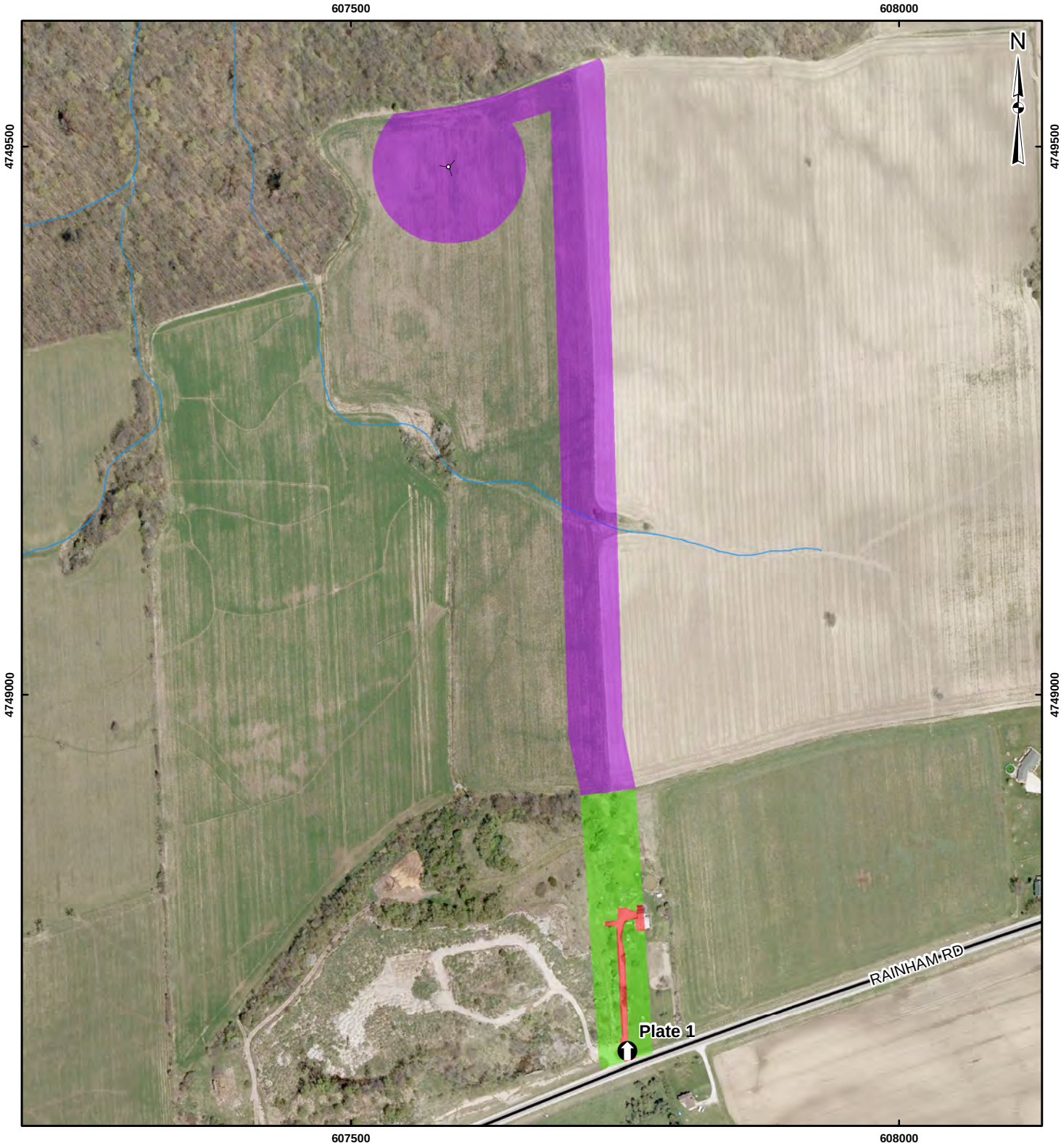

LEGEND

- Turbine Location
- Photograph Locus and Direction
- Watercourse
- Disturbed Area
- Stage 2 to be Completed (Pedestrian Assessment)
- Surveyed Area (Test Pitted 5m Intervals)

150 75 0 150

SCALE 1:5,000 METRES

PROJECT

Interim Stage 2 Archaeological Assessment
Grand Renewable Energy Park
Haldimand County, Ontario

TITLE

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LEGEND

Watercourse

Surveyed Area (Pedestrian 5m Intervals)

250 125 0 250

SCALE 1:10,000 METRES

PROJECT

Interim Stage 2 Archaeological Assessment
Grand Renewable Energy Park
Haldimand County, Ontario

TITLE

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REFERENCE

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GIS	BC	12 Jan. 2011	
CHECK			
REVIEW			

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APPENDIX C

Complete Stage 2 Catalogue

Location 5 (AfGw-169)	Cat. No.	Context	Artifact Description	Freq.	Comments
	1	surface	Biface	1	Onondaga, base

Location 12 (AfGw-170)	Cat. No.	Context	Artifact Description	Freq.	Comments
	1	surface	Projectile Point	1	Onondaga, base, Brewerton Side-Notched
	2	surface	Scraper	1	Onondaga, midshaft, bifacial scraper

Location 16 (AfGw-172)	Cat. No.	Context	Artifact Description	Freq.	Comments
	1	surface	Biface	1	quartz, base

Location 18 (AfGw-174)	Cat. No.	Context	Artifact Description	Freq.	Comments
	1	surface	Projectile Point	1	Haldimand, tip

Location 29 (AfGw-177)	Cat. No.	Context	Artifact Description	Freq.	Comments
	1	surface	Biface	1	Indiana Hornstone, base

Location 34 (AfGw-179)	Cat. No.	Context	Artifact Description	Freq.	Comments
	1	surface	Projectile Point	1	Onondaga, base, Kramer, burnt

Location 36 (no Borden number	Cat. No.	Context	Artifact Description	Freq.	Comments
	1	surface	Projectile Point	1	Onondaga, base

Location 38 (AfGw-180)	Cat. No.	Context	Artifact Description	Freq.	Comments
	1	test pit 1	Scraper	1	Onondaga, lateral edge, unifacial scraper

Location 40 (AfGw-181)	Cat. No.	Context	Artifact Description	Freq.	Comments
	1	test pit 1	Glass, Window	1	
	2	test pit 2	Brick	4	
	3	test pit 3	Brick	1	
	4	test pit 4	Glass, Window	1	
	5	test pit 4	Nail, Wire	1	
	6	test pit 4	Coal	1	
	7	test pit 5	Brick	1	
	8	test pit 6	Brick	1	
	9	test pit 7	Weeping Tile	1	

Location 50 (AfGx-728)	Cat. No.	Context	Artifact Description	Freq.	Comments
	11	surface	Biface	1	Onondaga, tip

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APPENDIX D

UTM Coordinates of Archaeological Sites

Site Name	Borden Number	UTM Coordinates
Location 1	none	17T 598017/4750490
Location 2	AfGw-168	17T 597932/4750653
Location 3	none	17T 597931/4750558
Location 4	none	17T 597964/4750452
Location 5	AfGw-169	17T 597849/4750630
Location 6	none	17T 597840/4750527
Location 7	none	17T 597899/4750360
Location 8	none	17T 597850/4750348
Location 9	none	17T 597792/4750374
Location 10	none	17T 597749/4750324
Location 11	none	17T 597772/4750415
Location 12	AfGw-170	17T 597681/4750424
Location 13	none	17T 597624/4750482
Location 14	none	17T 597677/4750390
Location 15	AfGw-171	17T 597726/4750495
Location 16	AfGw-172	17T 603668/4748151
Location 17	AfGw-173	17T 603441/4748063
Location 18	AfGw-174	17T 603672/4748178
Location 19	none	17T 597115/4748271
Location 20	none	17T 597134/4748214
Location 21	AfGw-175	17T 597069/4748508
Location 22	none	17T 597099/4748434
Location 23	none	17T 597172/4748237
Location 24	AfGw-176	17T 597199/4748225
Location 25	none	17T 597194/4748388
Location 26	none	17T 597132/4748574
Location 27	none	17T 597411/4747977
Location 28	none	17T 597393/4748046
Location 29	AfGw-177	17T 597400/4748070
Location 30	AfGw-178	17T 597379/4748100
Location 31	none	17T 597374/4748150
Location 32	none	17T 597274/4748386
Location 33	none	17T 597363/4748196
Location 34	AfGw-179	17T 597394/4748315

Site Name	Borden Number	UTM Coordinates
Location 35	none	17T 597342/4748380
Location 36	none	17T 597526/4748075
Location 37	none	17T 597490/4748174
Location 38	AfGw-180	17T 600526/4745174
Location 39	AfGx-722	17T 588815/4752572
Location 40	AfGw-181	17T 603489/4749840
Location 41	AfGw-182	17T 606161/4747246
Location 42	none	17T 600041/4750424
Location 43	none	17T 600011/4750438
Location 44	AfGw-183	17T 599994/4750428
Location 45	AfGx-723	17T 587858/4753910
Location 46	AfGx-724	17T 587891/4753861
Location 47	AfGx-725	17T 587891/4753808
Location 48	AfGx-726	17T 587907/4753760
Location 49	AfGx-727	17T 587952/4753625
Location 50	AfGx-728	17T 587972/4753561
Location 51	AfGx-729	17T 587989/4753467
Location 52	AfGx-730	17T 588008/4753436
Location 53	AfGx-731	17T 587962/4753414
Location 54	none	17T 587920/4753489
Location 55	none	17T 587880/4753489

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Africa	+ 27 11 254 4800
Asia	+ 852 2562 3658
Australasia	+ 61 3 8862 3500
Europe	+ 356 21 42 30 20
North America	+ 1 800 275 3281
South America	+ 55 21 3095 9500

solutions@golder.com
www.golder.com

Golder Associates Ltd.
309 Exeter Road, Unit #1
London, Ontario, N6L 1C1
Canada
T: +1 (519) 652 0099

Golder Associates