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:
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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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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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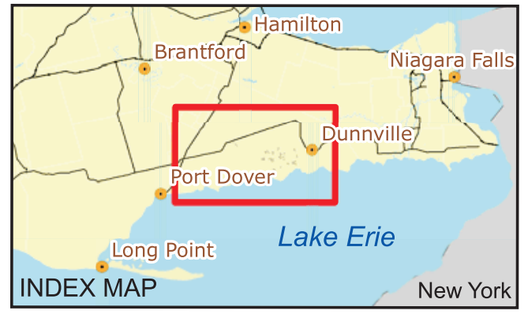


LEGEND

- 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).

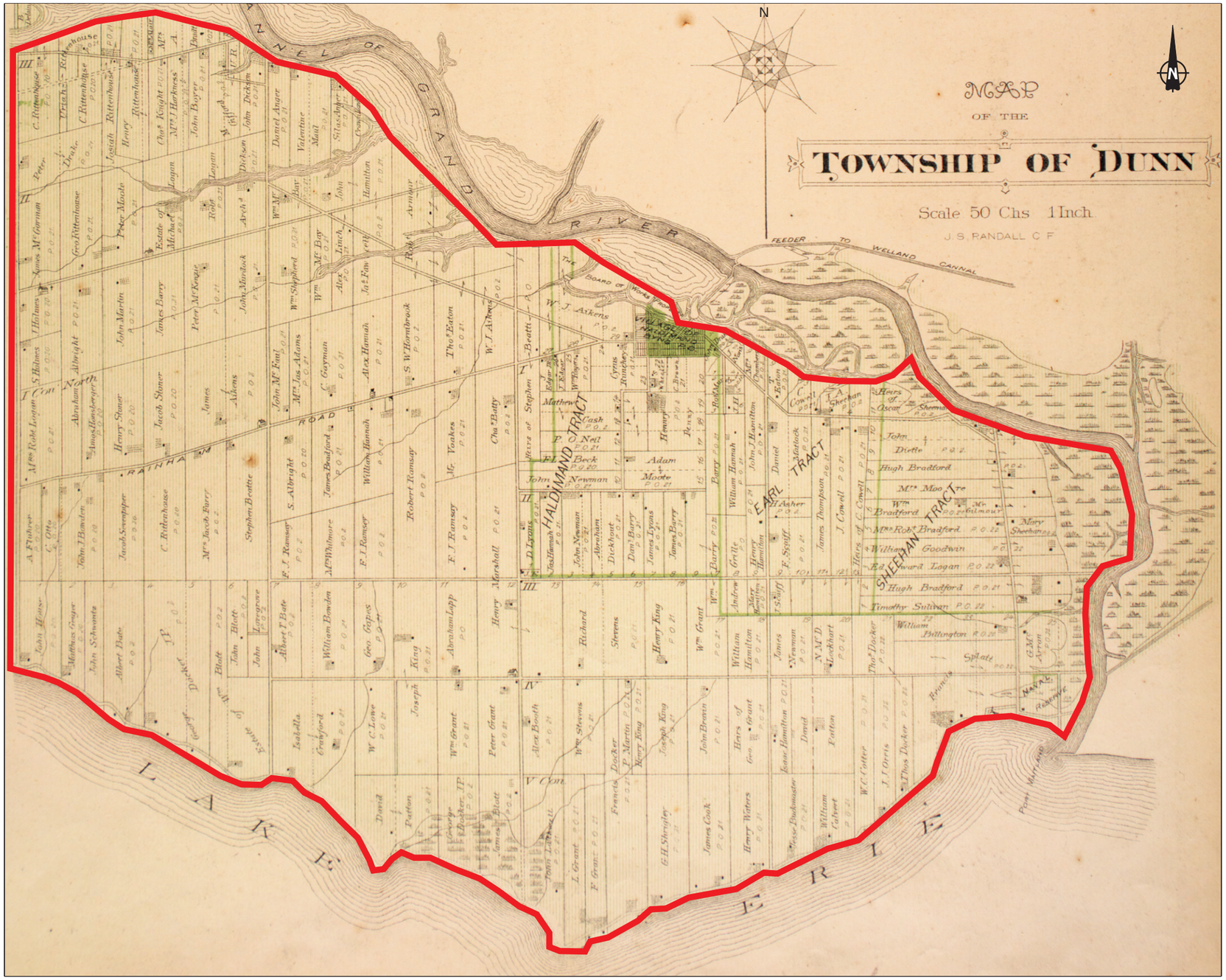
The Talbot Road was originally designed as a military road by Colonel Thomas Talbot. The road led from the Talbot settlement in Elgin County to Brantford (Harper 1950; H.R. Page & Co. 1879). In 1920, the Talbot Road became part of the newly designated King's Highway 3, which connected Windsor to Fort 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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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
CADD	AH	JAN 19/11
CHECK		

FILE No. 1011360072-R02003
SCALE NOT TO SCALE REV.

FIGURE 3

LEGEND

PROJECT AREA

REFERENCE

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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
Region Conservation Authority
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.

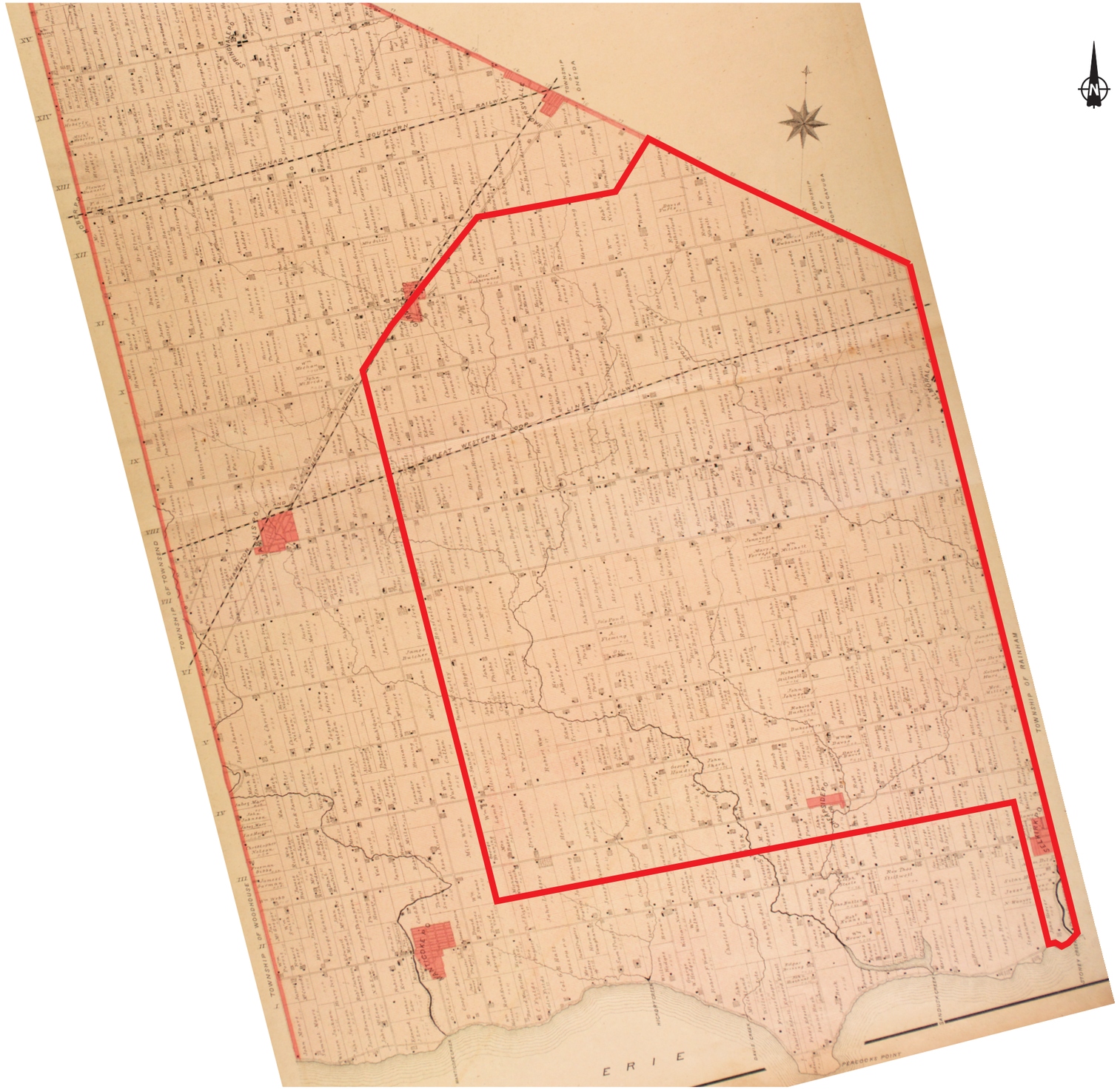
The original township map, completed by Thomas Walsh, had numerous additions made to it over the years, from the early 19th century until 1911. The names of lot occupants indicated on the map appear to have been added once settlers moved into the area and in some cases names on various lots have been 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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H.R. Page and Co's 1879 Illustrated Historic Atlas of Haldimand County.

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	FILE No.	1011360072-R02006
			SCALE	NOT TO SCALE REV.
CADD	AH	JAN 19/11		
CHECK			**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
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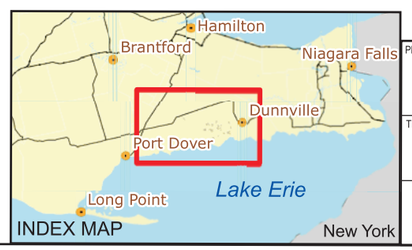


PROJECT
Interim Stage 2 Archaeological Assessment
Grand Renewable Energy Park
Haldimand County, Ontario

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

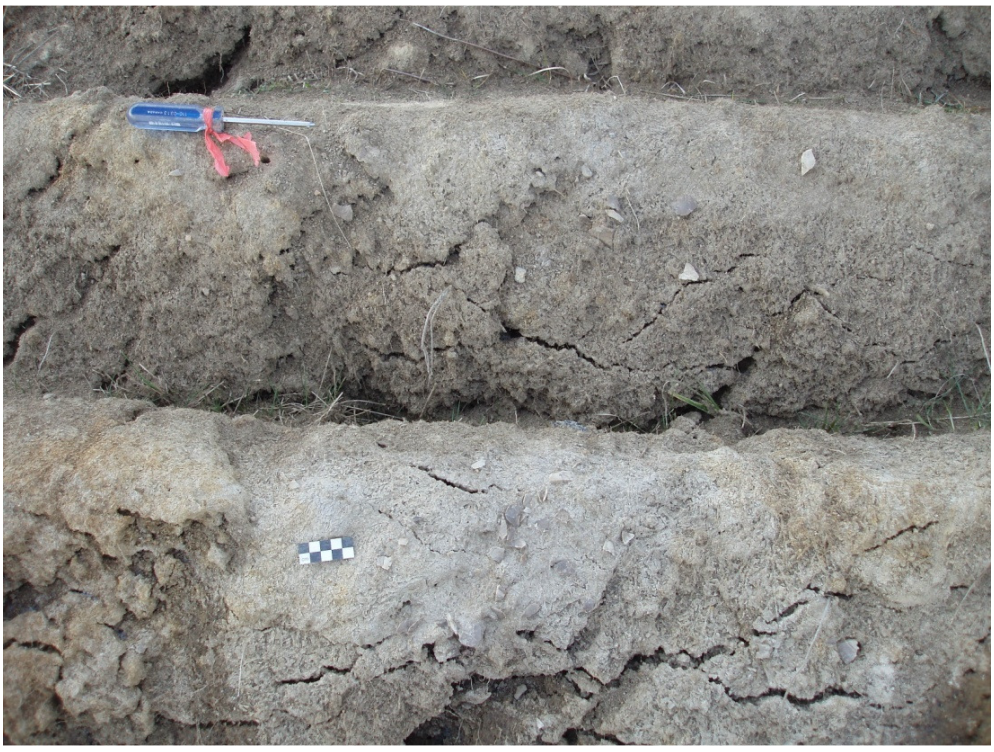
3.2.51 Location 51 (AfGx-729)

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.

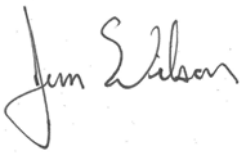
This assessment was undertaken in order to meet the requirements of an environmental assessment conducted under the Renewable Energy Approval (REA) process, as outlined in Ontario Regulation 359/09 section 22(3). The Ontario Ministry of Tourism and Culture is asked to review the results presented and 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

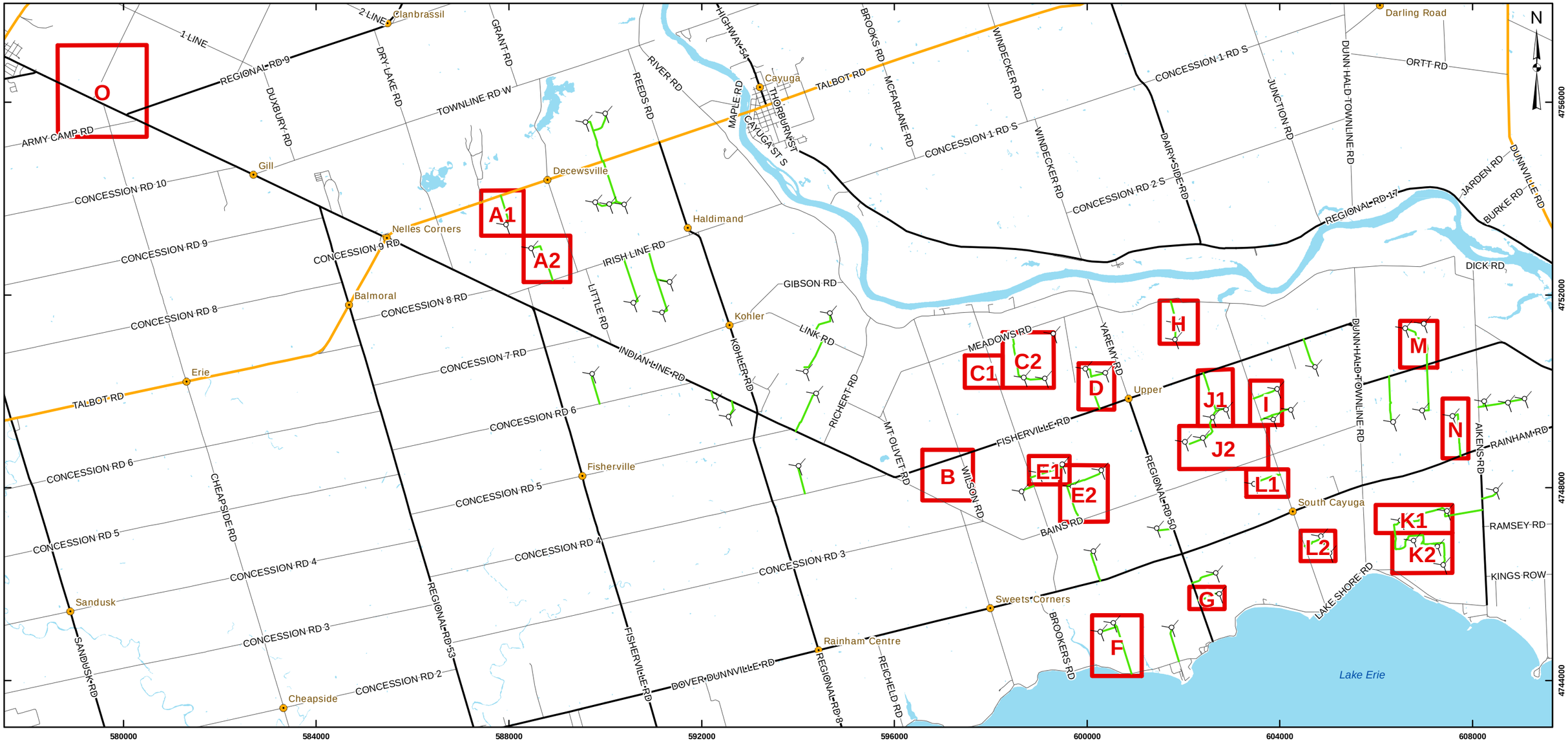
APPENDIX A
ABORIGINAL ENGAGEMENT

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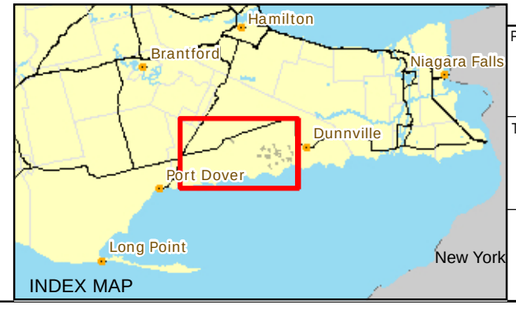
Projection: Transverse Mercator Datum: NAD 83 Coordinate System: UTM Zone 17



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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

PROJECT NO. 10-1136-0072			SCALE AS SHOWN	REV. 0.0
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GIS	JO	25 Jan. 2011		
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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

REFERENCE

Base Data - MNR NRVIS, obtained 2004, CANMAP v2006.4
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Projection: Transverse Mercator Datum: NAD 83 Coordinate System: UTM Zone 17

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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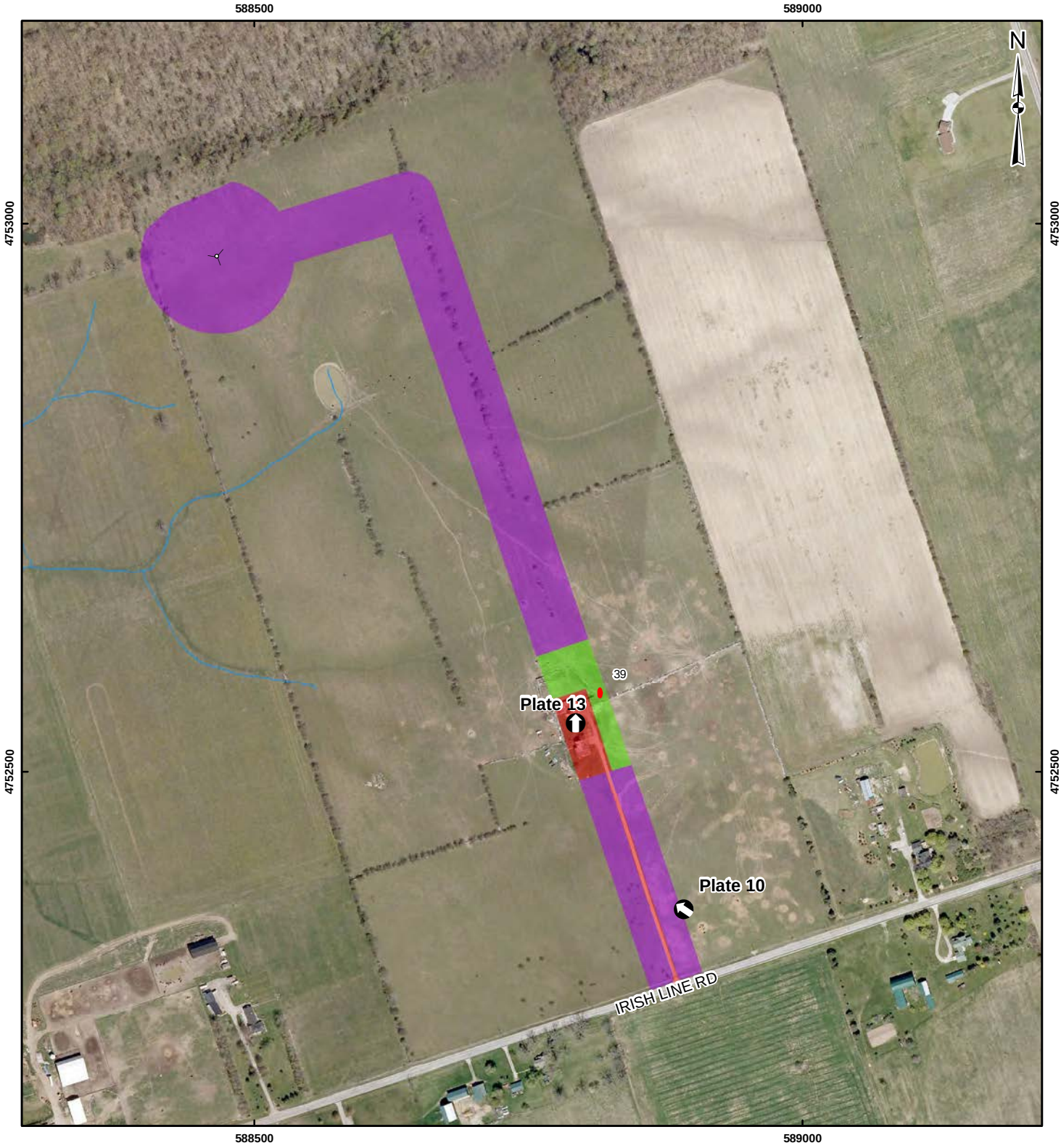

LEGEND

- Turbine Location
- Archaeological Site (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

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

Golder Associates
Mississauga, Ontario

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

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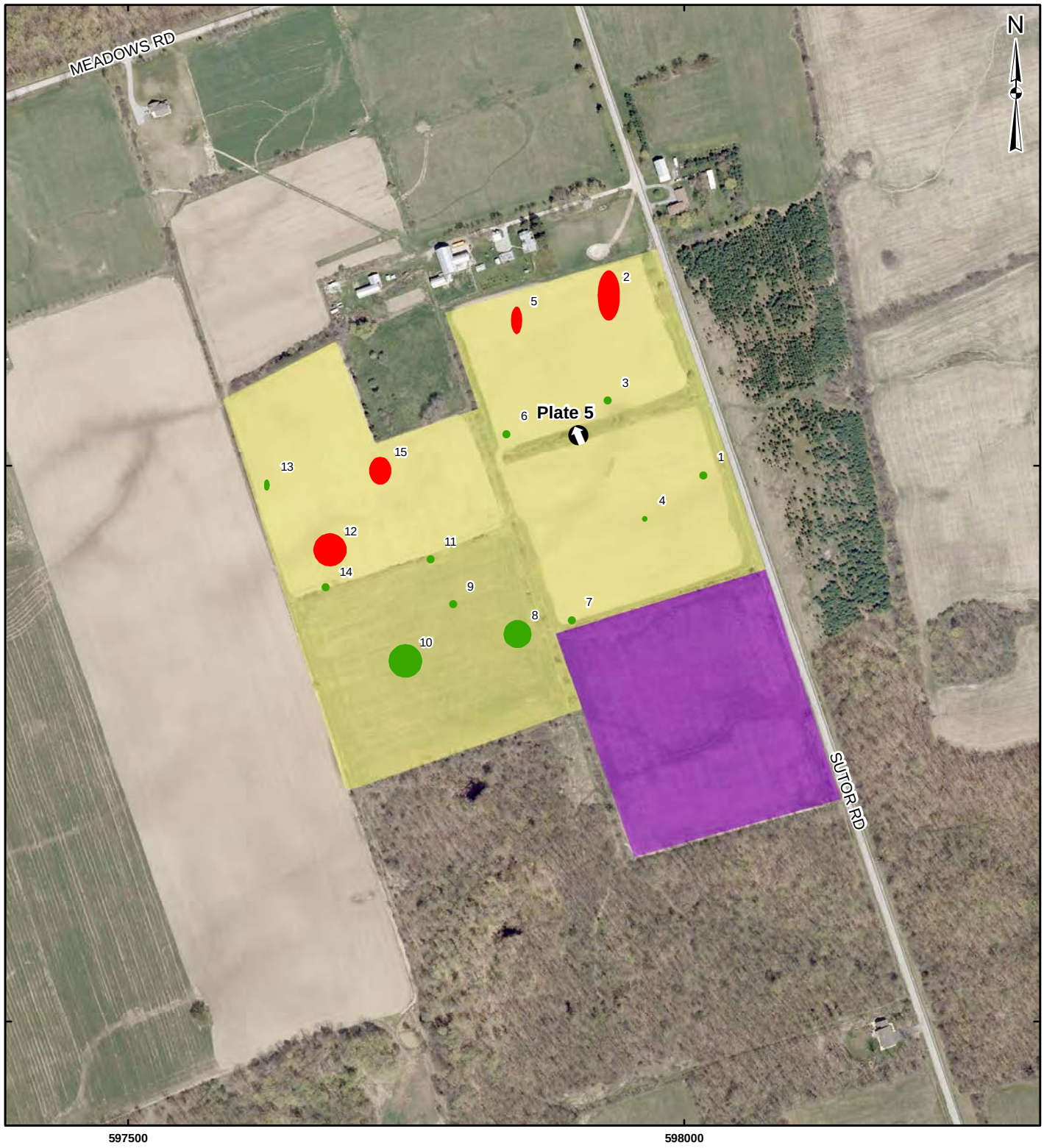

LEGEND

- 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

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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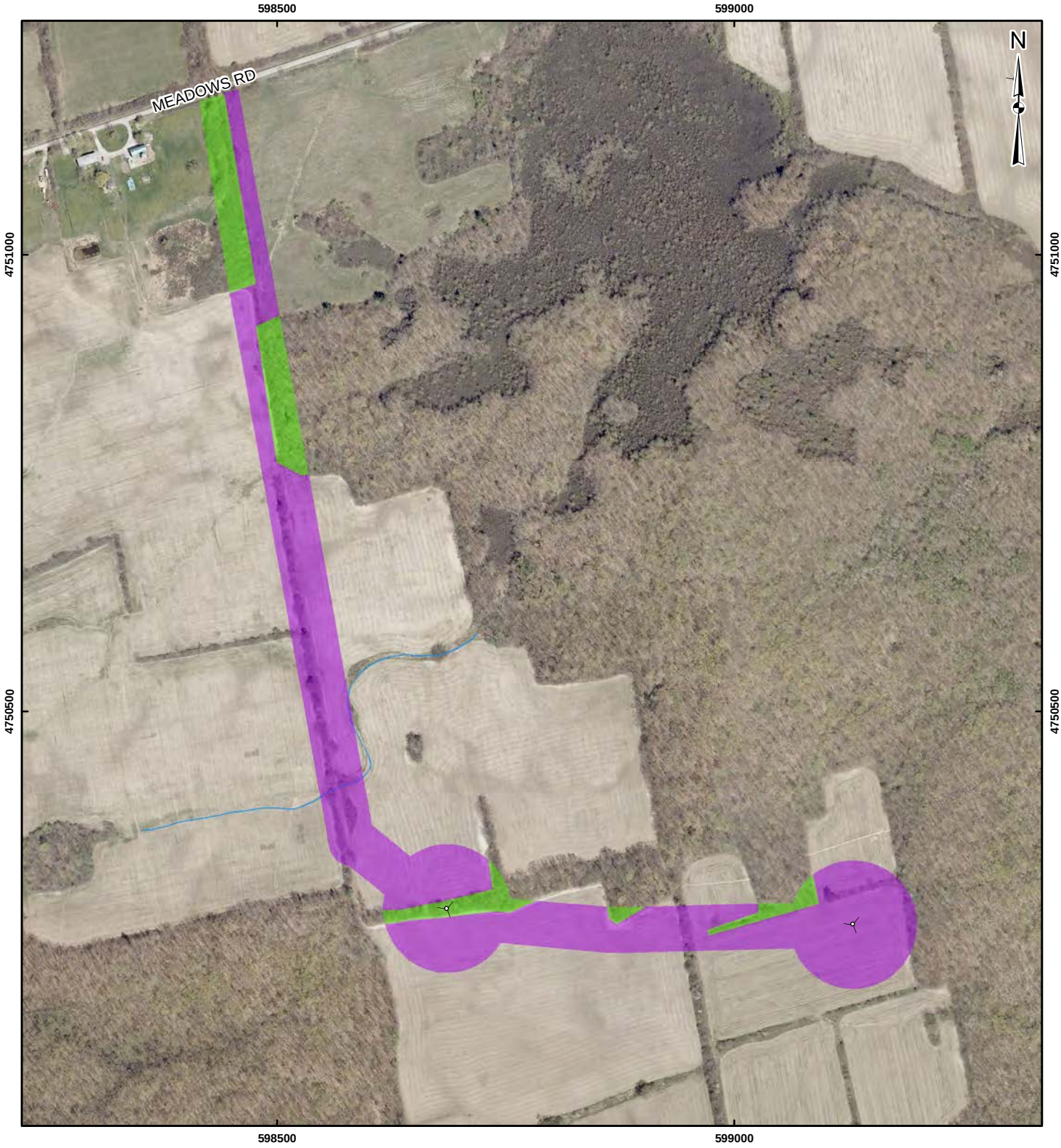

LEGEND

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

150 75 0 150

SCALE 1:6,000 METRES

PROJECT

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

TITLE

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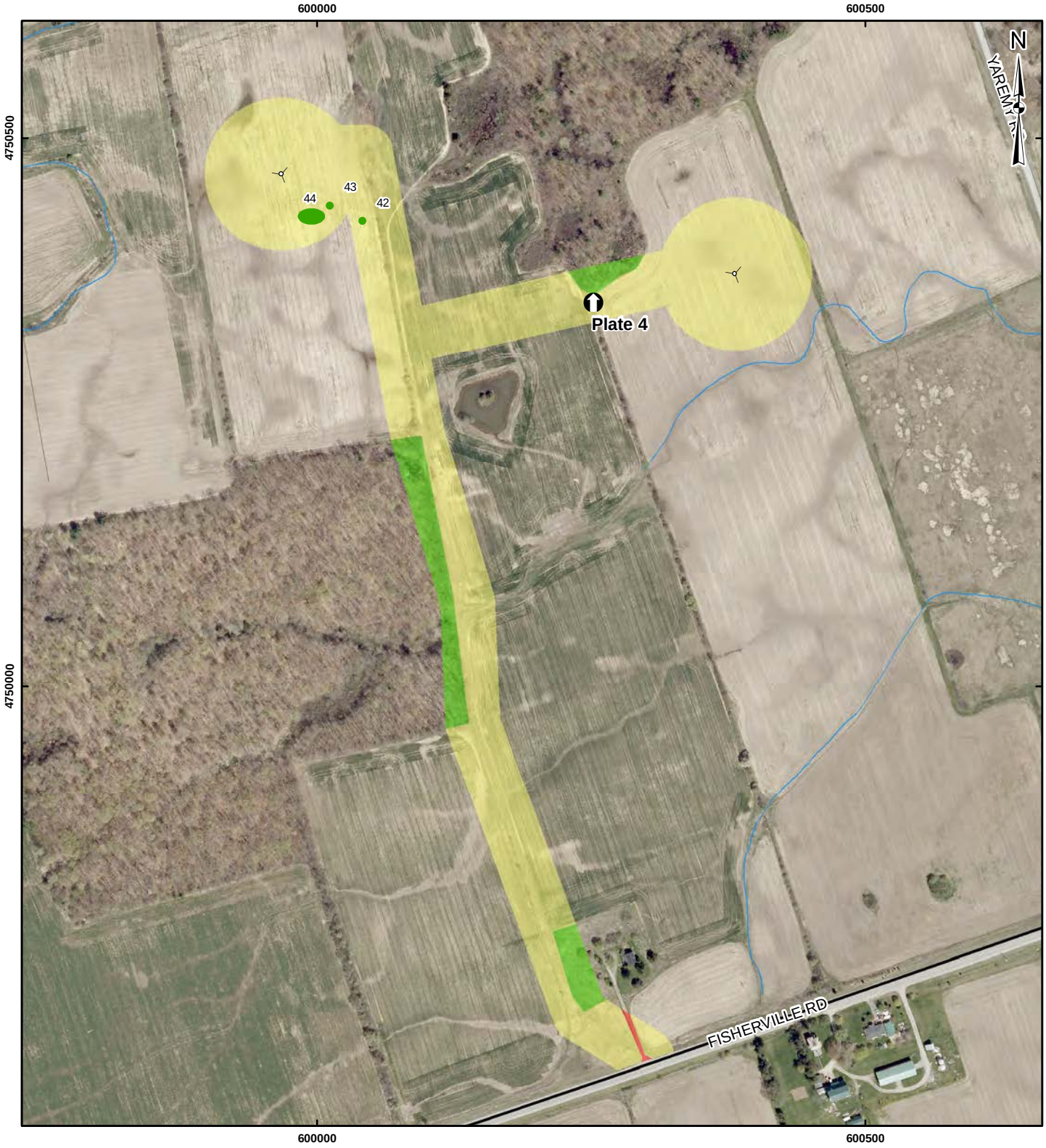

LEGEND

- 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

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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

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GIS	JO	1 Feb. 2011	
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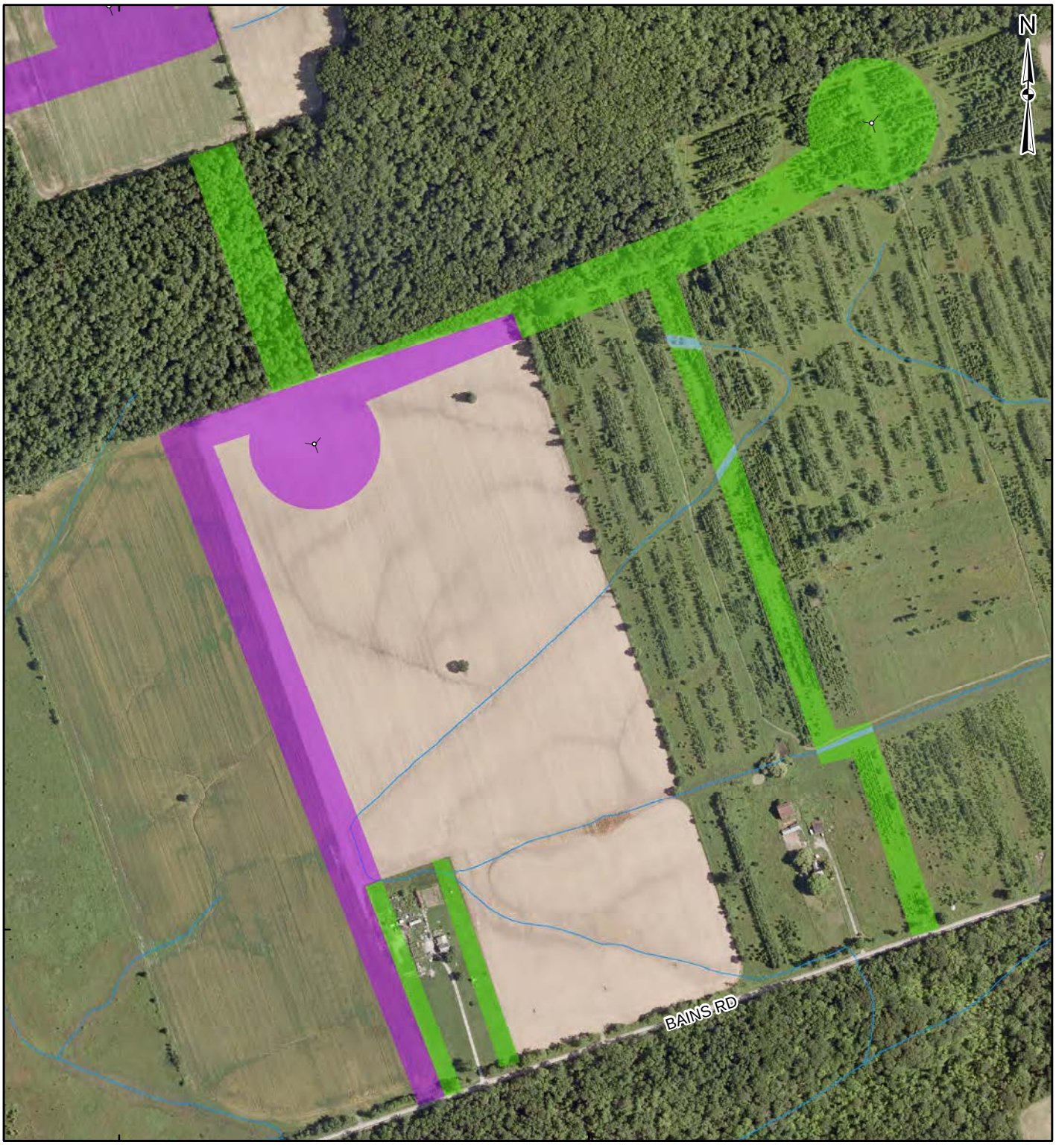

LEGEND

- 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

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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

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

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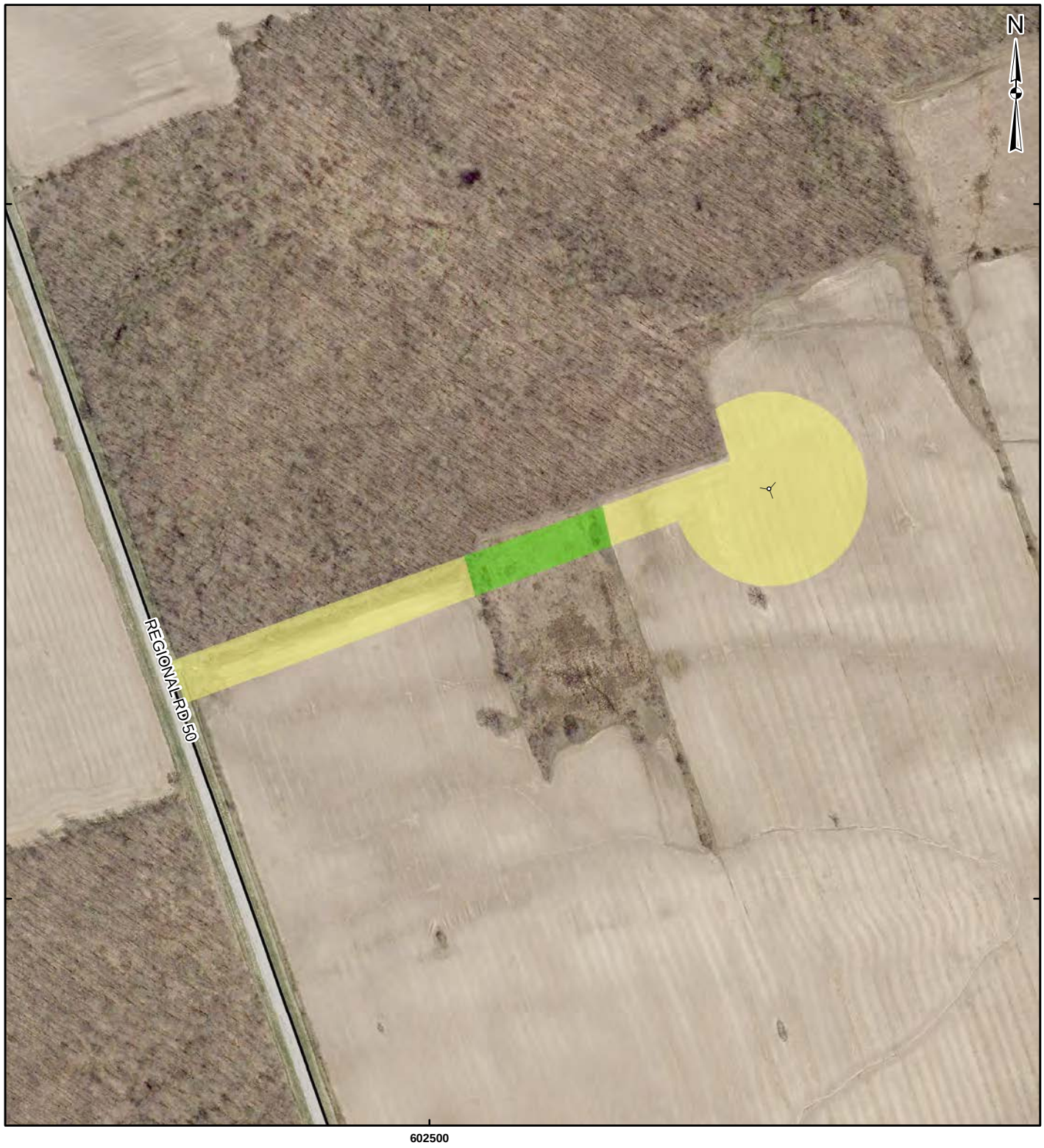

LEGEND

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

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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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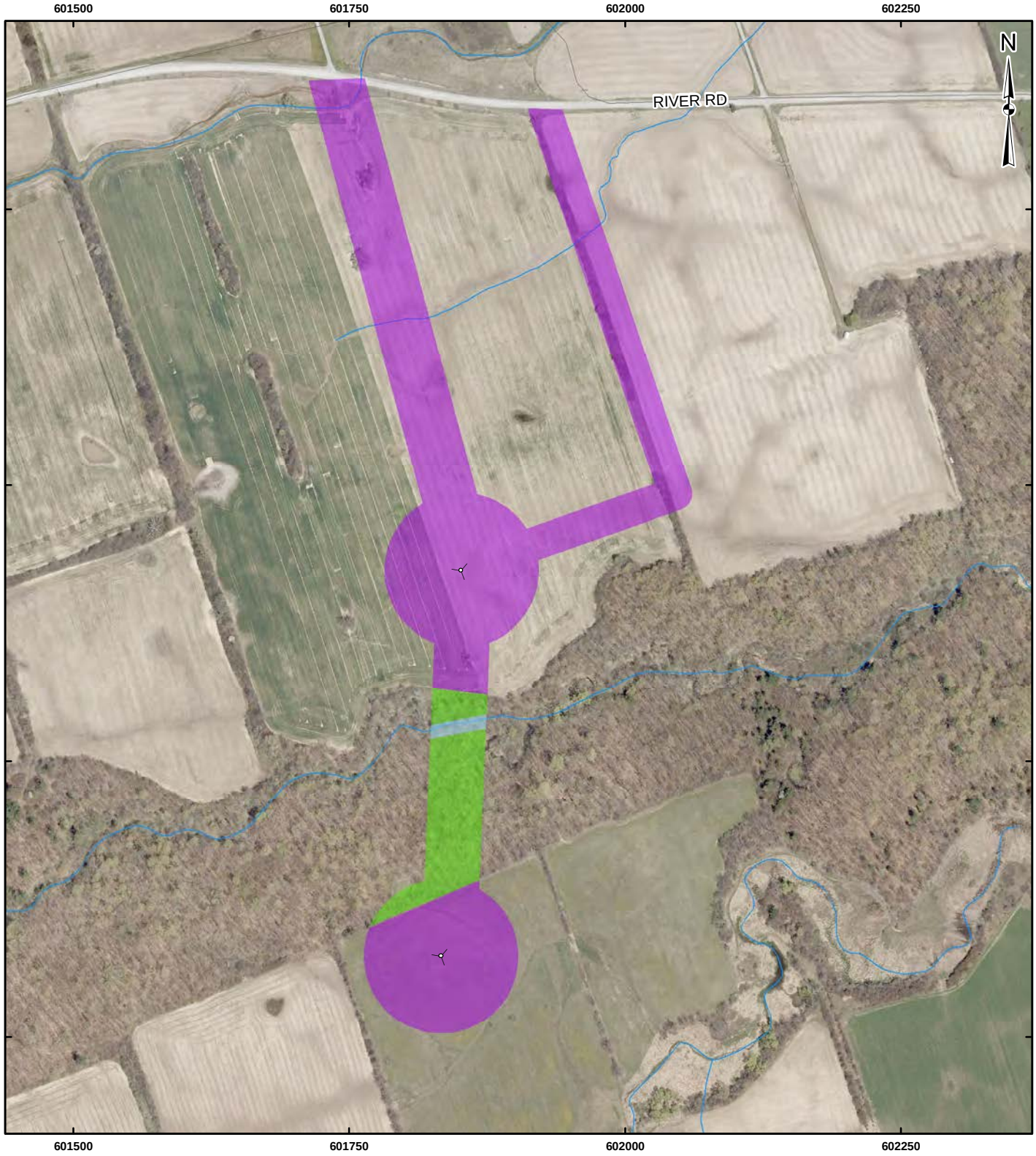

LEGEND

- 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

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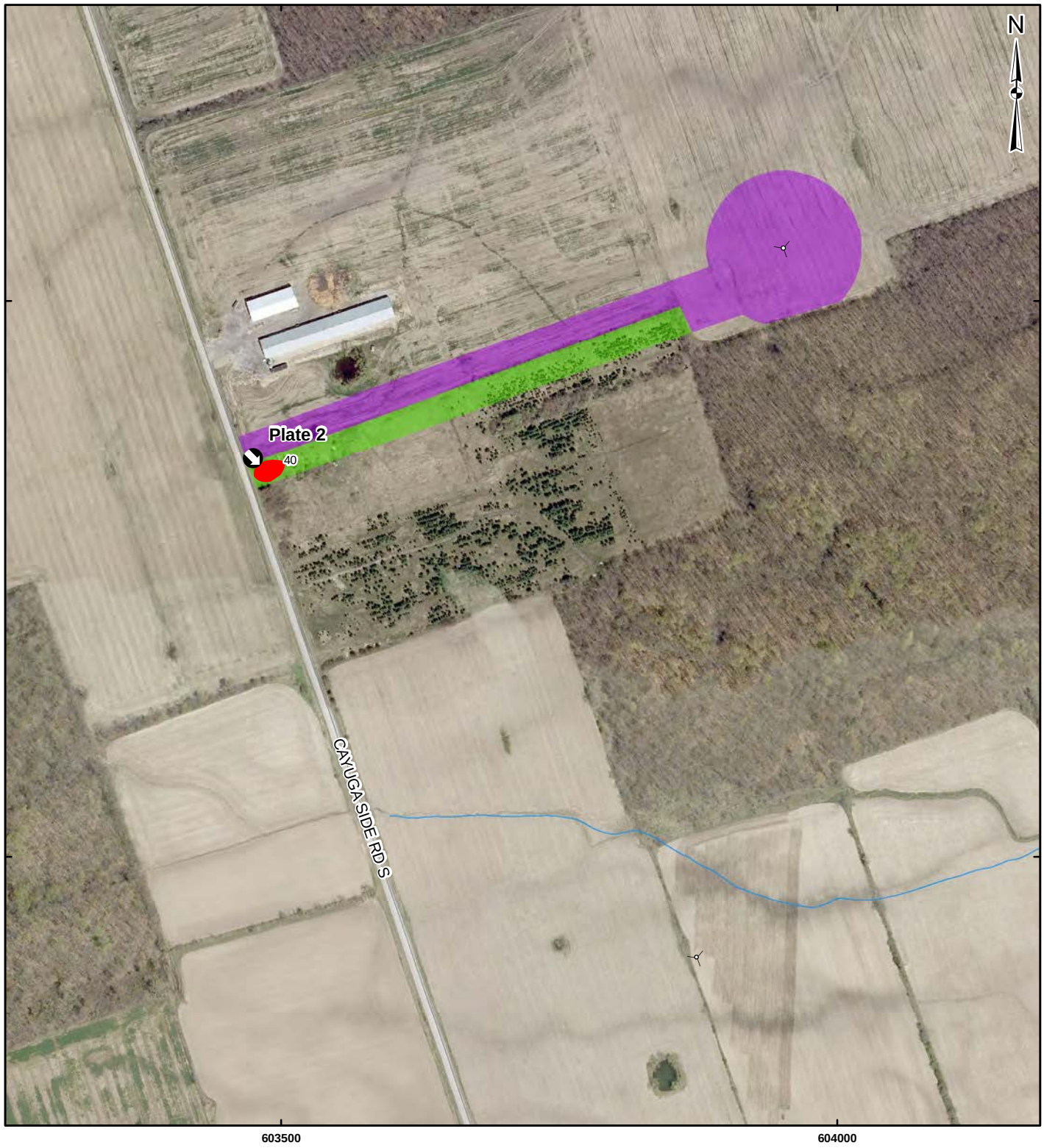

LEGEND

- 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
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GIS	JO	1 Feb. 2011	
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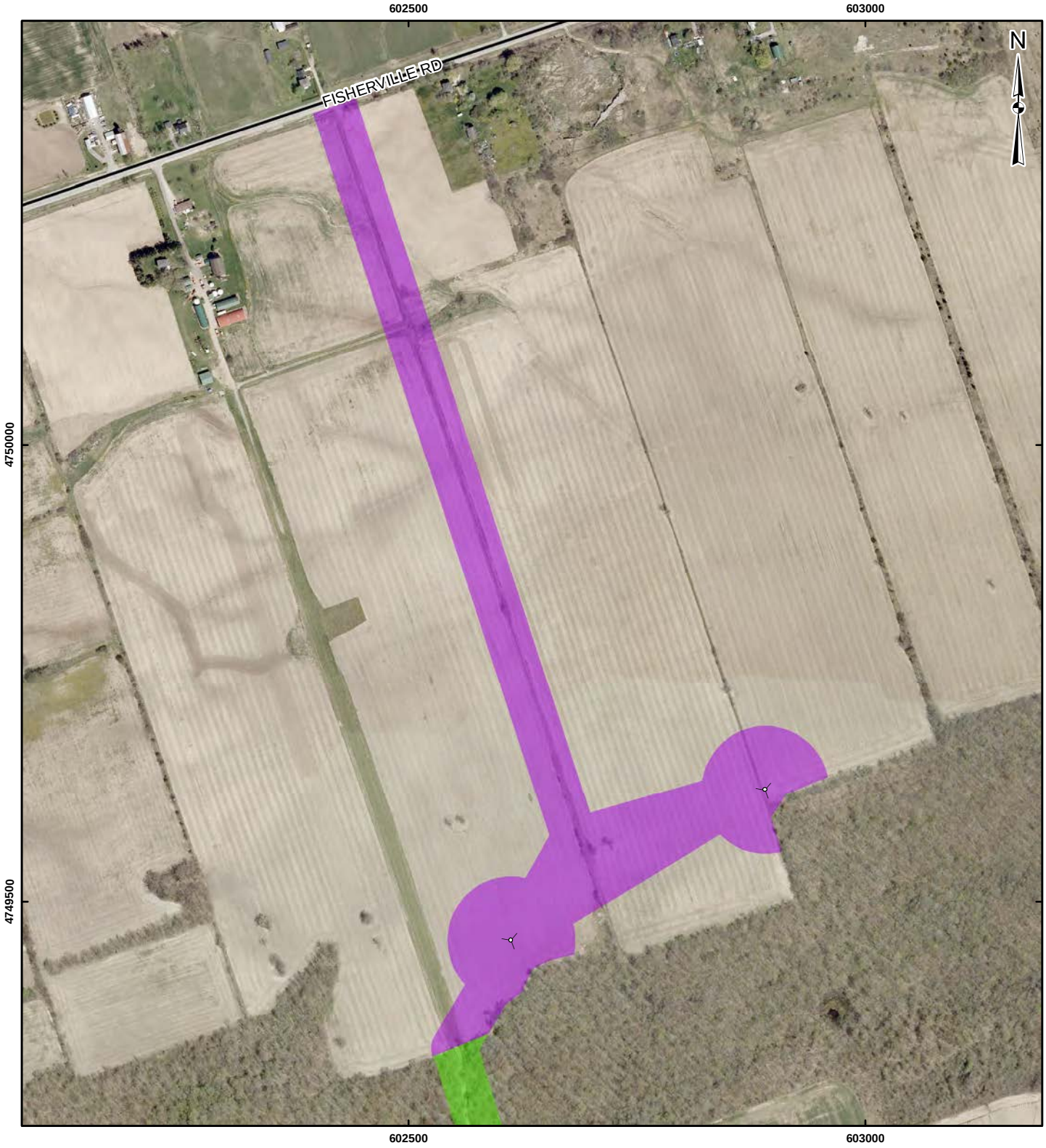

LEGEND

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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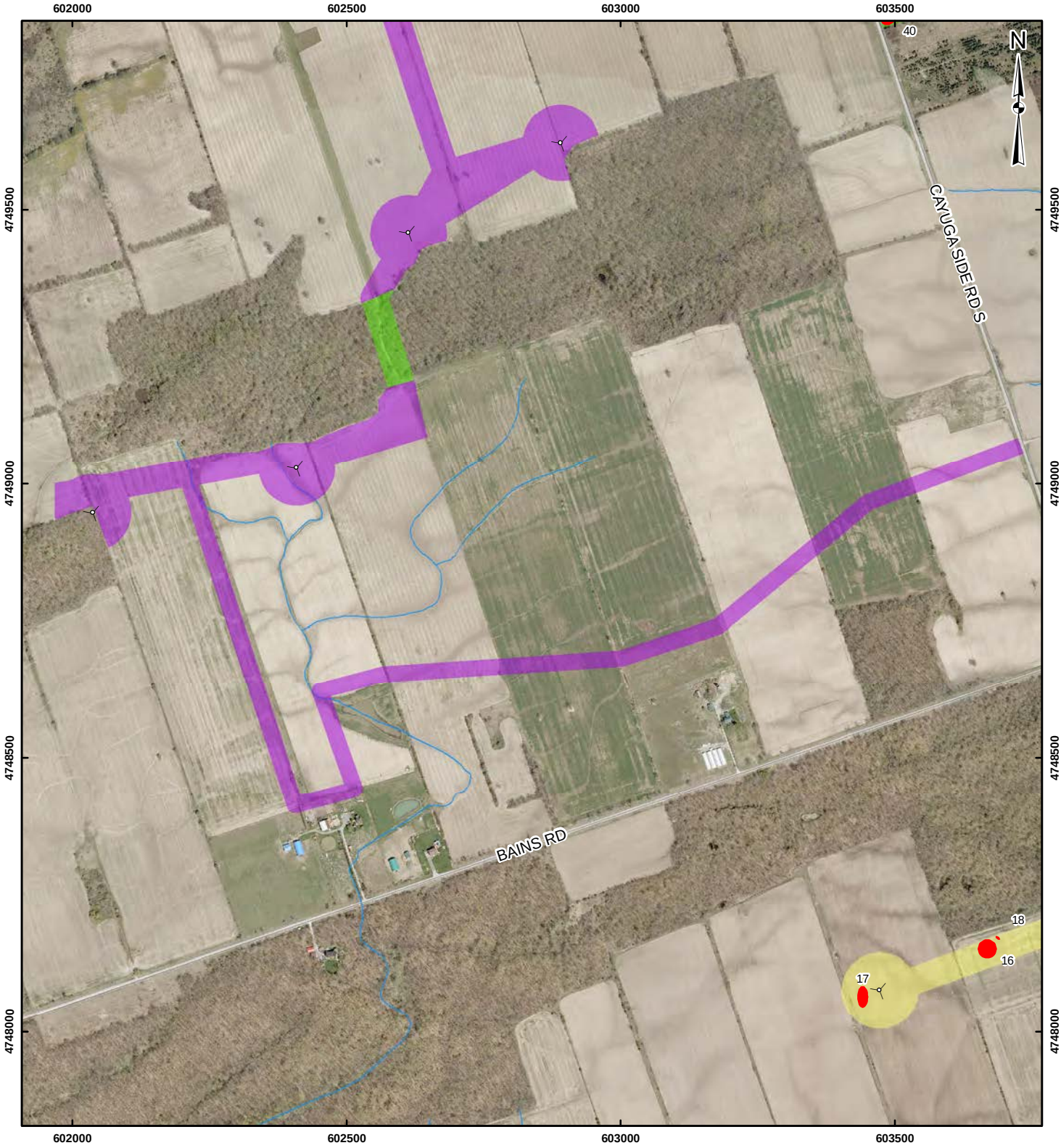

LEGEND

- 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

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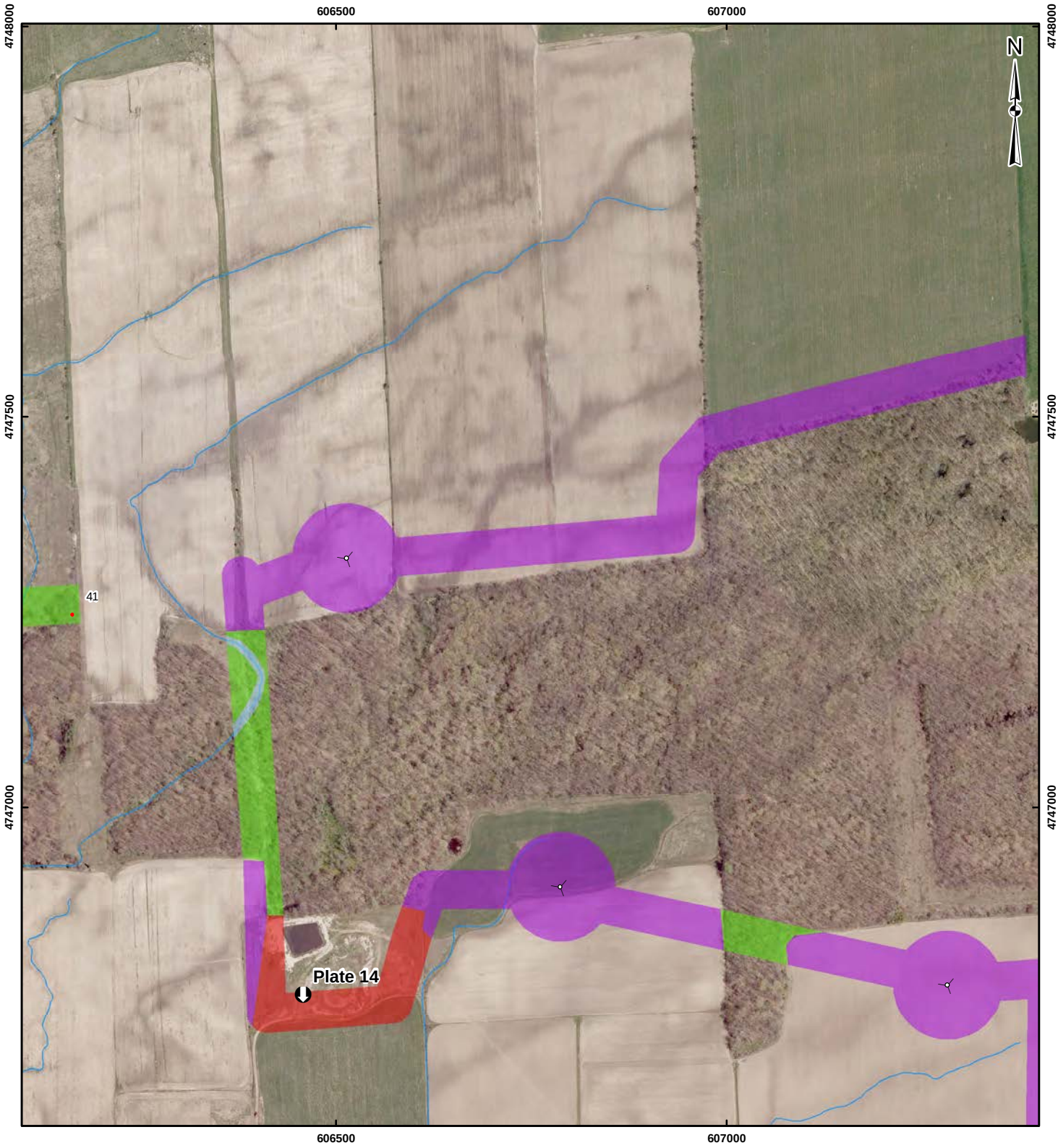

LEGEND

- 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
GIS	BC	12 Jan. 2011	
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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

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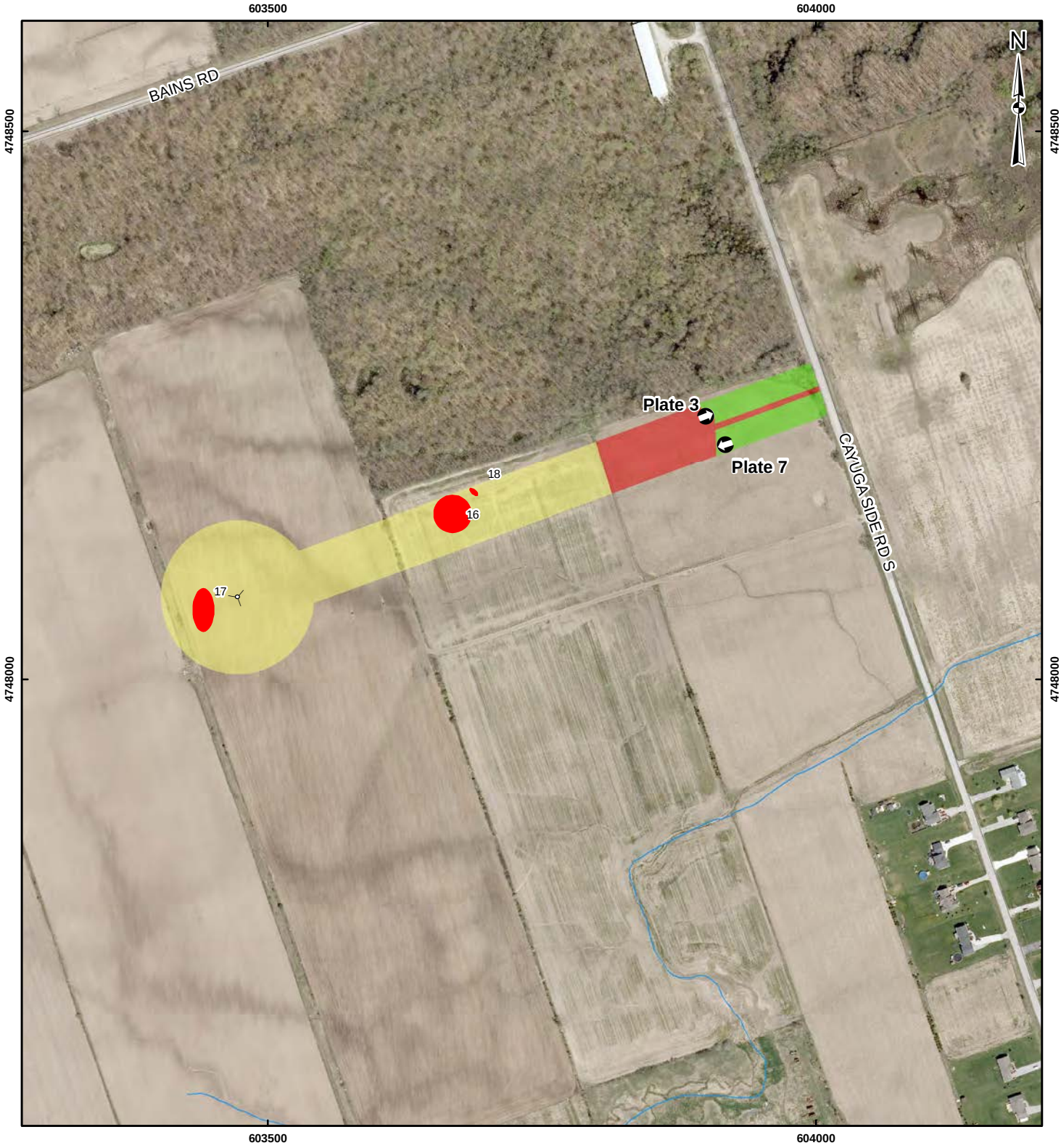

LEGEND

- 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

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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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REVIEW				

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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

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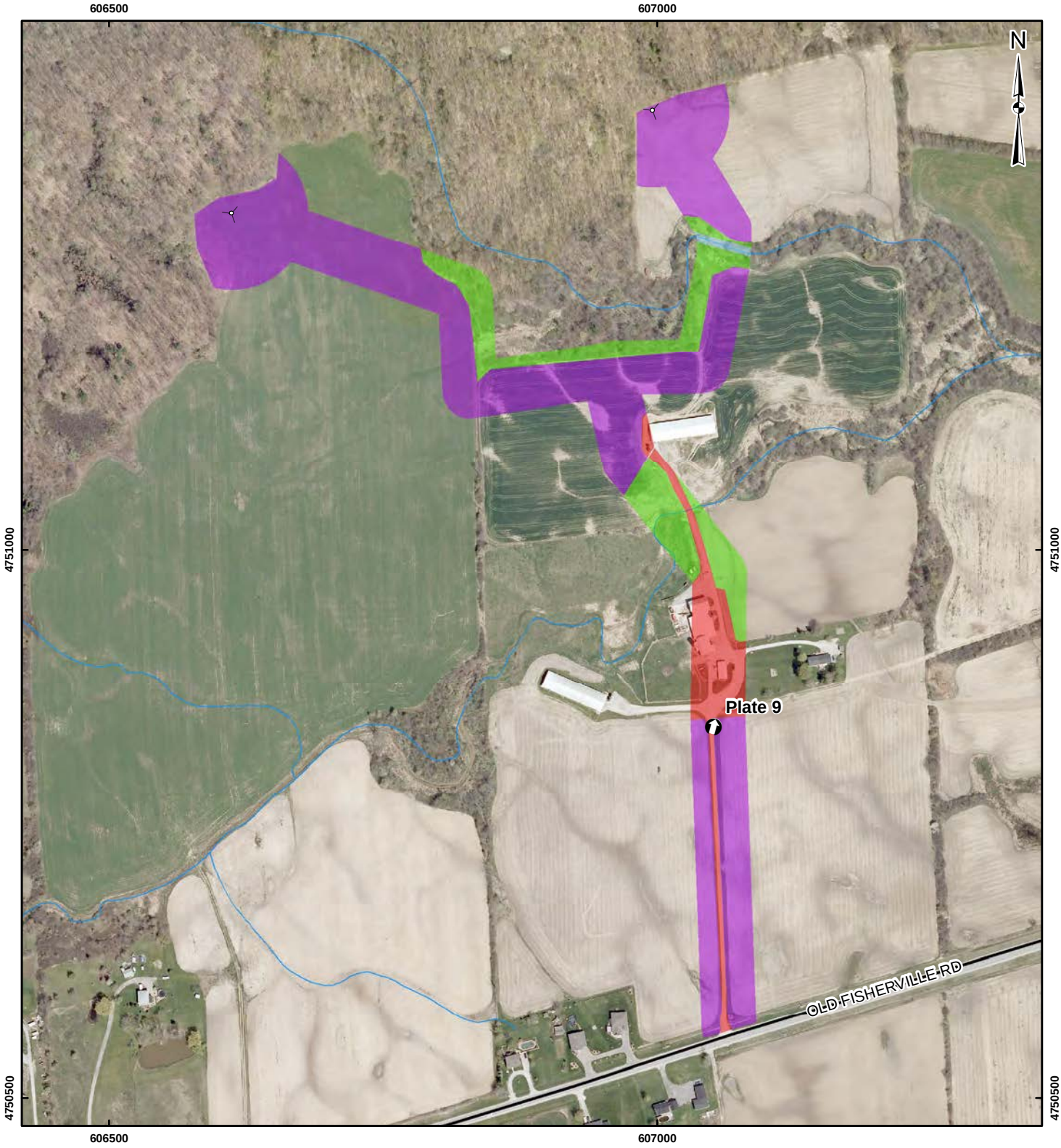

LEGEND

- 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
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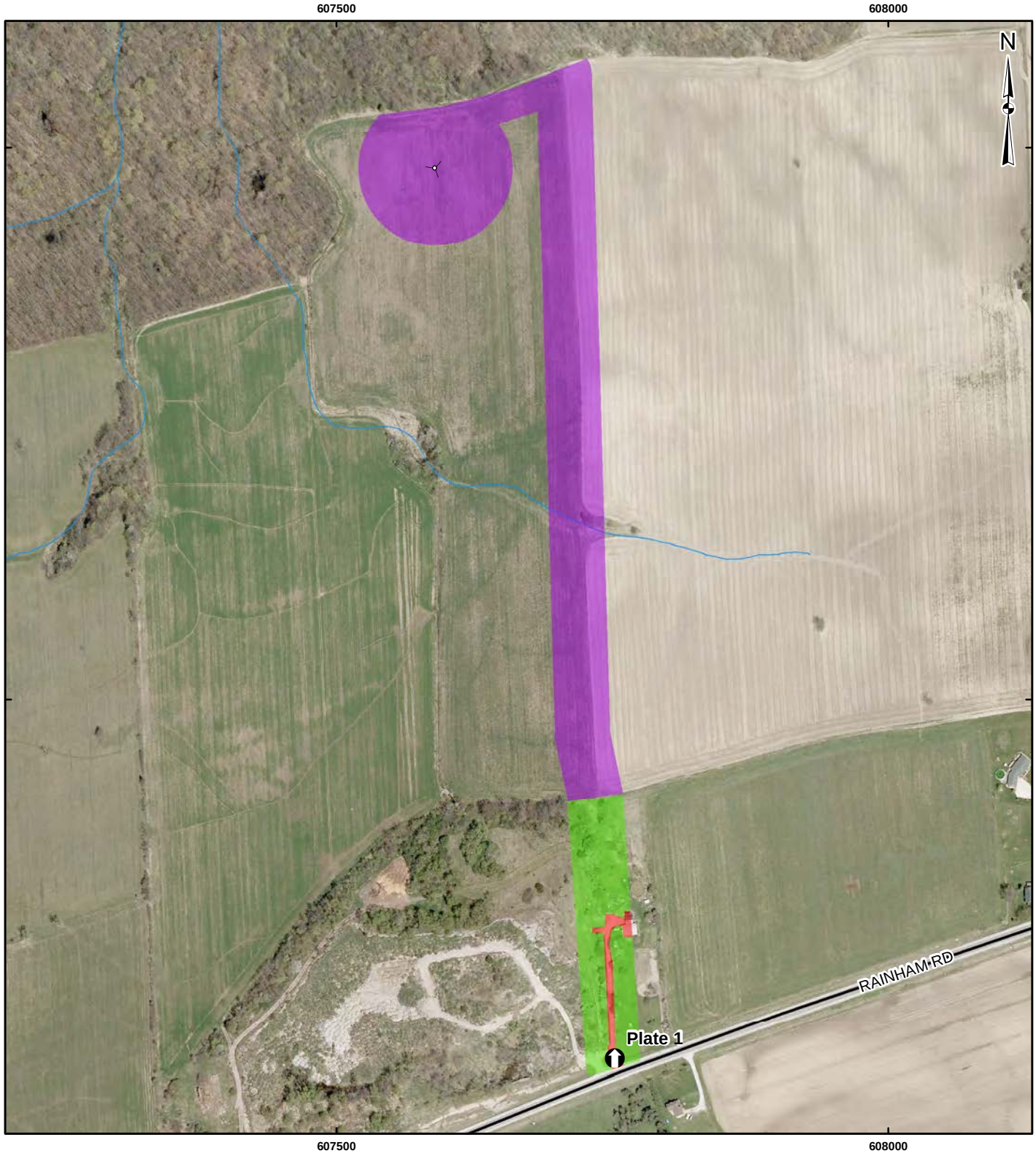

LEGEND

- 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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REVIEW			

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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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GIS	BC	12 Jan. 2011		
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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

c:\documents and settings\jmuir\desktop\appendices\10-1136-0072-r02 jan 21 11 - appendix d utm coordinates.docx

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Golder Associates

REPORT

JULY 2011

STAGE 2 ARCHAEOLOGICAL ASSESSMENT

Samsung 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. Larry Galajda, P.Eng., Vice President
Stantec Consulting Ltd.
49 Frederick Street
Kitchener, Ontario N2H 6M7
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PIF Numbers: P218-098-2010 and P218-023-2011

Report Number: 10-1136-0072-R03

Distribution:

3 Copies - Stantec Consulting Ltd.

3 Copies and 1 CD - Ontario Ministry of Tourism and Culture

2 Copies - Golder Associates Ltd.

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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 67 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 corridor construction or other infrastructure construction related activities.

During the winter of 2010 and 2011, Stage 2 archaeological assessment of a portion of the proposed project area was undertaken by Golder Associates Ltd. (Golder) on behalf of Stantec (Golder 2011). The winter 2010-2011 Stage 2 assessment focused upon the proposed wind turbine and solar lands layout, including turbine sites, collector cable routes, access road corridors, construction roads, transmission lines, laydown areas and substations. A total of approximately 75 hectares was subject to Stage 2 archaeological assessment, consisting of approximately 34 hectares of land that could not be ploughed and, therefore, was assessed using the test pit method at an interval of five metres as well as approximately 40.5 hectares of ploughed fields, assessed using the standard pedestrian survey method at an interval of five metres. The Stage 2 archaeological assessment conducted by Golder in winter 2010-2011 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 in winter 2010-2011 were recommended for Stage 3 assessment to further evaluate their cultural heritage value or interest.

During the spring and summer of 2011, Stage 2 archaeological assessment of the remainder of the portion of the proposed project area to be assessed by Golder was undertaken and is the subject of this report. The spring and summer 2011 Stage 2 assessment focused on 22 turbine locations, 25 access road corridors or collector cable routes and three portions of solar panel lands. A total of approximately 160 hectares of ploughed agricultural fields was subject to Stage 2 archaeological assessment using the standard pedestrian survey method at an interval of five metres. Additionally, a small area of approximately 10 metres by 40 metres was assessed using the test pit method at an interval of five metres. The Stage 2 archaeological assessment conducted by Golder in the spring and summer of 2011 resulted in the identification of a further 128 locations, all of which are pre-contact Aboriginal sites. In order to further evaluate their cultural heritage value or interest, 48 of the 128 archaeological locations identified within the study area in the spring and summer of 2011 are recommended for Stage 3 assessment.

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 2011 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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APPENDIX D
UTM Coordinates of Archaeological Sites

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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. This area is proposed to be the site of approximately 67 wind turbines, at least three areas of solar panels and project-related infrastructure comprising the Grand Renewable Energy Park.

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During the spring and summer of 2011, Stage 2 archaeological assessment of the remainder of the portion of the proposed project area to be assessed by Golder was undertaken and is the subject of this report (Figure 1). The spring and summer 2011 Stage 2 assessment focused on 22 turbine locations, 25 access road corridors or collector cable routes and three portions of solar panel lands. A total of approximately 160 hectares of ploughed agricultural fields was subject to Stage 2 archaeological assessment using the standard pedestrian survey method at an interval of five metres. Additionally, a small area of approximately 10 metres by 40 metres was assessed using the test pit method at an interval of five metres. The Stage 2 archaeological assessment conducted by Golder in the spring and summer of 2011 resulted in the identification of a further 128 locations, all of which are pre-contact Aboriginal sites. In order to further evaluate their cultural heritage value or interest, 48 of the 128 archaeological locations identified within the study area in the spring and summer of 2011 are recommended for Stage 3 assessment.

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Transmission Line Siting Area

Wind and Solar Siting Area

Lake Erie

LEGEND

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

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

INDEX MAP

2,000 1,000 0 2,000 4,000 6,000
SCALE 1:125,000 METRES

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

TITLE
LOCATION OF STUDY AREA

Golder Associates
Mississauga, Ontario

PROJECT NO. 10-1136-0072			SCALE AS SHOWN	REV. 0.0
DESIGN	JO	14 Nov. 2008	FIGURE: 1
GIS	BC	24 Jun. 2011	
CHECK			
REVIEW			

G:\Projects\2010\10-1136-0072_SamsungSolarFarm\GIS\MXDsWorking\Archaeology\Spring2011\LocationOfStudyArea_11x17.mxd

2.0 SUMMARY OF STAGE 1 ARCHAEOLOGICAL INVESTIGATIONS

A Stage 1 archaeological assessment of the study area was previously conducted by Stantec (2010: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 at 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 2010:1). 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 (Chapman 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 drain 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

Previous archaeological assessments and research surveys in Haldimand County have demonstrated that the area was also intensively utilized by pre-contact Aboriginal communities. There are also 10 designated heritage properties in the vicinity of the study area (Stantec 2010:9). According to the Ontario Archaeological Sites Database (ASDB), there are 229 archaeological sites registered within the study area (Government of Ontario n.d.; Robert von Bitter, personal communication, January 17th, 2011). Registered sites, as of January 17th, 2011, comprised: one Palaeo-Indian (c. 9000-8000 B.C.) site, 36 Archaic (c. 8000-1000 B.C.) or possible Archaic sites, 14 Woodland (c. 1000 B.C. - Contact) or possible Woodland sites, 39 multi-component pre-contact Aboriginal sites (five of which containing Palaeo-Indian components), 84 pre-contact Aboriginal sites of undetermined cultural affiliation, 48 pre-contact Aboriginal sites for which no information was provided for cultural affiliation, one multi-component site that contained pre-contact Aboriginal and historic Aboriginal (c. 1580-1650 A.D.) components, two single-component historic Aboriginal sites, two multi-component sites that each contained pre-contact Aboriginal and historic Euro-Canadian components and two single-component historic Euro-Canadian sites.

Seventy further pre-contact Aboriginal sites requiring Stage 3 assessment were also documented in winter 2010-2011, during the first portion of Stage 2 work in the study area, by Golder (2011:i) and Stantec (2011:1) combined. This high number of registered sites within the study area attests to the long history of human occupation in this part of southern Ontario. 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).

In terms of raw materials for stone tool production, Haldimand County is considered to be resource rich. Known Onondaga, Bois Blanc and Dundee Formation chert outcrops are located within 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).

2.3 Historic Research

The study area is located in Haldimand County in the Geographic Townships of Dunn, Rainham, South Cayuga, North Cayuga and Walpole. The following provides a brief summary of the historical sources pertaining to the study area. For a more detailed historical background, refer to Golder (2011). The earliest recorded history of Haldimand County begins with the Aboriginal Neutral period. Little first-hand documentation of the Neutral by Europeans exists, however. In about 1626, French Recollet Father 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). 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).

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 (ed.) 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).

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 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 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)

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 1987:127; Weaver 1978:526).

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). Some Mississaugas lived on the Grand River with the Mohawks at Davisville in the 1820s (Warrick 2005:2).

By 1792 the County system replaced the previous district administrative structure for Upper Canada. 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). 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).

2.4 Archaeological Potential

As discussed in the Stage 1 archaeological assessment (Stantec 2010:12-13) and the Stage 2 interim archaeological assessments (Golder 2011; Stantec 2011), the archaeological potential for pre-contact Aboriginal sites is judged to be moderate to high. 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 as well as the presence of historic transportation routes.

3.0 STAGE 2 STUDY METHODS AND RESULTS

3.1 Summary of Winter 2010-2011 Stage 2 Investigations

The Stage 2 archaeological assessment of a portion of the proposed project was undertaken by Golder, on behalf of Stantec (Golder 2011). The first portion of the Stage 2 Assessment undertaken by Golder was conducted from December 2nd, 2010 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 winter 2010 to 2011 Stage 2 assessment focused upon the proposed wind turbine and solar lands layout, including turbine sites, collector cable routes, access road corridors, construction roads, transmission lines, laydown areas and substations. A total of approximately 75 hectares was subject to Stage 2 archaeological assessment, consisting of approximately 34 hectares of land that could not be ploughed and, therefore, was assessed using the test pit method at an interval of five metres as well as approximately 40.5 hectares of ploughed fields, assessed using the standard pedestrian survey method at an interval of five metres. There were 54 pre-contact Aboriginal locations discovered in winter 2010-2011. Two can be assigned date ranges and document use of the study area *circa* 3780 to 3200 B.C., during the Middle Archaic and *circa* 500 B.C. to A.D. 1, during the Early or Middle Woodland (Golder 2011). One historic Euro-Canadian location was also discovered (Golder 2011).

3.2 Stage 2 Field Assessment Methods

The study area encompasses the portion of the wind farm and solar farm layout assessed by Golder. The second portion of the Stage 2 Assessment undertaken by Golder, the subject of this report, was conducted from April 11th to July 6th, 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 spring and summer 2011 Stage 2 assessment (see Appendix B) focused upon the proposed wind turbine and solar lands layout, including turbine sites, collector cable routes, access road corridors, construction roads, transmission lines, laydown areas and substations. A total of approximately 160 hectares was subject to Stage 2 archaeological assessment. 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 road corridors between turbines, substations, and 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.

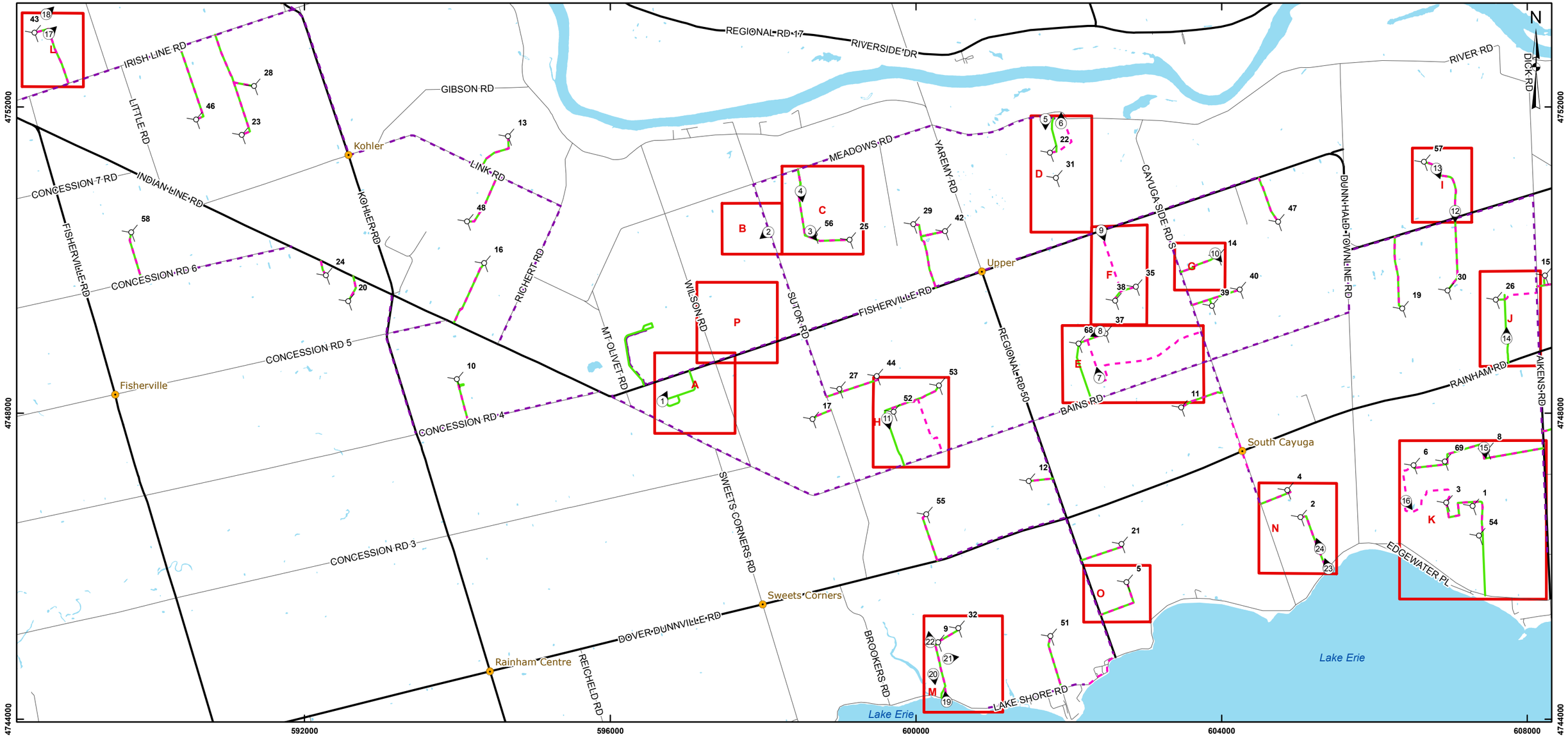
Plate locations and photograph directions are provided in Figure 2 and Appendix B. Approximately 160 hectares of well-weathered ploughed fields was assessed by the standard pedestrian survey method at transect intervals of five metres (Plates 1 to 5, 7 to 15 and 22 to 24). In the event that an artifact was encountered during pedestrian survey, survey intervals were intensified to one metre within a twenty-metre radius of the find.

An area approximately 10 metres by 40 metres in size was assessed by the test pit method (Plates 17 to 18). Each test pit was approximately 30 centimetres in diameter, excavated to subsoil, and then back filled (Plate 18). All soil was screened through six millimetre hardware cloth in order to facilitate the recovery of artifacts. No artifacts were recovered in this test pit area.

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 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. Two areas of previous disturbance (Plates 16, 19 and 20) and two areas of poor drainage (Plates 6 and 21) were encountered in spring and summer 2011. These areas were judged to have low archaeological potential and were not assessed.

UTM coordinates (see Appendix D) were recorded for isolated surface finds and centroid coordinates were recorded for surface artifact scatters. No positive test pits were encountered and, therefore, no UTM coordinates were recorded for 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 in spring and summer 2011 ranged from sunny and cool to overcast and cold. At no time were the conditions detrimental to the recovery of archaeological material. Field visibility during the pedestrian and test pit surveys was excellent. Permission to enter the property and remove artifacts was given by proponent contact, Mr. Larry Galajda. 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.



LEGEND

- Turbine Location
- Plate Location and Direction
- Access Road
- Underground Cable
- Overhead Cable
- 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
Ontario Ministry of Natural Resources, © Queens Printer 2008
Projection: Transverse Mercator Datum: NAD 83 Coordinate System: UTM Zone 17

1,000 500 0 1,000 2,000 3,000
SCALE 1:50,000 METRES

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

TITLE
PLATE LOCATIONS AND PHOTOGRAPHIC DIRECTIONS

Golder Associates
Mississauga, Ontario

PROJECT NO. 10-1136-0072			SCALE AS SHOWN	REV. 0.0
DESIGN	JO	14 Nov. 2008		
GIS	BC	24 Jun. 2011		
CHECK				
REVIEW				

FIGURE: 2

G:\Projects\2010\10-1136-0072_SamsungSolarFarm\GIS\MXDs\Working\Archaeology\Spring2011\KeyPlanPlates_11x17.mxd

Plate 1: Pedestrian Survey, Field Conditions, Solar Lands A, Walked at Five-Metre Intervals, Facing Northeast

Plate 2: Pedestrian Survey, Field Conditions, Solar Lands B, Walked at Five-Metre Intervals, Facing Southwest

Plate 3: Pedestrian Survey, Field Conditions, Turbine 56, Walked at Five-Metre Intervals, Facing Southeast

Plate 4: Pedestrian Survey, Field Conditions, Turbine 56/25 Corridor, Walked at Five-Metre Intervals, Facing Southeast

Plate 5: Pedestrian Survey, Field Conditions, Turbine 22, Walked at Five-Metre Intervals, Facing South

Plate 6: Field Conditions, Poorly Drained Area (Roadside Ditch), Turbine 22 Corridor, Not Assessed, Facing North

Plate 7: Pedestrian Survey, Field Conditions, Turbine 68/37 Cable Route, Walked at Five-Metre Intervals, Facing North

Plate 8: Pedestrian Survey, Field Conditions, Turbine 37, Walked at Five-Metre Intervals, Facing West

Plate 9: Pedestrian Survey, Field Conditions, Turbine 35/38 Corridor, Walked at Five-Metre Intervals, Facing South

Plate 10: Pedestrian Survey, Field Conditions, Turbine 14, Walked at Five-Metre Intervals, Facing Southeast

Plate 11: Pedestrian Survey, Field Conditions, Turbine 52 Corridor, Walked at Five-Metre Intervals, Facing South

Plate 12: Pedestrian Survey, Field Conditions, Turbine 57 Corridor A, Walked at Five-Metre Intervals, Facing Southeast

Plate 13: Pedestrian Survey, Field Conditions, Turbine 57 Corridor B, Walked at Five-Metre Intervals, Facing South

Plate 14: Pedestrian Survey, Field Conditions, Turbine 26 Corridor, Walked at Five-Metre Intervals, Facing North

Plate 15: Pedestrian Survey, Field Conditions, Turbine 8, Walked at Five-Metre Intervals, Facing Southeast

Plate 16: Field Conditions, Disturbed Area (Irrigation Pond), Turbine 3 Corridor, Not Assessed, Facing Southeast

Plate 17: Test Pit Survey, Field Conditions, Turbine 43 Corridor, Test Pitted at Five-Metre Intervals, Facing Northeast

Plate 18: Test Pit Survey, Test Pit, Turbine 43 Corridor, Facing Northeast

Plate 19: Field Conditions, Disturbed Area (Trailer Park), Turbine 9 Corridor, Not Assessed, Facing North

Plate 20: Field Conditions, Disturbed Area (Trailer Park), Turbine 9 Corridor, Not Assessed, Facing South

Plate 21: Field Conditions, Poorly Drained Area (North of Trailer Park), Turbine 9 Corridor, Not Assessed, Facing East

Plate 22: Pedestrian Survey, Field Conditions, Turbine 9, Walked at Five-Metre Intervals, Facing North

Plate 23: Pedestrian Survey, Field Conditions, Turbine 2 Corridor, Location 155, Walked at Five-Metre Intervals, Facing Northwest

Plate 24: Pedestrian Survey, Field Conditions, Turbine 2 Corridor, Location 157, Walked at Five-Metre Intervals, Facing Northwest

3.3 Stage 2 Field Assessment Results

The spring and summer 2011 Stage 2 assessment conducted by Golder resulted in a total of 116 archaeological locations being identified with 115 of these representing pre-contact Aboriginal lithic-producing sites and one representing a pre-contact Aboriginal ceramic-producing site. Each location and its 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 for the spring and summer 2011 assessment is provided in Appendix C. The chert types identified at each location are summarised here:

- **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; Fox 2009:362).
- **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; Fox 2009:361).
- **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; Fox 2009:362).
- **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; Fox 2009:361-362).

3.3.1 Location 56

2 CDE, not recommended:

Location 56 is a pre-contact Aboriginal site consisting of a surface lithic scatter of two Onondaga chert flakes located approximately 18 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.

3.3.2 Location 57

2 CDE, not recommended:

Location 57 is a pre-contact Aboriginal site consisting of a surface lithic scatter of two Onondaga chert flakes located approximately 11 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.

3.3.3 Location 58 (AfGw-188)

3 BIF, 1 SCR, 1 GRV, 24 CDE, recommended:

Location 58 (AfGw-188) is a pre-contact Aboriginal site, approximately 30 metres by 35 metres in size. The site consists of a surface lithic scatter of two biface preforms, manufactured from Onondaga chert; one biface preform fragment, manufactured from Dundee chert; one end scraper bit fragment, manufactured from Onondaga chert; one graver, manufactured from Onondaga chert; 19 Dundee chert flakes and five Onondaga chert flakes. The tools 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.

3.3.4 Location 59 (AfGw-189)

1 BIF, 1 COR, 15 CDE, recommended:

Location 59 (AfGw-189) is a pre-contact Aboriginal site, approximately 25 metres by 30 metres in size. The site consists of a surface lithic scatter of one biface tip, manufactured from Onondaga chert; one wedge-shaped core, manufactured from Onondaga chert; and 15 Onondaga chert flakes. The tools 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.

3.3.5 Location 60

3 CDE, not recommended:

Location 60 is a pre-contact Aboriginal site, approximately 12 metres by five 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.

3.3.6 Location 61 (AfGw-230)

8 CDE, not recommended:

Location 61 (AfGw-230) is a pre-contact Aboriginal site, approximately 10 metres by 15 metres in size. The site consists of a surface lithic scatter of eight 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.

3.3.7 Location 62

1 RTF, not recommended:

Location 62 is a pre-contact Aboriginal site consisting of a surface find of one isolated, notched, retouched flake manufactured from Haldimand chert. This retouched flake was not retained for laboratory analysis at this time. As detailed in Section 3.2, 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.

3.3.8 Location 63

1 CDE, not recommended:

Location 63 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.

3.3.9 Location 64 (AfGw-190)

1 PPO, 3 BIF, 1 SCR, 1 DRI, 4 RTF, 2 COR, 1 HAM, 58 CDE, recommended:

Location 64 (AfGw-190) is pre-contact Aboriginal site, approximately 55 metres by 75 metres in size. The site consists of a surface lithic scatter of one Adena-like projectile point, manufactured from Dundee chert (Plate 25:1); three biface preforms, manufactured from Onondaga chert; one end scraper, manufactured from Dundee chert (Plate 25:2); one expanding-base drill, manufactured from Onondaga chert; four retouched flakes (one being fragmentary), manufactured from Onondaga chert; one conical core, manufactured from Onondaga chert; one bipolar core, manufactured from Onondaga chert; one hammerstone, manufactured from a material not identified in the field; and 58 Onondaga chert flakes. The Adena-like projectile point measures 59 millimetres long by 26 millimetres wide by 13 millimetres thick. In Ontario, this projectile point type dates to *circa* 500-100 B.C., during the Early Woodland (Justice 1987:191-196; Parker 1992; Spence et al. 1990:125, 138-139). The surviving portion of the end scraper measures 28 millimetres long by 32 millimetres wide by 10 millimetres thick. The other tools 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 64 (AfGw-190) Projectile Point and End Scraper (actual size)

1: Projectile Point 2: Scraper

3.3.10 Location 65 (AfGw-191)

11 BIF, 3 SCR, 4 UFL, 2 COR, 1000+ CDE, recommended:

Location 65 (AfGw-191) is pre-contact Aboriginal site, approximately 85 metres by 130 metres in size. The site consists of a surface lithic scatter of one reworked stemmed lanceolate biface, manufactured from Onondaga chert (Plate 26:1); five biface preforms, manufactured from Onondaga chert; two biface bases, manufactured from Onondaga chert; three biface tips, manufactured from Onondaga chert; three end scrapers, manufactured from Onondaga chert; four utilized flakes, manufactured from Onondaga chert; two multidirectional cores, manufactured from Onondaga chert; and an estimate of over 1000 Onondaga chert flakes. The reworked stemmed lanceolate biface measures 56 millimetres long by 20 millimetres wide by 12 millimetres thick. Due to its reworked condition this biface cannot be assigned to a discrete typological category. The other tools and chipping detritus were not retained for laboratory analysis at this time. A probable feature (Feature 1) containing charcoal, fired soil and lithic chipping detritus was visible on a ridge of the ploughzone at this location (Plate 27). UTM coordinates for this feature are provided in Appendix D. 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 26: Location 65 (AfGw-191) Biface (actual size)

1. Projectile Point

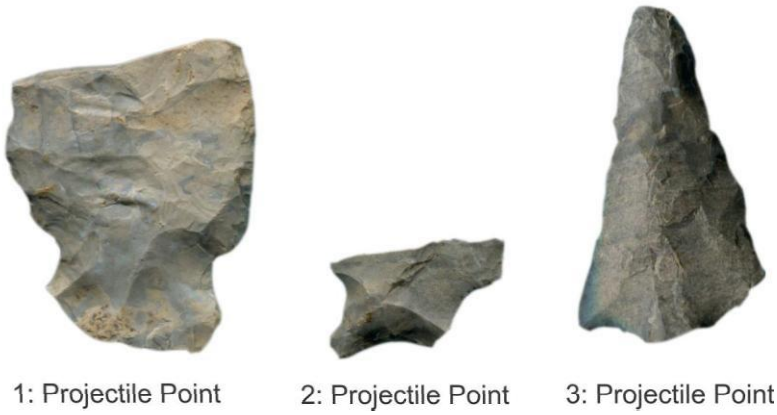
Plate 27: Location 65 (AfGw-191) Surface of Feature 1 (actual size)

3.3.11 Location 66 (AfGw-192)

3 PPO, 9 CDE, recommended:

Location 66 (AfGw-192) is a pre-contact Aboriginal site, approximately 20 metres by 30 metres in size. The site consists of a surface lithic scatter of one side-notched projectile point base, manufactured from Onondaga chert (Plate 28:1); one bifurcate base-like projectile point, manufactured from Onondaga chert (Plate 28:2); one corner-notched projectile point, missing its stem, manufactured from Dundee chert (Plate 28:3); and nine Onondaga chert flakes. The chipping detritus was not retained for laboratory analysis at this time. The surviving portion of the side-notched projectile point base measures 42 millimetres long by 29 millimetres wide by 8 millimetres thick. Due to its poor condition this projectile point cannot be assigned to a discrete typological category. The surviving portion of the bifurcate base-like projectile point base measures 15 millimetres long by 23 millimetres wide by 7 millimetres thick. In Ontario, this projectile point type dates to *circa* 8000-6910 B.C., during the late Early Archaic (Ellis et al. 1990:78; 2009:801-803). The surviving portion of the corner-notched projectile point fragment measures 44 millimetres long by 25 millimetres wide by 8 millimetres thick. Due to its poor condition this projectile point cannot be assigned to a discrete typological category. 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 28: Location 66 (AfGw-192) Projectile Points (actual size)



3.3.12 Location 67

2 CDE, not recommended:

Location 67 is a pre-contact Aboriginal site consisting of a surface lithic scatter of two Onondaga flakes located approximately 4 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.

3.3.13 Location 68 (AfGw-193)

1 BIF, 1 COR, 8 CDE, recommended:

Location 68 (AfGw-193) is a pre-contact Aboriginal site, approximately 10 metres by 20 metres in size. The site consists of a surface lithic scatter of one biface preform, manufactured from Dundee chert; one multidirectional core, manufactured from Dundee chert; and eight Dundee chert flakes. The tools 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.

3.3.14 Location 69 (AfGw-194)

1 SCR, 20 CDE, recommended:

Location 69 (AfGw-194) is a pre-contact Aboriginal site, approximately 20 metres by 35 metres in size. The site consists of a surface lithic scatter of one cobble spall end scraper, manufactured from Dundee chert, and 20 Dundee chert flakes. The scraper 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.

3.3.15 Location 70 (AfGw-195)

33 CDE, recommended:

Location 70 (AfGw-195) is a pre-contact Aboriginal site, approximately 20 metres by 25 metres in size. The site consists of a surface lithic scatter of 33 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.

3.3.16 Location 71 (AfGw-196)

1 PPO, 1 BIF, 1 COR, 49 CDE, recommended:

Location 71 (AfGw-196) is a pre-contact Aboriginal site, approximately 25 metres by 50 metres in size. The site consists of a surface lithic scatter of one Meadowood projectile point, manufactured from Onondaga chert (Plate 29:1); one biface preform fragment, manufactured from Onondaga chert; one bipolar core, manufactured from Onondaga chert; and 49 Onondaga chert flakes. The reworked Meadowood projectile point measures 32 millimetres long by 22 millimetres wide by 7 millimetres thick. In Ontario, this projectile point type dates to *circa* 1000-500 B.C., during the Early Woodland (Kenyon 1980). The other tools 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 29: Location 71 (AfGw-196) Projectile Point (actual size)

1. Projectile Point

3.3.17 Location 72 (AfGw-197)

1 BIF, 55 CDE, recommended:

Location 72 (AfGw-197) is a pre-contact Aboriginal site, approximately 45 metres by 55 metres in size. The site consists of a surface lithic scatter of one biface preform, manufactured from Onondaga chert, and 55 Onondaga chert flakes. The biface 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.

3.3.18 Location 73 (AfGw-198)

1 PPO, 2 BIF, 1 COR, 1 SCR, 41 CDE, recommended:

Location 73 (AfGw-198) is a pre-contact Aboriginal site, approximately 25 metres by 25 metres in size. The site consists of a surface lithic scatter of one Ace of Spades projectile point, possibly a knife, manufactured from Onondaga chert, (Plate 30:1); two biface fragments, manufactured from Onondaga chert; one side scraper, manufactured from Onondaga chert; one multidirectional core, manufactured from Onondaga chert; and 41 Onondaga chert flakes. The Ace of Spades projectile point measures 66 millimetres long by 33 millimetres wide by 9 millimetres thick. In Ontario, this projectile point type dates to *circa* 1800-1300 B.C., during the Small Point Late Archaic (Ellis et al. 1990:97, 106-109; Ellis et al. 2009:818-820). The other tools 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 30: Location 73 (AfGw-198) Projectile Point (actual size)

1. Projectile Point

3.3.19 Location 74

1 BIF, not recommended:

Location 74 is a pre-contact Aboriginal site consisting of a surface find of one isolated biface fragment, 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 this 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.

3.3.20 Location 75

1 CDE, not recommended:

Location 75 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.

3.3.21 Location 76 (AfGw-231)

6 CDE, not recommended:

Location 76 (AfGw-231) is a pre-contact Aboriginal site, approximately 15 metres by 15 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.

3.3.22 Location 77 (AfGw-232)

7 CDE, not recommended:

Location 77 (AfGw-232) is a pre-contact Aboriginal site, approximately 10 metres by 10 metres in size. The site consists of a surface lithic scatter of seven 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.

3.3.23 Location 78 (AfGw-199)

1 BIF, 16 CDE, recommended:

Location 78 (AfGw-199) is a pre-contact Aboriginal site, approximately 15 metres by 15 metres in size. The site consists of a surface lithic scatter of one biface tip fragment, manufactured from Onondaga chert, and 16 Onondaga chert flakes. The biface tip 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.

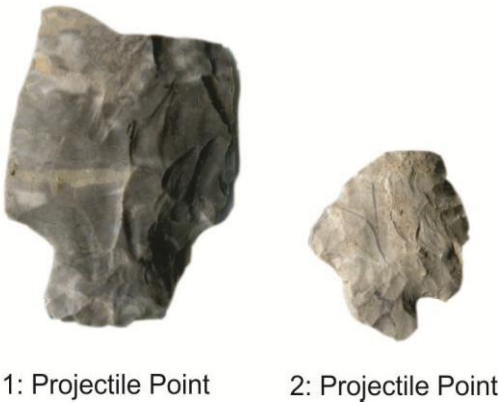
3.3.24 Location 79 (AfGw-200)

2 PPO, 1 BIF, 24 CDE, recommended:

Location 79 (AfGw-200) is a pre-contact Aboriginal site, approximately 15 metres by 40 metres in size. The site consists of a surface lithic scatter of one Ace of Spades base, manufactured from Onondaga chert (Plate 31:1); one corner-notched projectile point, missing its tip and a portion of the base, manufactured from Onondaga chert (Plate 31:2); one biface midshaft fragment, manufactured from Onondaga chert; and 24 Onondaga chert flakes. The surviving portion of the Ace of Spades projectile point base measures 42 millimetres long by 30 millimetres

wide by 10 millimetres thick. In Ontario, this projectile point type dates to *circa* 1800-1300 B.C., during the Small Point Late Archaic (Ellis et al. 1990:97, 106-109; Ellis et al. 2009:818-820). The surviving portion of the corner-notched projectile point measures 26 millimetres long by 21 millimetres wide by 4 millimetres thick. Due to its poor condition this projectile point cannot be assigned to a discrete typological category. The biface fragment 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 31: Location 79 (AfGw-200) Projectile Points (actual size)



1: Projectile Point 2: Projectile Point

3.3.25 Location 80

1 UFL, 1 CDE, not recommended:

Location 80 is a pre-contact Aboriginal site, approximately four metres by 14 metres in size. The site consists of a surface lithic scatter of one utilized flake, manufactured from Onondaga chert, and one Onondaga chert flake. The utilized flake and chipping detritus were not retained for laboratory analysis at this time. Given that these artifacts are temporally non-diagnostic, the cultural heritage value or interest of this site is low and no further archaeological assessment is recommended.

3.3.26 Location 81 (AfGw-201)

2 BIF, 1 RTF, 1 UFL, 50 CDE, recommended:

Location 81 (AfGw-201) is a pre-contact Aboriginal site, approximately 45 metres by 30 metres in size. The site consists of a surface lithic scatter of two biface preforms (one being fragmentary), manufactured from Onondaga chert; one retouched flake, manufactured from Onondaga chert; one utilized flake, manufactured from Onondaga chert; and 50 Onondaga chert flakes. The tools 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.

3.3.27 Location 82 (AfGw-202)

1 PPO, 1 UFL, 20 CDE, recommended:

Location 82 (AfGw-202) is a pre-contact Aboriginal site, approximately 35 metres by 20 metres in size. The site consists of a surface lithic scatter of one Brewerton Side-Notched projectile point, with damaged tip and barb, manufactured from Onondaga chert (Plate 32:1), one utilized flake, manufactured from Onondaga chert, and 20 Onondaga chert flakes. The Brewerton Side-Notched projectile point measures 29 millimetres long by 20 millimetres wide by 6 millimetres thick. In Ontario, this projectile point type dates to *circa* 3780-3200 B.C., during the Middle Archaic (see Ellis et al. 2009:808). The utilized 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.

Plate 32: Location 82 (AfGw-202) Projectile Point (actual size)

1. Projectile Point

3.3.28 Location 83

2 CDE, not recommended:

Location 83 is a pre-contact Aboriginal site consisting of a surface lithic scatter of two Onondaga chert flakes located approximately 10 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.

3.3.29 Location 84

1 CDE, not recommended:

Location 84 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.

3.3.30 Location 85 (AfGw-203)

1 SCR, 1 COR, 50 CDE, recommended:

Location 85 (AfGw-203) is a pre-contact Aboriginal site, approximately 25 metres by 32 metres in size. The site consists of a surface lithic scatter of one end scraper, manufactured from Onondaga chert; one multidirectional core, manufactured from Onondaga chert; and 50 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.

3.3.31 Location 86 (AfGw-204)

8 BIF, 1 SCR, 5 RTF, 3 UFL, 100+ CDE, recommended:

Location 86 (AfGw-204) is a pre-contact Aboriginal site, approximately 80 metres by 65 metres in size. The site consists of a surface lithic scatter of eight bifaces (two being fragmentary), manufactured from Onondaga chert; one end scraper, manufactured from Onondaga chert; five retouched flakes, manufactured from Onondaga chert; three utilized flakes, manufactured from Onondaga chert; and over 100 Onondaga chert flakes. The tools 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.

3.3.32 Location 87 (AfGw-205)

1 PPO, not recommended:

Location 87 (AfGw-205) is a pre-contact Aboriginal site consisting of a surface find of one isolated Meadowood projectile point base, manufactured from Onondaga chert (Plate 33:1). The surviving portion of this point measures 35 millimetres long by 25 millimetres wide by 4 millimetres thick. In Ontario, this projectile point type dates to *circa* 1000-500 B.C., during the Early Woodland (Kenyon 1980). 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 projectile point is the only find at this location, the cultural heritage value or interest of this site is low and no further archaeological assessment is recommended.

Plate 33: Location 87 (AfGw-205) Projectile Point (actual size)

1. Projectile Point

3.3.33 Location 88 (AfGw-206)

1 PPO, 1 BIF, recommended:

Location 88 (AfGw-206) is a pre-contact Aboriginal site consisting of one Nettling projectile point, manufactured from Haldimand chert (Plate 34:1), and one biface preform, manufactured from Onondaga chert, located approximately 10 centimetres apart. The surviving portion of the Nettling projectile point measures 33 millimetres long by 24 millimetres wide by 7 millimetres thick. In Ontario, this projectile point type dates to *circa* 8600-8000 B.C., during the middle Early Archaic (see Ellis et al. 1990:73; Ellis et al. 2009:796-800). The biface preform 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 34: Location 88 (AfGw-206) Projectile Point (actual size)

1. Projectile Point

3.3.34 Location 89 (AfGw-207)

2 BIF, 1 RTF, 30 CDE, recommended:

Location 89 (AfGw-207) is a pre-contact Aboriginal site, approximately 30 metres by 20 metres in size. The site consists of a surface lithic scatter of two biface preforms, manufactured from Onondaga chert; one retouched flake, manufactured from Onondaga chert; and 30 Onondaga chert flakes. The tools 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.

3.3.35 Location 90

1 CDE, not recommended:

Location 90 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.

3.3.36 Location 91 (AfGw-208)

1 PPO, 1 BIF, 1 GRV, 1 COR, 18 CDE, recommended:

Location 91 (AfGw-208) is a pre-contact Aboriginal site, approximately 20 metres by 30 metres in size. The site consists of a surface lithic scatter of one Brewerton Corner-Notched projectile point fragment, manufactured from Onondaga chert (Plate 35:1); one biface fragment, manufactured from Onondaga chert (Plate 35:2); one graver, manufactured from Onondaga chert; one conical core, manufactured from Onondaga chert; and 18 Onondaga chert flakes. The surviving portion of the Brewerton Corner-Notched point measures 38 millimetres long by 26 millimetres wide by 6 millimetres thick. In Ontario, this projectile point type dates to *circa* 3780-3200 B.C. (see Ellis et al. 2009:808). The surviving portion of the biface fragment measures 26 millimetres long by 44 millimetres wide by 12 millimetres thick. This biface has been burnt and exhibits a radial fracture at midshaft, as though it had been placed on an anvil stone and intentionally smashed. This may reflect a 'ritual kill' or other sacrifice of this biface. The other tools 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 35: Location 91 (AfGw-208) Projectile Point and Biface (actual size)

1: Projectile Point 2: Biface

3.3.37 Location 92

1 CDE, not recommended:

Location 92 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.

3.3.38 Location 93

1 UFL, not recommended:

Location 93 is a pre-contact Aboriginal site consisting of a surface find of one isolated utilized flake, manufactured from Onondaga chert. This utilized 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 utilized 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.

3.3.39 Location 94

1 PPO, not recommended:

Location 94 is a pre-contact Aboriginal site consisting of a surface find of one isolated projectile point, missing its tip and stem, manufactured from Onondaga chert (Plate 36:1). The surviving portion of this point measures 43 millimetres long by 24 millimetres wide and is 5 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 this 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 36: Location 94 Projectile Point (actual size)

1. Projectile Point

3.3.40 Location 95

1 CDE, not recommended:

Location 95 is a pre-contact Aboriginal site consisting of a surface find of one isolated Dundee 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.

3.3.41 Location 96

1 PPO, not recommended:

Location 96 is a pre-contact Aboriginal site consisting of a surface find of one isolated projectile point midsection fragment, manufactured from Onondaga chert (Plate 37:1). The surviving portion of this point measures 25 millimetres long by 26 millimetres wide and is 6 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 this 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 37: Location 96 Projectile Point (actual size)

1. Projectile Point

3.3.42 Location 97

1 PPO, not recommended:

Location 97 is a pre-contact Aboriginal site consisting of a surface find of one isolated projectile point, missing its stem, manufactured from Onondaga chert (Plate 38:1). The surviving portion of this point measures 36 millimetres long by 23 millimetres wide and is 5 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 this 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 38: Location 97 Projectile Point (actual size)

1. Projectile Point

3.3.43 Location 98 (AfGw-226)

2 BIF, 1 SCR, 4 CDE, recommended

Location 98 (AfGw-226) is a pre-contact Aboriginal site, approximately 10 metres by 17 metres in size. The site consists of a surface lithic scatter of one stemmed biface, reused as a side scraper, manufactured from Haldimand chert (Plate 39:1); one biface, manufactured from Onondaga chert; one end scraper, manufactured from Onondaga chert; and four Onondaga chert flakes. The stemmed biface has some damage to its stem and the surviving portion measures 42 millimetres long by 27 millimetres wide by 11 millimetres thick. The other tools 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 39: Location 98 (AfGw-226) Stemmed Biface (actual size)

1. Biface

3.3.44 Location 99 (AfGw-227)

1 BIF, 24 CDE, recommended:

Location 99 (AfGw-227) is a pre-contact Aboriginal site, approximately 10 metres by 20 metres in size. The site consists of a surface lithic scatter of one biface midshaft fragment, manufactured from Onondaga chert, and 24 Onondaga chert flakes. The biface fragment 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.

3.3.45 Location 100

1 CDE, not recommended:

Location 100 is a pre-contact Aboriginal site consisting of a surface find of one isolated Dundee 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.

3.3.46 Location 101

1 CDE, not recommended:

Location 101 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.

3.3.47 Location 102

1 UFL, not recommended:

Location 102 is a pre-contact Aboriginal site consisting of a surface find of one isolated utilized flake edge fragment, manufactured from Onondaga chert. This utilized flake fragment 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 utilized 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.

3.3.48 Location 103

1 PPO, not recommended:

Location 103 is a pre-contact Aboriginal site consisting of a surface find of one isolated corner-notched projectile point, missing its stem, manufactured from Haldimand chert (Plate 40:1).

The surviving portion of this point measures 37 millimetres long by 24 millimetres wide by 6 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 this 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 40: Location 103 Projectile Point (actual size)

1. Projectile Point

3.3.49 Location 104 (AfGw-209)

10 CDE, recommended:

Location 104 (AfGw-209) is a pre-contact Aboriginal site, approximately 12 metres by 15 metres in size. The site consists of a surface lithic scatter of 10 Dundee 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.

3.3.50 Location 105 (AfGw-210)

4 BIF, 24 CDE, recommended:

Location 105 (AfGw-210) is pre-contact Aboriginal site, approximately 23 metres by 28 metres in size. The site consists of a surface lithic scatter of four biface preforms, manufactured from Onondaga chert, and 24 Onondaga chert flakes. The bifaces 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.

3.3.51 Location 106 (AfGw-233)

4 CDE, not recommended:

Location 106 (AfGw-233) is a pre-contact Aboriginal site, approximately one metre by two 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.

3.3.52 Location 107

1 UFL, not recommended:

Location 107 is a pre-contact Aboriginal site consisting of a surface find of one isolated utilized flake edge fragment, manufactured from Onondaga chert. This utilized flake fragment 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 utilized 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.

3.3.53 Location 108 (AfGw-234)

3 CDE, not recommended:

Location 108 (AfGw-234) is a pre-contact Aboriginal site, approximately five metres by five 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.

3.3.54 Location 109 (AfGw-211)

1 PPO, recommended:

Location 109 (AfGw-211) is a pre-contact Aboriginal site consisting of a surface find of one isolated Jack's Reef Corner-Notched projectile point, with tip and a portion of the base missing, manufactured from Kettle Point chert (Plate 41:1). The surviving portion of this point measures 29 millimetres long by 27 millimetres wide by 9 millimetres thick.

In Ontario, this projectile point type dates to *circa* A.D. 500-1000, during the early Late Woodland (see Justice 1987:215). 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 41: Location 109 (AfGw-211) Projectile Point (actual size)

1. Projectile Point

3.3.55 Location 110 (AfGw-212)

1 BIF, 10 CDE, recommended:

Location 110 (AfGw-212) is pre-contact Aboriginal site, approximately 10 metres by 12 metres in size. The site consists of a surface lithic scatter of one biface preform, manufactured from Onondaga chert, and 10 Onondaga chert flakes. The biface 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.

3.3.56 Location 111 (AfGw-213)

1 FSH, recommended:

Location 111 (AfGw-213) is a pre-contact Aboriginal site consisting of a surface find of one isolated pre-contact Aboriginal ceramic body sherd fragment (Plate 42:1). No decorative or surface treatments remain visible on this sherd, although what appears to be the external surface is orange in colour, reflecting an oxidizing firing atmosphere, while what appears to be the internal surface is grey-black in colour, reflecting a reducing firing atmosphere (Rye 1981:114-118). The surviving portion of this sherd measures 16 millimetres long by 15 millimetres wide by 9 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 42: Location 111 (AfGw-213) Pre-contact Aboriginal Ceramic (actual size)

1. Fragmentary Sherd

3.3.57 Location 112 (AfGw-235)

8 CDE, not recommended:

Location 112 (AfGw-235) is a pre-contact Aboriginal site, approximately 15 metres by 20 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.

3.3.58 Location 113 (AfGw-236)

5 CDE, not recommended:

Location 113 (AfGw-236) is a pre-contact Aboriginal site, approximately 10 metres by 15 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.

3.3.59 Location 114 (AfGw-214)

4 UFL, 41 CDE, recommended:

Location 114 (AfGw-214) is a pre-contact Aboriginal site, approximately 15 metres by 35 metres in size. The site consists of a surface lithic scatter of four utilized flakes, one an edge fragment, manufactured from Onondaga chert, and 41 Onondaga chert flakes. The utilized flakes 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.

3.3.60 Location 115 (AfGw-215)

1 BIF, 2 SCR, 1 PER, 4 RTF, 1 UFL, 2 COR, 88+ CDE, recommended:

Location 115 (AfGw-215) is a pre-contact Aboriginal site, approximately 60 metres by 55 metres in size. The site consists of a surface lithic scatter of one biface preform, manufactured from Onondaga chert, one end scraper, manufactured from Onondaga chert (Plate 43:1), one side scraper, manufactured from Onondaga chert (Plate 43:2), one perforator, manufactured from Onondaga chert, four retouched flakes, manufactured from Onondaga chert, one utilized flake, manufactured from Onondaga chert, two multidirectional cores, manufactured from Onondaga chert, and 88+ Onondaga chert flakes. The end scraper measures 47 millimetres long by 39 millimetres wide by 9 millimetres thick. The side scraper measures 45 millimetres long by 29 millimetres wide by 11 millimetres thick. The other tools 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 43: Location 115 (AfGw-215) End Scraper and Side Scraper (actual size)

1: Scraper 2: Scraper

3.3.61 Location 116

1 CDE, not recommended:

Location 116 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.

3.3.62 Location 117

1 CDE, not recommended:

Location 117 is a pre-contact Aboriginal site consisting of a surface find of one isolated Dundee 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.

3.3.63 Location 118 (AfGw-216)

1 PPO, 1 BIF, 1 RTF, 8 CDE, recommended:

Location 110 (AfGw-216) is pre-contact Aboriginal site, approximately 25 metres by 40 metres in size. The site consists of a surface lithic scatter of one reworked Otter Creek projectile point, missing one lateral edge and one ear, manufactured from Onondaga chert (Plate 44:1); one biface preform, manufactured from Onondaga chert; one retouched flake, manufactured from Onondaga chert; and eight Onondaga chert flakes. In Ontario, Otter Creek projectile points date to *circa* 4340-3960 B.C. or a little later, during the Middle Archaic period (Ellis et al. 2009:802; Ritchie 1971:40-41). The surviving portion of the Otter Creek projectile point measures 37 millimetres long by 23 millimetres wide by 6 millimetres thick. The other tools 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 44: Location 118 (AfGw-216) Projectile Point (actual size)

1. Projectile Point

3.3.64 Location 119 (AfGw-217)

57 CDE, recommended:

Location 119 (AfGw-217) is a pre-contact Aboriginal site, approximately 20 metres by 22 metres in size. The site consists of a surface lithic scatter of 57 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.

3.3.65 Location 120 (AfGw-237)

7 CDE, not recommended:

Location 120 (AfGw-237) is a pre-contact Aboriginal site, approximately five metres by 10 metres in size. The site consists of a surface lithic scatter of seven 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.

3.3.66 Location 121 (AfGw-238)

3 CDE, not recommended:

Location 121 (AfGw-238) is a pre-contact Aboriginal site, approximately one metre by five 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.

3.3.67 Location 122 (AfGw-218)

17 CDE, recommended:

Location 122 (AfGw-218) is a pre-contact Aboriginal site, approximately 10 metres by 12 metres in size. The site consists of a surface lithic scatter of 17 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.

3.3.68 Location 123 (AfGw-219)

1 PPP, 1 BIF, 14 CDE, recommended:

Location 123 (AfGw-219) is a pre-contact Aboriginal site, approximately 18 metres by 25 metres in size. The site consists of a surface lithic scatter of one side-notched projectile point preform, with a damaged stem, manufactured from Onondaga chert (Plate 45:1); one biface fragment, manufactured from Onondaga chert; and 14 Onondaga chert flakes. The side-notched projectile point preform measures 44 millimetres long by 32 millimetres wide by 7 millimetres thick. The biface fragment 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 45: Location 123 (AfGw-219) Projectile Point Preform (actual size)

1. Projectile Point

3.3.69 Location 124 (AfGw-220)

1 BIF, 1 SCR, 42 CDE, recommended:

Location 124 (AfGw-220) is a pre-contact Aboriginal site, approximately 20 metres by 55 metres in size. The site consists of a surface lithic scatter of one triangular biface base fragment, manufactured from Onondaga chert; one large thumbnail end scraper, manufactured from Onondaga chert (Plate 46:1); and 42 Onondaga chert flakes. The thumbnail scraper measures 35 millimetres long by 28 millimetres wide by 11 millimetres thick. The biface fragment 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 46: Location 124 (AfGw-220) Thumbnail End Scraper (actual size)

1. Scraper

3.3.70 Location 125 (AfGw-221)

4 BIF, 29 CDE, recommended:

Location 125 (AfGw-221) is a pre-contact Aboriginal site, approximately 15 metres by 30 metres in size. The site consists of a surface lithic scatter of three biface fragments, manufactured from Onondaga chert; one biface fragment, manufactured from Haldimand chert; and 29 Onondaga chert flakes. The biface fragments 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.

3.3.71 Location 126 (AfGw-222)

1 PPO, 1 CDE, recommended:

Location 126 (AfGw-222) is a pre-contact Aboriginal site consisting of a surface lithic scatter of one Brewerton Side-Notched projectile point, with damaged stem, manufactured from Onondaga chert (Plate 47:1), and one Onondaga chert flake located approximately eight metres apart. The Brewerton Side-Notched projectile point measures 55 millimetres long by 28 millimetres wide by 10 millimetres thick. In Ontario, this projectile point type dates to *circa* 3780-3200 B.C., during the Middle Archaic (see Ellis et al. 2009:808). 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 47: Location 126 (AfGw-222) Projectile Point (actual size)

1. Projectile Point

3.3.72 Location 127 (AfGw-228)

1 SCR, 8 CDE, recommended:

Location 127 (AfGw-228) is a pre-contact Aboriginal site, approximately five metres by 15 metres in size. The site consists of a surface lithic scatter of one end scraper, manufactured from Onondaga chert, and eight Onondaga chert flakes. The end scraper 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.

3.3.73 Location 128

1 UFL, not recommended:

Location 128 is a pre-contact Aboriginal site consisting of a surface find of one isolated utilized flake edge fragment, manufactured from Onondaga chert. This utilized flake fragment 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 utilized 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.

3.3.74 Location 129 (AfGw-223)

1 SCR, 31 CDE, recommended:

Location 129 (AfGw-223) is a pre-contact Aboriginal site, approximately five metres by 35 metres in size. The site consists of a surface lithic scatter of one end scraper, manufactured from Onondaga chert, and 31 Onondaga chert flakes. The end scraper 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.

3.3.75 Location 130

1 CDE, not recommended:

Location 130 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.

3.3.76 Location 131 (AfGx-737)

4 BIF, 1 COR, 92 CDE, recommended:

Location 131 (AfGx-737) is a pre-contact Aboriginal site, approximately 30 metres by 60 metres in size. The site consists of a surface lithic scatter of four biface preforms, manufactured from Onondaga chert; one multidirectional core, manufactured from Onondaga chert, and 92 Onondaga chert flakes. The biface preforms, 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.

3.3.77 Location 132 (AfGx-738)

1 BIF, 10 CDE, recommended:

Location 132 (AfGx-738) is a pre-contact Aboriginal site, approximately 10 metres by 10 metres in size. The site consists of a surface lithic scatter of one triangular biface base fragment, manufactured from Onondaga chert, and 10 Onondaga chert flakes. The biface fragment 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.

3.3.78 Location 133

2 CDE, not recommended:

Location 133 is a pre-contact Aboriginal site consisting of a surface lithic scatter of two Onondaga chert flakes located approximately 2 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.

3.3.79 Location 134 (AfGx-739)

1 SCR, 2 CDE, not recommended:

Location 134 (AfGx-739) is a pre-contact Aboriginal site, approximately five metres by 10 metres in size. The site consists of a surface lithic scatter of one end scraper, manufactured from Onondaga chert, and two Onondaga chert flakes. The end scraper and chipping detritus were not retained for laboratory analysis at this time. Given that these artifacts are temporally non-diagnostic, the cultural heritage value or interest of this site is low and no further archaeological assessment is recommended.

3.3.80 Location 135 (AfGx-854)

3 CDE, not recommended:

Location 135 (AfGx-854) is a pre-contact Aboriginal site, approximately four metres by four 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.

3.3.81 Location 136 (AfGx-740)

1 PPO, not recommended:

Location 136 (AfGx-740) is a pre-contact Aboriginal site consisting of a surface find of one isolated Brewerton Side-Notched projectile point, manufactured from Onondaga chert (Plate 48:1). This projectile point measures 58 millimetres long by 34 millimetres wide by 9 millimetres thick. In Ontario, this projectile point type dates to *circa* 3780-3200 B.C. (see Ellis et al. 2009:808). 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 projectile point is the only find at this location, the cultural heritage value or interest of this site is low and no further archaeological assessment is recommended.

Plate 48: Location 136 (AfGx-740) Projectile Point (actual size)

1. Projectile Point

3.3.82 Location 137 (AfGx-741)

1 COR, 31 CDE, recommended:

Location 137 (AfGx-741) is a 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 31 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.

3.3.83 Location 138 (AfGx-855)

4 CDE, not recommended:

Location 138 (AfGx-855) is a pre-contact Aboriginal site, approximately 10 metres by 10 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.

3.3.84 Location 139

1 CDE, not recommended:

Location 139 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.

3.3.85 Location 140 (AfGx-742)

2 BIF, 1 COR, 48 CDE, recommended:

Location 140 (AfGx-742) is a pre-contact Aboriginal site, approximately 25 metres by 25 metres in size. The site consists of a surface lithic scatter of two biface preforms, manufactured from Onondaga chert; one multidirectional core, manufactured from Onondaga chert; and 48 Onondaga chert flakes. The tools 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.

3.3.86 Location 141

1 CDE, not recommended:

Location 141 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.

3.3.87 Location 142

1 CDE, not recommended:

Location 142 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.

3.3.88 Location 143

1 PPO, not recommended:

Location 143 is a pre-contact Aboriginal site consisting of a surface find of one isolated stemmed projectile point, shoulders and stem damaged, manufactured from Haldimand chert (Plate 49:1). The surviving portion of this projectile point measures 47 millimetres long by 26 millimetres wide by 6 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 this 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 49: Location 143 Projectile Point (actual size)

1. Projectile Point

3.3.89 Location 144

1 CDE, not recommended:

Location 144 is a pre-contact Aboriginal site consisting of a surface find of one isolated Dundee 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.

3.3.90 Location 145

4 CDE, not recommended:

Location 145 is a pre-contact Aboriginal site, approximately eight metres by 30 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.

3.3.91 Location 146

1 BIF, not recommended:

Location 146 is a pre-contact Aboriginal site consisting of a surface find of one isolated biface fragment, manufactured from Onondaga chert. This biface fragment 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 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.

3.3.92 Location 147

1 BIF, not recommended:

Location 147 is a pre-contact Aboriginal site consisting of a surface find of one isolated biface fragment, manufactured from Onondaga chert. This biface fragment 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 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.

3.3.93 Location 148

2 CDE, not recommended:

Location 148 is a pre-contact Aboriginal site consisting of a surface lithic scatter of two Onondaga chert flakes located approximately two 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.

3.3.94 Location 149 (AfGw-224)

1 PPO, not recommended:

Location 149 (AfGw-224) is a pre-contact Aboriginal site consisting of a surface find of one isolated Meadowood projectile point base, missing one ear, manufactured from Onondaga chert (Plate 50:1). The surviving portion of this projectile point measures 35 millimetres long by 25 millimetres wide by 6 millimetres thick. In Ontario, this projectile point type dates to *circa* 1000-500 B.C., during the Early Woodland (Kenyon 1980). 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 projectile point is the only find at this location, the cultural heritage value or interest of this site is low and no further archaeological assessment is recommended.

Plate 50: Location 149 (AfGw-224) Projectile Point (actual size)

1. Projectile Point

3.3.95 Location 150 (AfGw-239)

1 UFL, 4 CDE, not recommended:

Location 150 (AfGw-239) is a pre-contact Aboriginal site, approximately five metres by 10 metres in size. The site consists of a surface lithic scatter of one utilized flake, manufactured from Onondaga chert, and four Onondaga chert flakes. The utilized flake and chipping detritus were not retained for laboratory analysis at this time. Given that these artifacts are temporally non-diagnostic, the cultural heritage value or interest of this site is low and no further archaeological assessment is recommended.

3.3.96 Location 151

1 CDE, not recommended:

Location 151 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.

3.3.97 Location 152 (AfGw-225)

10 CDE, recommended:

Location 152 (AfGw-225) is a pre-contact Aboriginal site, approximately five metres by eight 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.

3.3.98 Location 153 (AfGw-240)

4 CDE, not recommended:

Location 153 (AfGw-240) is a pre-contact Aboriginal site, approximately six metres by eight metres in size. The site consists of a surface lithic scatter of three Onondaga chert flakes and one Haldimand chert flake.

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.

3.3.99 Location 154

1 CDE, not recommended:

Location 154 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.

3.3.100 Location 155 (AfGw-241)

1 SCR, 1 GRV, 7 RTF, 1 UFL, 4 COR, 1 HAM, 15 CDE, recommended:

Location 155 (AfGw-241) is a pre-contact Aboriginal site, approximately 10 metres by 20 metres in size. The site consists of a surface lithic scatter of one end scraper, possibly a reused perforator, manufactured from Onondaga chert (Plate 51:1), one graver, manufactured from Onondaga chert, seven retouched flakes, manufactured from Onondaga chert, one utilized flake, manufactured from Onondaga chert, four multidirectional cores, manufactured from Onondaga chert, one hammerstone, manufactured from a material not identified in the field, and 15 Onondaga chert flakes. The end scraper measures 49 millimetres long by 45 millimetres wide by 19 millimetres thick. The other tools 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 51: Location 155 (AfGw-241) End Scraper (actual size)

1: Scraper

3.3.101 Location 156

1 RTF, 1 CDE, not recommended:

Location 156 is a pre-contact Aboriginal site, approximately 10 metres by three metres in size. The site consists of a surface lithic scatter of one retouched flake, manufactured from Onondaga chert, and one Onondaga chert flake. The retouched flake and chipping detritus were not retained for laboratory analysis at this time. Given that these artifacts are temporally non-diagnostic, the cultural heritage value or interest of this site is low and no further archaeological assessment is recommended.

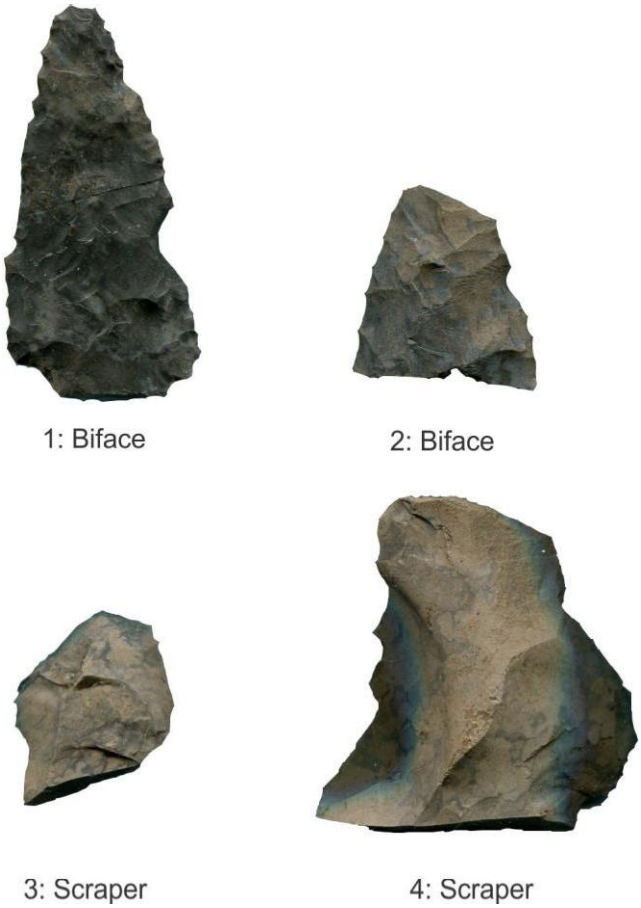
3.3.102 Location 157 (AfGw-242)

4 BIF, 2 SCR, 4 GRV, 13 RTF, 4 UFL, 7 COR, 3 HAM, 115 CDE, recommended:

Location 157 (AfGw-242) is a pre-contact Aboriginal site, approximately 70 metres by 115 metres in size. The site consists of a surface lithic scatter of four bifaces, manufactured from Onondaga chert, one of which a two-piece cross-mend (Plate 52:1), another of which a midshaft fragment (Plate 52:2) and two of which preforms, one end scraper, manufactured from Onondaga chert (52:3), one side scraper, manufactured from Onondaga chert (52:4), four gravers, manufactured from Onondaga chert, 13 retouched flakes, manufactured from Onondaga chert, four utilized flakes, manufactured from Onondaga chert, seven multidirectional cores, manufactured from Onondaga chert, three hammerstones, manufactured from a material not identified in the field, and 115 Onondaga chert flakes. The cross-mending biface measures 52 millimetres long by 25 millimetres wide by 5 millimetres thick. The surviving portion of the midshaft biface fragment measures 26 millimetres long by 25 millimetres wide by 5 millimetres thick. The end scraper measures 22 millimetres long by 23 millimetres wide by 6 millimetres thick.

The side scraper measures 45 millimetres long by 37 millimetres wide by 11 millimetres thick. The other tools 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 52: Location 157 (AfGw-242) Artifacts (actual size)



3.3.103 Location 158 (AfGw-243)

2 RTF, 1 UFL, 1 HAM, 1 CDE, not recommended:

Location 158 (AfGw-243) is a pre-contact Aboriginal site, approximately 20 metres by 15 metres in size. The site consists of a surface lithic scatter of two retouched flakes, manufactured from Onondaga chert, one utilized flake, manufactured from Dundee chert, one hammerstone, manufactured from a material not identified in the field, and one Onondaga chert flake.

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

3.3.104 Location 159

1 RTF, not recommended:

Location 159 is a pre-contact Aboriginal site consisting of a surface find of one isolated 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 retouched 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.

3.3.105 Location 160

2 CDE, not recommended:

Location 160 is a pre-contact Aboriginal site, approximately five metres by three metres in size. The site consists of a surface lithic scatter of two 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.

3.3.106 Location 161

1 BIF, not recommended:

Location 161 is a pre-contact Aboriginal site consisting of a surface find of one isolated biface preform, manufactured from Onondaga chert. This biface preform 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 biface preform 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.

3.3.107 Location 162

1 BIF, not recommended:

Location 162 is a pre-contact Aboriginal site consisting of a surface find of one isolated biface fragment, manufactured from Onondaga chert. This biface fragment 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 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.

3.3.108 Location 163 (AfGw-244)

1 RTF, 1 UFL, 1 COR, 20 CDE, recommended:

Location 163 (AfGw-244) is a pre-contact Aboriginal site, approximately 15 metres by 15 metres in size. The site consists of a surface lithic scatter of one retouched flake, manufactured from Onondaga chert, one utilized flake, manufactured from Onondaga chert, one multidirectional core, manufactured from Onondaga chert, 15 Dundee chert flakes and five Onondaga chert flakes. The tools 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.

3.3.109 Location 164 (AfGw-245)

1 RTF, 3 CDE, not recommended:

Location 164 (AfGw-245) is a pre-contact Aboriginal sit, approximately 10 metres by 4 metres in size. The site consists of a surface lithic scatter of one retouched flake, manufactured from Onondaga chert, two Onondaga chert flakes and one Dundee chert flake. The retouched flake and chipping detritus were 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 these artifacts are temporally non-diagnostic, the cultural heritage value or interest of this site is low and no further archaeological assessment is recommended.

3.3.110 Location 165 (AfGw-246)

2 RTF, 12 CDE, recommended:

Location 165 (AfGw-246) is a pre-contact Aboriginal site, approximately 15 metres by 10 metres in size. The site consists of a surface lithic scatter of two retouched flakes, manufactured from Onondaga chert, 10 Dundee chert flakes and two Onondaga chert flakes. The retouched flakes 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.

3.3.111 Location 166

1 RTF, 1 COR, not recommended:

Location 156 is a pre-contact Aboriginal site, approximately three metres by one metre in size. The site consists of a surface lithic scatter of one retouched flake, manufactured from Onondaga chert, and one multidirectional core, manufactured from Onondaga chert. The retouched flake and core were not retained for laboratory analysis at this time. Given that these artifacts are temporally non-diagnostic, the cultural heritage value or interest of this site is low and no further archaeological assessment is recommended.

3.3.112 Location 167

1 SCR, not recommended:

Location 167 is a pre-contact Aboriginal site consisting of a surface find of one isolated end scraper, manufactured from Onondaga chert (Plate 53:1). The end scraper measures 51 millimetres long by 40 millimetres wide by 11 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. 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.

Plate 53: Location 167 End Scraper (actual size)

1: Scraper

3.3.113 Location 168

1 CDE, not recommended:

Location 168 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.

3.3.114 Location 169

1 UFL, not recommended:

Location 169 is a pre-contact Aboriginal site consisting of a surface find of one isolated utilized flake, manufactured from Onondaga chert. This utilized 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 utilized 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.

3.3.115 Location 170

1 RTF, not recommended:

Location 170 is a pre-contact Aboriginal site consisting of a surface find of one isolated 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 retouched 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.

3.3.116 Location 171

1 CDE, not recommended:

Location 171 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.

3.3.117 Location 172

1 CDE, not recommended:

Location 172 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.

3.3.118 Location 173 (AfGw-248)

5 CDE, not recommended:

Location 173 (AfGw-248)is a pre-contact Aboriginal site, approximately five metres by eight 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.

3.3.119 Location 174

1 CDE, not recommended:

Location 174 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.

3.3.120 Location 175

1 PPO, not recommended:

Location 175 is a pre-contact Aboriginal site consisting of a surface find of one isolated stemmed projectile point, its tip, shoulders and stem damaged, manufactured from Haldimand chert (Plate 54:1). The surviving portion of this projectile point measures 40 millimetres long by 25 millimetres wide by 5 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 this 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 54: Location 175 Projectile Point (actual size)

1: Projectile Point

3.3.121 Location 176 (AfGw-249)

1 COR, 16 CDE, recommended:

Location 176 (AfGw-249) is a pre-contact Aboriginal site, approximately 20 metres by 20 metres in size. The site consists of a surface lithic scatter of one multidirectional core, manufactured from Onondaga chert, and 16 Onondaga chert flakes. 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.

3.3.122 Location 177

1 RTF, 1 CDE, not recommended:

Location 177 is a pre-contact Aboriginal site, approximately one metre by two metres in size. The site consists of a surface lithic scatter of one retouched flake, manufactured from Onondaga chert, and one Onondaga chert flake. The retouched flake and chipping detritus were not retained for laboratory analysis at this time. Given that these artifacts are temporally non-diagnostic, the cultural heritage value or interest of this site is low and no further archaeological assessment is recommended.

3.3.123 Location 178

1 CDE, not recommended:

Location 178 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.

3.3.124 Location 179 (AfGw-250)

6 CDE, not recommended:

Location 179 (AfGw-250) is a pre-contact Aboriginal site, approximately six metres by eight 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.

3.3.125 Location 180 (AfGw-251)

8 CDE, not recommended:

Location 180 (AfGw-251) is a pre-contact Aboriginal site, approximately 20 metres by 25 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.

3.3.126 Location 181

1 CDE, not recommended:

Location 181 is a pre-contact Aboriginal site consisting of a surface find of one isolated Haldimand 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.

3.3.127 Location 182

1 CDE, not recommended:

Location 182 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.

3.3.128 Location 183

1 PPO, not recommended:

Location 183 is a pre-contact Aboriginal site consisting of a surface find of one isolated projectile point, missing its tip and one ear with one reworked lateral edge, manufactured from Kettle Point chert (Plate 55:1). The surviving portion of this projectile point measures 38 millimetres long by 21 millimetres wide by 5 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 this 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 55: Location 183 Projectile Point (actual size)

1: Projectile Point

4.0 SUMMARY OF SPRING AND SUMMER 2011 STAGE 2 INVESTIGATIONS

The pre-contact Aboriginal locations documented during the spring and summer 2011 Stage 2 assessment of the study area range in age from the Early Archaic to the Late Woodland. Of the 116 pre-contact Aboriginal locations discovered in spring 2011, 15 can be assigned date ranges. Table 1 presents a summary of site numbers 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	n/a	9000 - 8000 B.C.
Late Palaeo-Indian	n/a	8400 - 8000 B.C.
Early Archaic	2	8000 - 6000 B.C.
Middle Archaic	5	6000 - 2500 B.C.
Middle/Late Archaic	n/a	6000 - 1400 B.C.
Broad Point Late Archaic	n/a	1800 - 1500 B.C.
Broad Point/Small Point Late Archaic	n/a	1800 - 1100 B.C.
Small Point Late Archaic	2	1500 - 1100 B.C.
Terminal Archaic	n/a	1100 – 1000/950 B.C.
Early Woodland	4	1000 - 100 B.C.
Middle Woodland	n/a	400 B.C. - A.D. 500
Late Woodland	2	A.D. 500 - Contact

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

Loc.	Borden No.	Based On	Time Period	Date Range
64	AfGw-190	Adena-like projectile point	Early Woodland	c. 500-100 B.C.
66	AfGw-192	bifurcate base-like projectile point	Early Archaic	c. 8000-6910 B.C.
71	AfGw-196	Meadowood projectile point	Early Woodland	c. 1000-500 B.C.
73	AfGw-198	Ace of Spades projectile point	Late Archaic	c. 1800-1300 B.C.
79	AfGw-200	Ace of Spades projectile point	Late Archaic	c. 1800-1300 B.C.
82	AfGw-202	Brewerton Side-Notched projectile point	Middle Archaic	c. 3780-3200 B.C.
87	AfGw-205	Meadowood projectile point	Early Woodland	c. 1000-500 B.C.

Loc.	Borden No.	Based On	Time Period	Date Range
88	AfGw-206	Nettling projectile point	Early Archaic	c. 8600-8000 B.C.
91	AfGw-208	Brewerton Corner-Notched projectile point	Middle Archaic	c. 3780-3200 B.C.
109	AfGw-211	Jack's Reef Corner-Notched projectile point	Late Woodland	c. A.D. 500-1000
111	AfGw-213	Aboriginal ceramic	Late Woodland	c. A.D. 500-Contact
118	AfGw-216	Otter Creek projectile point	Middle Archaic	c. 4340-3960 B.C.
126	AfGw-222	Brewerton Side-Notched projectile point	Middle Archaic	c. 3780-3200 B.C.
136	AfGx-740	Brewerton Side-Notched projectile point	Middle Archaic	c. 3780-3200 B.C.
149	AfGw-224	Meadowood projectile point	Early Woodland	c. 1000-500 B.C.

5.0 RECOMMENDATIONS AND ADVICE ON COMPLIANCE WITH LEGISLATION

A Stage 1 archaeological background study was previously conducted on behalf of Samsung by Stantec 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 67 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 corridor construction or other infrastructure construction related activities.

During the winter of 2010 and 2011, Stage 2 archaeological assessment of a portion of the proposed project area was undertaken by Golder on behalf of Stantec (Golder 2011). The winter 2010-2011 Stage 2 assessment focused upon the proposed wind turbine and solar lands layout, including turbine sites, collector cable routes, access road corridors, construction roads, transmission lines, laydown areas and substations. A total of approximately 75 hectares was subject to Stage 2 archaeological assessment, consisting of approximately 34 hectares of land that could not be ploughed and, therefore, was assessed using the test pit method at an interval of five metres as well as approximately 40.5 hectares of ploughed fields, assessed using the standard pedestrian survey method at an interval of five metres. The Stage 2 archaeological assessment conducted by Golder in winter 2010-2011 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 in winter 2010-2011 were recommended for Stage 3 assessment to further evaluate their cultural heritage value or interest.

During the spring and summer of 2011, Stage 2 archaeological assessment of the remainder of the portion of the proposed project area to be assessed by Golder Associates Ltd. was undertaken and is the subject of this report (Figure 1). The spring and summer 2011 Stage 2 assessment focused on 22 turbine locations, 25 access road corridors or collector cable routes and three portions of solar panel lands. A total of approximately 160 hectares of ploughed agricultural fields was subject to Stage 2 archaeological assessment using the standard pedestrian survey method at an interval of five metres. Additionally, a small area of approximately 10 metres by 40 metres was assessed using the test pit method at an interval of five metres. The Stage 2 archaeological assessment conducted by Golder in the spring and summer of 2011 resulted in the identification of a further 128 locations, all of which are pre-contact Aboriginal sites. In order to further evaluate their cultural heritage value or interest, 48 of the 128 archaeological locations identified within the study area in the spring and summer of 2011 are recommended for Stage 3 assessment.

Recommendations are made concerning these locations in the subsections below.

5.1 Sites Recommended for Stage 3 Assessment

Table 3 lists the pre-contact Aboriginal sites requiring Stage 3 assessment. Of the 128 pre-contact Aboriginal archaeological locations recorded in the spring and summer of 2011, 48 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 58	AfGw-188	pre-contact Aboriginal	indeterminate
Location 59	AfGw-189	pre-contact Aboriginal	indeterminate
Location 64	AfGw-190	pre-contact Aboriginal	c. 500-100 B.C.
Location 65	AfGw-191	pre-contact Aboriginal	indeterminate
Location 66	AfGw-192	pre-contact Aboriginal	c. 8000-6910 B.C.
Location 68	AfGw-193	pre-contact Aboriginal	indeterminate
Location 69	AfGw-194	pre-contact Aboriginal	indeterminate
Location 70	AfGw-195	pre-contact Aboriginal	indeterminate
Location 71	AfGw-196	pre-contact Aboriginal	c. 1000-500 B.C.
Location 72	AfGw-197	pre-contact Aboriginal	indeterminate
Location 73	AfGw-198	pre-contact Aboriginal	c. 1800-1300 B.C.
Location 78	AfGw-199	pre-contact Aboriginal	indeterminate
Location 79	AfGw-200	pre-contact Aboriginal	c. 1800-1300 B.C.
Location 81	AfGw-201	pre-contact Aboriginal	indeterminate
Location 82	AfGw-202	pre-contact Aboriginal	c. 3780-3200 B.C.
Location 85	AfGw-203	pre-contact Aboriginal	indeterminate
Location 86	AfGw-204	pre-contact Aboriginal	indeterminate
Location 88	AfGw-206	pre-contact Aboriginal	c. 8600-8000 B.C.
Location 89	AfGw-207	pre-contact Aboriginal	indeterminate
Location 91	AfGw-208	pre-contact Aboriginal	c. 3780-3200 B.C.
Location 98	AfGw-226	pre-contact Aboriginal	indeterminate
Location 99	AfGw-227	pre-contact Aboriginal	indeterminate
Location 104	AfGw-209	pre-contact Aboriginal	indeterminate
Location 105	AfGw-210	pre-contact Aboriginal	indeterminate
Location 109	AfGw-211	pre-contact Aboriginal	c. A.D. 500-1000
Location 110	AfGw-212	pre-contact Aboriginal	indeterminate
Location 111	AfGw-213	pre-contact Aboriginal	c. A.D. 500-Contact

Site Name	Borden Number	Cultural Affiliation	Date
Location 114	AfGw-214	pre-contact Aboriginal	indeterminate
Location 115	AfGw-215	pre-contact Aboriginal	indeterminate
Location 118	AfGw-216	pre-contact Aboriginal	c. 4340-3960 B.C.
Location 119	AfGw-217	pre-contact Aboriginal	indeterminate
Location 122	AfGw-218	pre-contact Aboriginal	indeterminate
Location 123	AfGw-219	pre-contact Aboriginal	indeterminate
Location 124	AfGw-220	pre-contact Aboriginal	indeterminate
Location 125	AfGw-221	pre-contact Aboriginal	indeterminate
Location 126	AfGw-222	pre-contact Aboriginal	c. 3780-3200 B.C.
Location 127	AfGw-228	pre-contact Aboriginal	indeterminate
Location 129	AfGw-223	pre-contact Aboriginal	indeterminate
Location 131	AfGx-737	pre-contact Aboriginal	indeterminate
Location 132	AfGx-738	pre-contact Aboriginal	indeterminate
Location 137	AfGx-741	pre-contact Aboriginal	indeterminate
Location 140	AfGx-742	pre-contact Aboriginal	indeterminate
Location 152	AfGw-225	pre-contact Aboriginal	indeterminate
Location 155	AfGw-241	pre-contact Aboriginal	indeterminate
Location 157	AfGw-242	pre-contact Aboriginal	indeterminate
Location 163	AfGw-244	pre-contact Aboriginal	indeterminate
Location 165	AfGw-246	pre-contact Aboriginal	indeterminate
Location 176	AfGw-249	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 128 pre-contact Aboriginal archaeological locations recorded in the spring and summer of 2011, 80 of them have been sufficiently documented and require no further archaeological assessment.

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

Site Name	Borden Number	Cultural Affiliation	Date
Location 56	none	pre-contact Aboriginal	indeterminate
Location 57	none	pre-contact Aboriginal	indeterminate
Location 60	none	pre-contact Aboriginal	indeterminate
Location 61	AfGw-230	pre-contact Aboriginal	indeterminate

Site Name	Borden Number	Cultural Affiliation	Date
Location 62	none	pre-contact Aboriginal	indeterminate
Location 63	none	pre-contact Aboriginal	indeterminate
Location 67	none	pre-contact Aboriginal	indeterminate
Location 74	none	pre-contact Aboriginal	indeterminate
Location 75	none	pre-contact Aboriginal	indeterminate
Location 76	AfGw-231	pre-contact Aboriginal	indeterminate
Location 77	AfGw-232	pre-contact Aboriginal	indeterminate
Location 80	none	pre-contact Aboriginal	indeterminate
Location 83	none	pre-contact Aboriginal	indeterminate
Location 84	none	pre-contact Aboriginal	indeterminate
Location 87	AfGw-205	pre-contact Aboriginal	c. 1000-500 B.C.
Location 90	none	pre-contact Aboriginal	indeterminate
Location 92	none	pre-contact Aboriginal	indeterminate
Location 93	none	pre-contact Aboriginal	indeterminate
Location 94	none	pre-contact Aboriginal	indeterminate
Location 95	none	pre-contact Aboriginal	indeterminate
Location 96	none	pre-contact Aboriginal	indeterminate
Location 97	none	pre-contact Aboriginal	indeterminate
Location 100	none	pre-contact Aboriginal	indeterminate
Location 101	none	pre-contact Aboriginal	indeterminate
Location 102	none	pre-contact Aboriginal	indeterminate
Location 103	none	pre-contact Aboriginal	indeterminate
Location 106	AfGw-233	pre-contact Aboriginal	indeterminate
Location 107	none	pre-contact Aboriginal	indeterminate
Location 108	AfGw-234	pre-contact Aboriginal	indeterminate
Location 112	AfGw-235	pre-contact Aboriginal	indeterminate
Location 113	AfGw-236	pre-contact Aboriginal	indeterminate
Location 116	none	pre-contact Aboriginal	indeterminate
Location 117	none	pre-contact Aboriginal	indeterminate
Location 120	AfGw-237	pre-contact Aboriginal	indeterminate
Location 121	AfGw-238	pre-contact Aboriginal	indeterminate
Location 128	none	pre-contact Aboriginal	indeterminate
Location 130	none	pre-contact Aboriginal	indeterminate
Location 133	none	pre-contact Aboriginal	indeterminate
Location 134	AfGx-739	pre-contact Aboriginal	indeterminate

Site Name	Borden Number	Cultural Affiliation	Date
Location 135	AfGx-854	pre-contact Aboriginal	indeterminate
Location 136	AfGx-740	pre-contact Aboriginal	c. 3780-3200 B.C.
Location 138	AfGx-855	pre-contact Aboriginal	indeterminate
Location 139	none	pre-contact Aboriginal	indeterminate
Location 141	none	pre-contact Aboriginal	indeterminate
Location 142	none	pre-contact Aboriginal	indeterminate
Location 143	none	pre-contact Aboriginal	indeterminate
Location 144	none	pre-contact Aboriginal	indeterminate
Location 145	none	pre-contact Aboriginal	indeterminate
Location 146	none	pre-contact Aboriginal	indeterminate
Location 147	none	pre-contact Aboriginal	indeterminate
Location 148	none	pre-contact Aboriginal	indeterminate
Location 149	AfGw-224	pre-contact Aboriginal	c. 1000-500 B.C.
Location 150	AfGw-239	pre-contact Aboriginal	indeterminate
Location 151	none	pre-contact Aboriginal	indeterminate
Location 153	AfGw-240	pre-contact Aboriginal	indeterminate
Location 154	none	pre-contact Aboriginal	indeterminate
Location 156	none	pre-contact Aboriginal	indeterminate
Location 158	AfGw-243	pre-contact Aboriginal	indeterminate
Location 159	none	pre-contact Aboriginal	indeterminate
Location 160	none	pre-contact Aboriginal	indeterminate
Location 161	none	pre-contact Aboriginal	indeterminate
Location 162	none	pre-contact Aboriginal	indeterminate
Location 164	AfGw-245	pre-contact Aboriginal	indeterminate
Location 166	none	pre-contact Aboriginal	indeterminate
Location 167	none	pre-contact Aboriginal	indeterminate
Location 168	none	pre-contact Aboriginal	indeterminate
Location 169	none	pre-contact Aboriginal	indeterminate
Location 170	none	pre-contact Aboriginal	indeterminate
Location 171	none	pre-contact Aboriginal	indeterminate
Location 172	none	pre-contact Aboriginal	indeterminate
Location 173	AfGw-248	pre-contact Aboriginal	indeterminate
Location 174	none	pre-contact Aboriginal	indeterminate
Location 175	none	pre-contact Aboriginal	indeterminate
Location 177	none	pre-contact Aboriginal	indeterminate

Site Name	Borden Number	Cultural Affiliation	Date
Location 178	none	pre-contact Aboriginal	indeterminate
Location 179	AfGw-250	pre-contact Aboriginal	indeterminate
Location 180	AfGw-251	pre-contact Aboriginal	indeterminate
Location 181	none	pre-contact Aboriginal	indeterminate
Location 182	none	pre-contact Aboriginal	indeterminate
Location 183	none	pre-contact Aboriginal	indeterminate

5.3 Summary

In summary, 48 of the 128 archaeological locations identified within the study area in the spring and summer of 2011 are recommended for Stage 3 assessment since they are judged to be of cultural heritage value or interest requiring further documentation.

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; hence 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 Tourism and 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 it complies with the standards and guidelines that are issued by the Minister, and that the archaeological fieldwork and report recommendations ensure the conservation, protection and preservation of the cultural heritage of Ontario. When all matters relating to archaeological sites within the project area of a development proposal have been addressed to the satisfaction of the Ministry of Tourism and Culture, a letter will be issued by the ministry stating that there are no further concerns with regard to alterations to archaeological sites by the proposed development.

It is an offence under Sections 48 and 69 of the *Ontario Heritage Act* for any party other than a licensed archaeologist to make any alteration to a known archaeological site or to remove any artifact or other physical evidence of past human use or activity from the site, until such time as a licensed archaeologist has completed fieldwork on the site, submitted a report to the Minister stating that the site has no further cultural heritage value or interest, and the report has been filed in the Ontario Public Register of Archaeology Reports referred to in Section 65.1 of the *Ontario Heritage Act*.

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 Section 48(1) of the *Ontario Heritage Act*.

The *Cemeteries Act*, R.S.O. 1990 c. C.4 and the *Funeral, Burial and Cremation Services Act*, 2002, S.O. 2002, c. 33 (when proclaimed in force) require that any person discovering human remains must notify the police or coroner and the Registrar of Cemeteries at the Ministry of Consumer Services.

GOLDER ASSOCIATES LTD.

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ORIGINAL SIGNED

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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 1993 *Archaeological Assessment Technical Guidelines (Stages 1-3 & Reporting Format)*.

APPENDIX A

Aboriginal Engagement

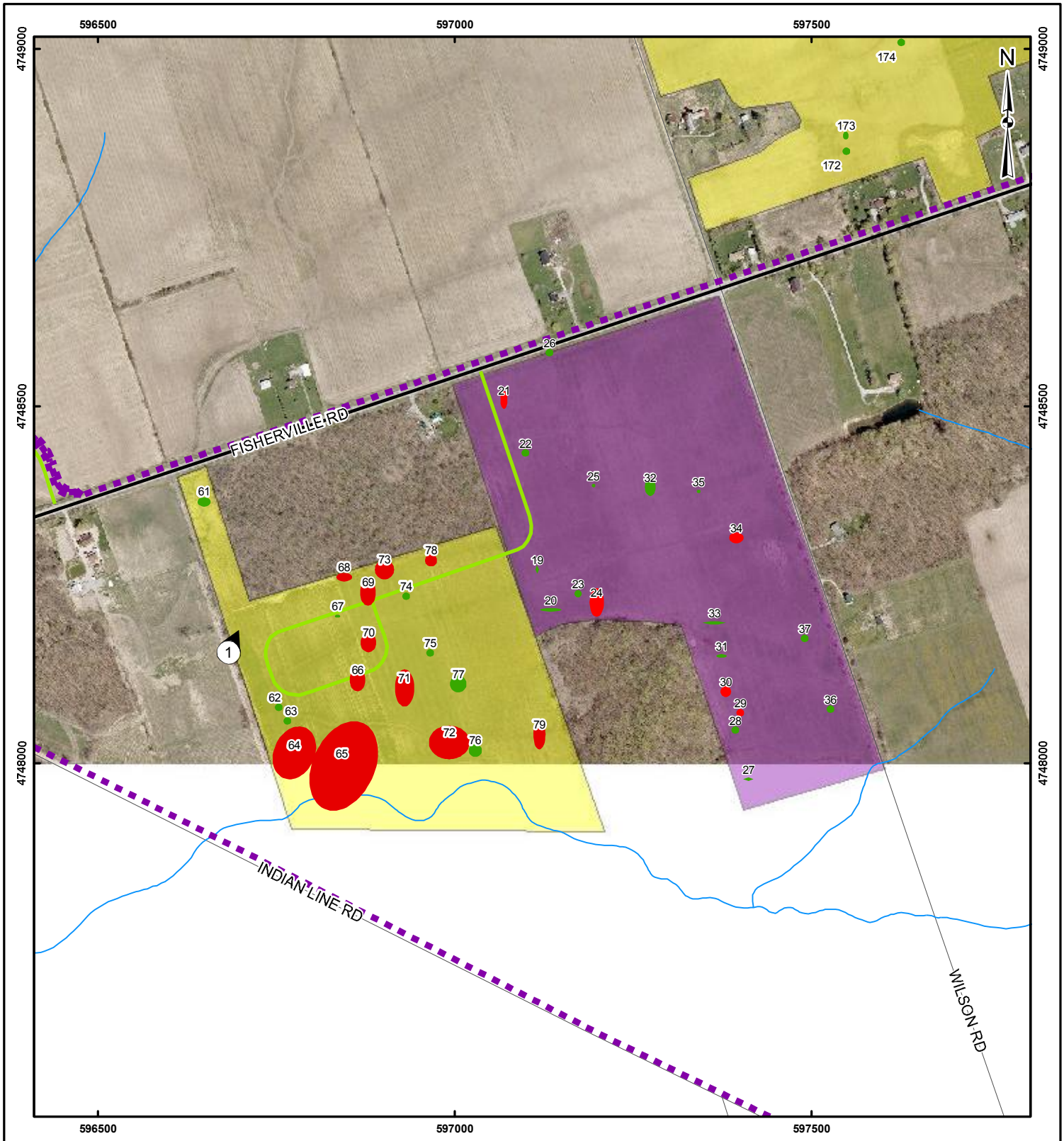
APPENDIX A
ABORIGINAL ENGAGEMENT

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 December 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 and 2011. 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 Haldimand Tract.

Mrs. Silver was present in the field on December 6th and 11th, 2010, June 14th, 2011 and July 6th, 2011. Mr. Silver was present in the field on December 6th, 2010, June 14th, 2011 and July 6th, 2011. 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 the study area.

APPENDIX B

Stage 2 Study Methods and Results



LEGEND

- Turbine
- 8 Plate Number and Direction
- Overhead Cable
- Access Road
- Watercourse
- Archaeological Site (No Stage 3 Required)
- Archaeological Site (Stage 3 Required)
- Stage 2 Completed Winter 2010-2011
- Surveyed Area Spring and Summer 2011 (Pedestrian 5m Intervals)

150 75 0 150

SCALE 1:7,500 METRES

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

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

TITLE
STAGE 2 METHODS AND RESULTS

Golder Associates
Mississauga, Ontario

PROJECT NO. 10-1136-0072		SCALE AS SHOWN	REV. 0.0
DESIGN	AH	12 Jan. 2011	TILE A
GIS	BC	3 May. 2011	
CHECK			
REVIEW			

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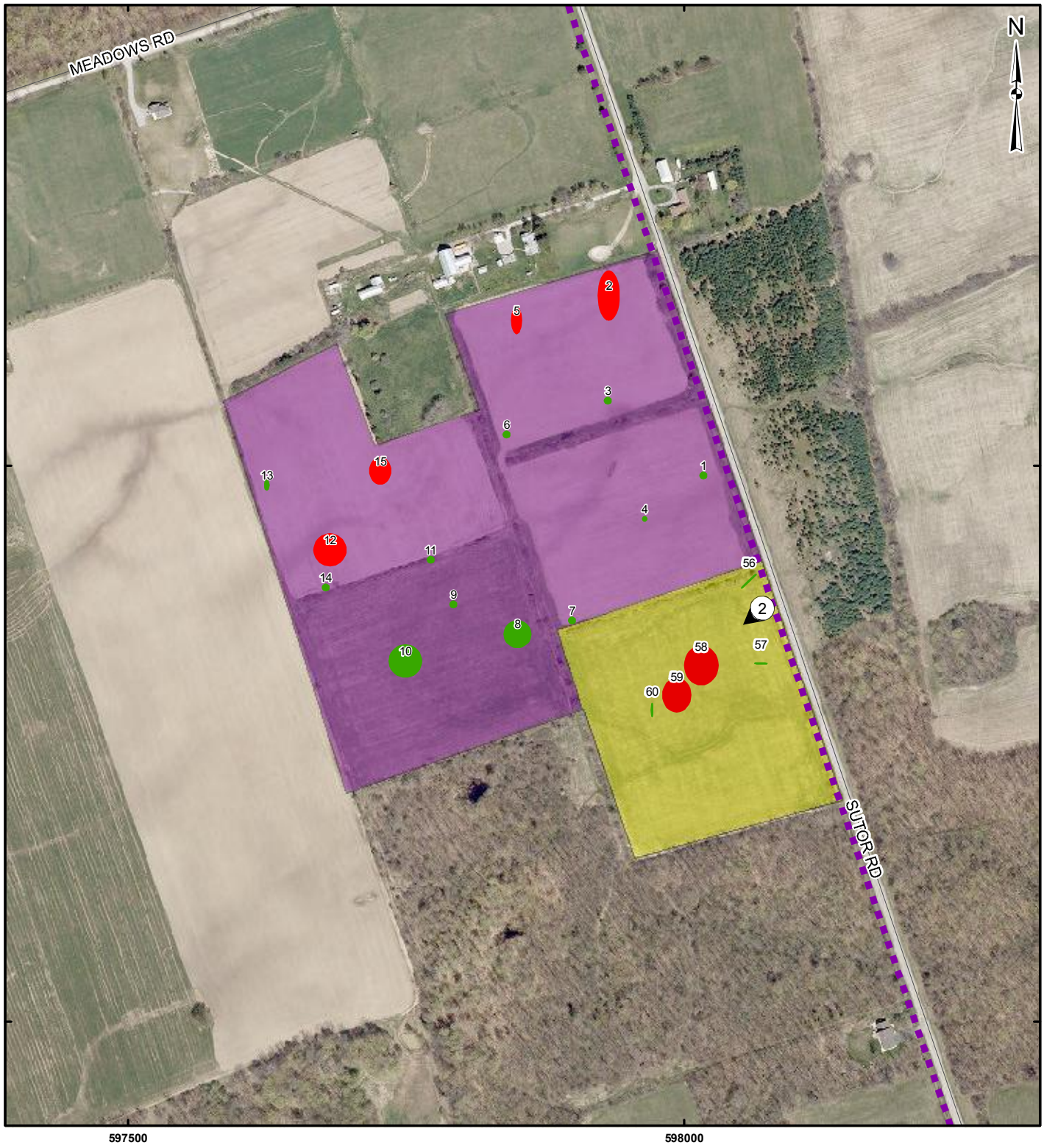

LEGEND

- Turbine
- 8 Plate Number and Direction
- Overhead Cable
- Archaeological Site (No Stage 3 Required)
- Archaeological Site (Stage 3 Required)
- Stage 2 Completed Winter 2010-2011
- Surveyed Area Spring and Summer 2011 (Pedestrian 5m Intervals)

150 75 0 150

SCALE 1:5,000 METRES

REFERENCE

Base Data - MNR NRVIS, obtained 2004, CANMAP v2006.4
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PROJECT
STAGE 2 ARCHAEOLOGICAL ASSESSMENT
GRAND RENEWABLE ENERGY PARK
HALDIMAND COUNTY, ONTARIO

TITLE
STAGE 2 METHODS AND RESULTS

Golder Associates
Mississauga, Ontario

PROJECT NO. 10-1136-0072			SCALE AS SHOWN	REV. 0.0
DESIGN	AH	12 Jan. 2011	TILE B	
GIS	BC	3 May. 2011		
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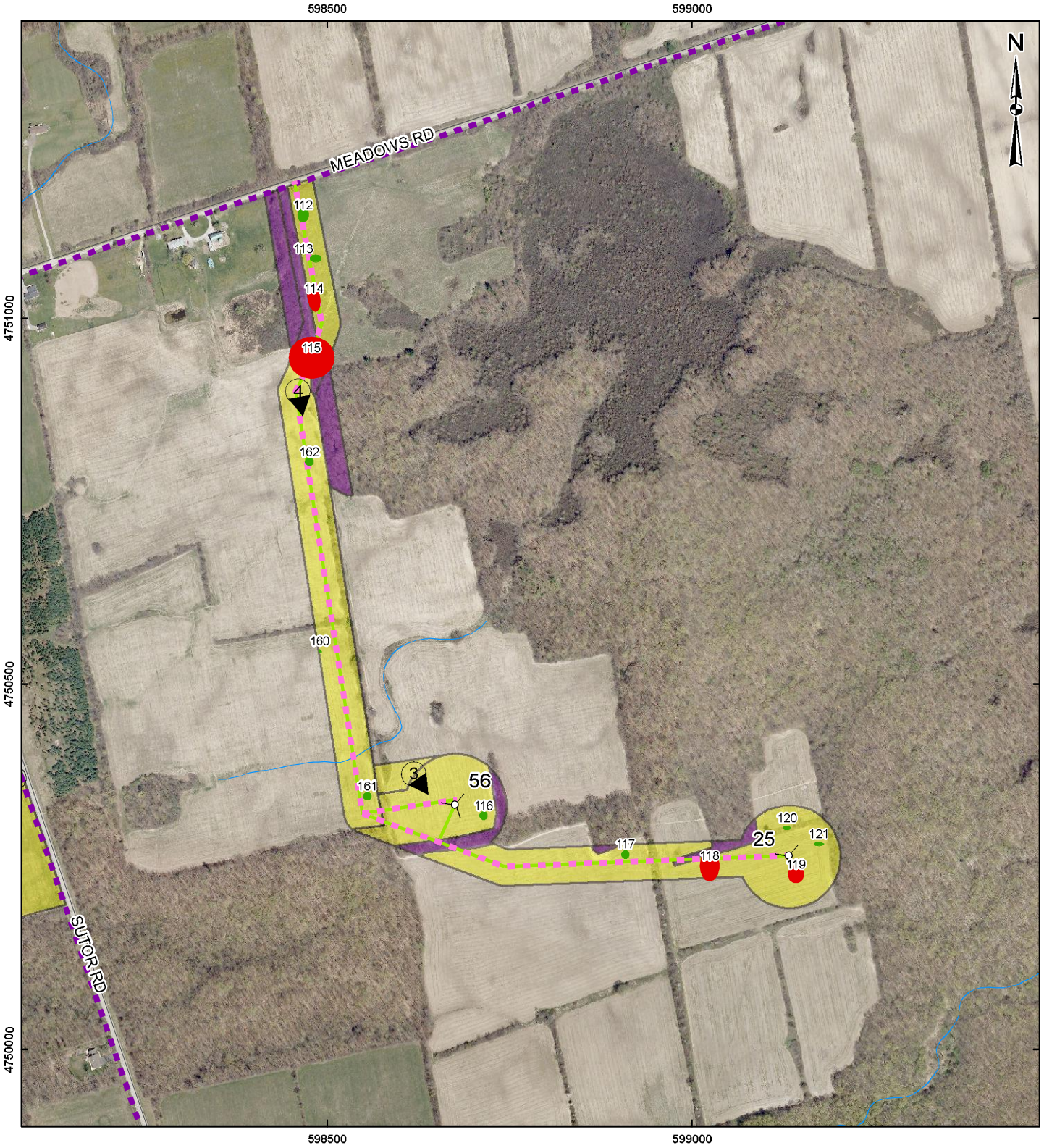

LEGEND

- Turbine
- Plate Number and Direction
- Underground Cable
- Overhead Cable
- Access Road
- Watercourse
- Archaeological Site (No Stage 3 Required)
- Archaeological Site (Stage 3 Required)
- Stage 2 Completed Winter 2010-2011
- Surveyed Area Spring and Summer 2011 (Pedestrian 5m Intervals)

REFERENCE

Base Data - MNR NRVIS, obtained 2004, CANMAP v2006.4
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150 75 0 150
SCALE 1:7,500 METRES

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

TITLE
STAGE 2 METHODS AND RESULTS

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PROJECT NO. 10-1136-0072	SCALE AS SHOWN	REV. 0.0
DESIGN AH	12 Jan. 2011	
GIS BC	3 May. 2011	
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TILE C

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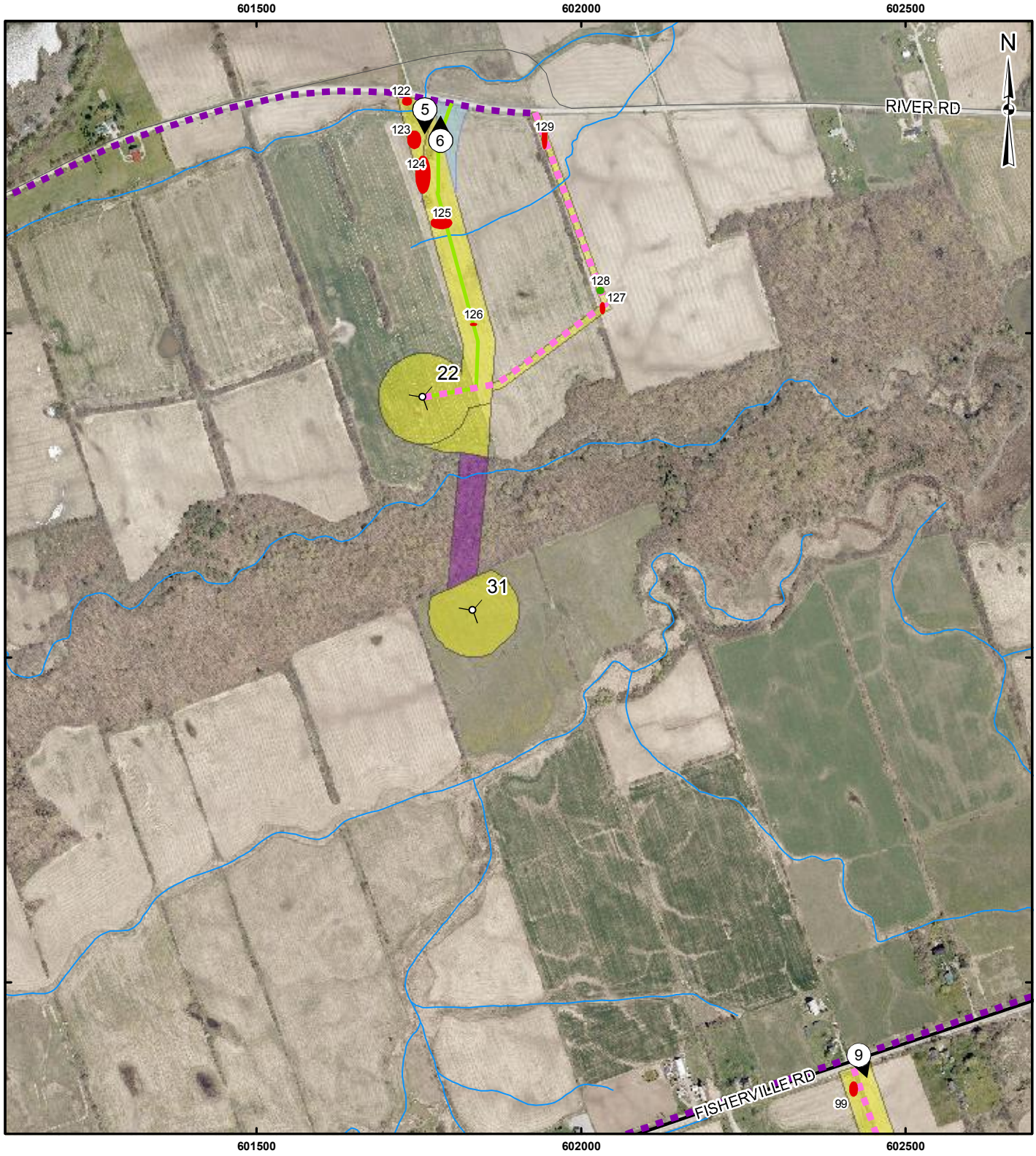

LEGEND

- Turbine
- 8 Plate Number and Direction
- Archaeological Site (No Stage 3 Required)
- Archaeological Site (Stage 3 Required)
- Stage 2 Completed Winter 2010-2011
- Surveyed Area Spring and Summer 2011 (Pedestrian 5m Intervals)
- Poorly Drained Area
- Underground Cable
- Overhead Cable
- Access Road
- Watercourse

REFERENCE

Base Data - MNR NRVIS, obtained 2004, CANMAP v2006.4
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150 75 0 150
SCALE 1:8,500 METRES

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TITLE
STAGE 2 METHODS AND RESULTS

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PROJECT NO. 10-1136-0072			SCALE AS SHOWN	REV. 0.0
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GIS	BC	3 May. 2011		
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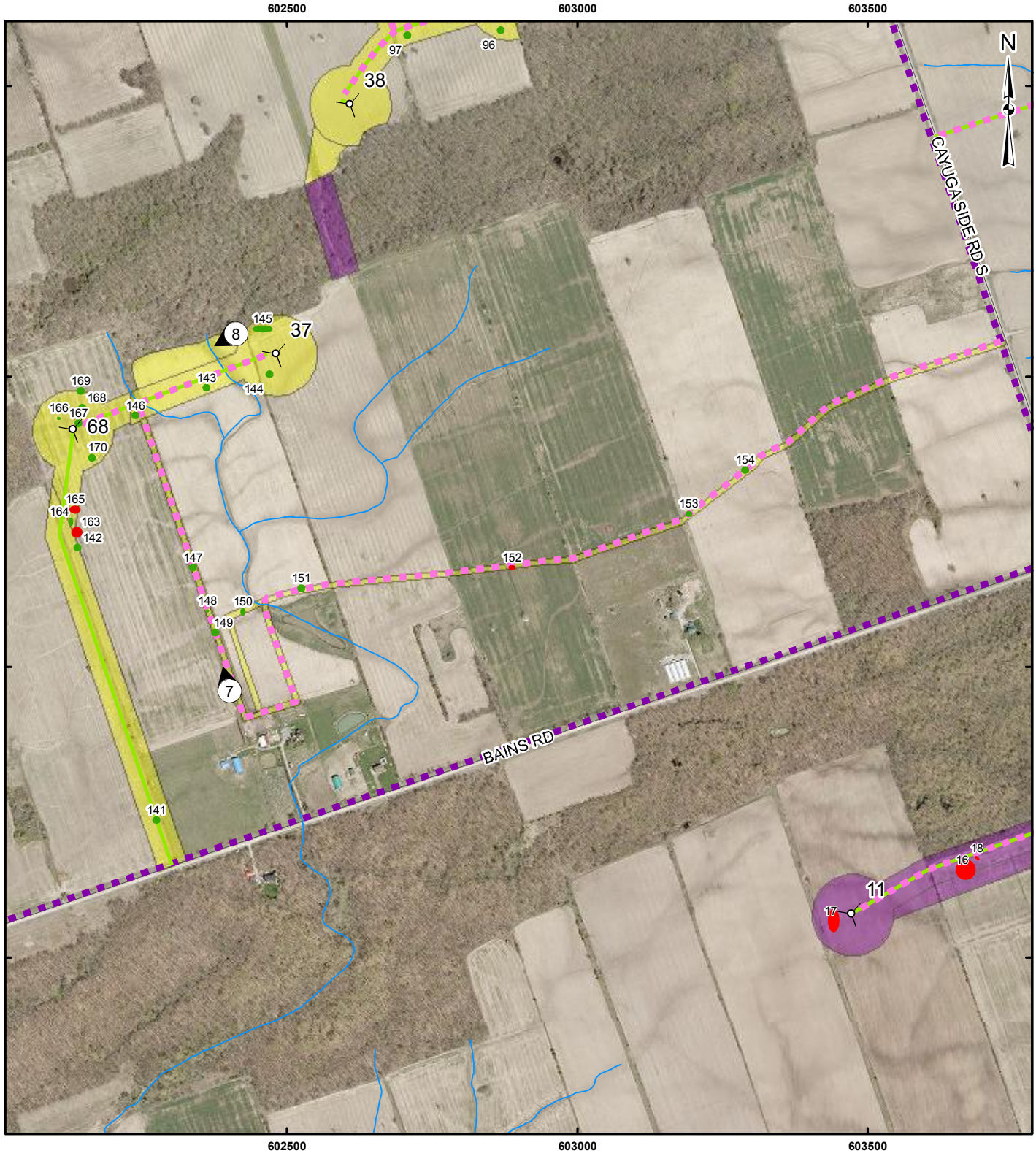

LEGEND

- Turbine
- 8 — Plate Number and Direction
- Underground Cable
- Overhead Cable
- Access Road
- Watercourse
- Archaeological Site (No Stage 3 Required)
- Archaeological Site (Stage 3 Required)
- Stage 2 Completed Winter 2010-2011
- Surveyed Area Spring and Summer 2011 (Pedestrian 5m Intervals)

250 125 0 250

SCALE 1:9,500 METRES

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	BC	3 May. 2011		
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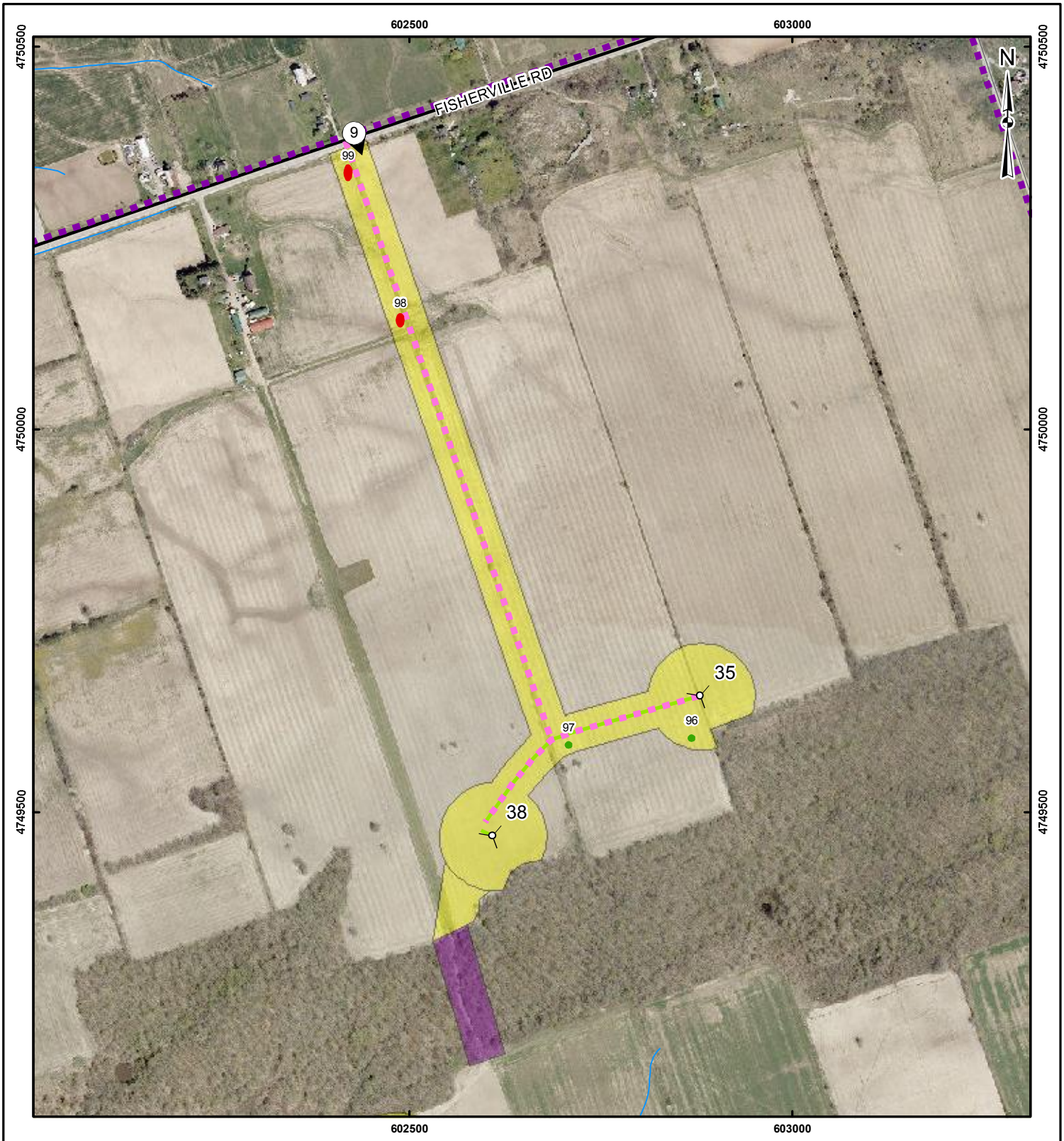

LEGEND

- Turbine
- 8 Plate Number and Direction
- Archaeological Site (No Stage 3 Required)
- Archaeological Site (Stage 3 Required)
- Surveyed Area Spring and Summer 2011 (Pedestrian 5m Intervals)
- Stage 2 Completed Winter 2010-2011
- Underground Cable
- Overhead Cable
- Access Road
- Watercourse

REFERENCE

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150 75 0 150
SCALE 1:7,000 METRES

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STAGE 2 ARCHAEOLOGICAL ASSESSMENT
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HALDIMAND COUNTY, ONTARIO

TITLE
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GIS	BC	3 May. 2011		
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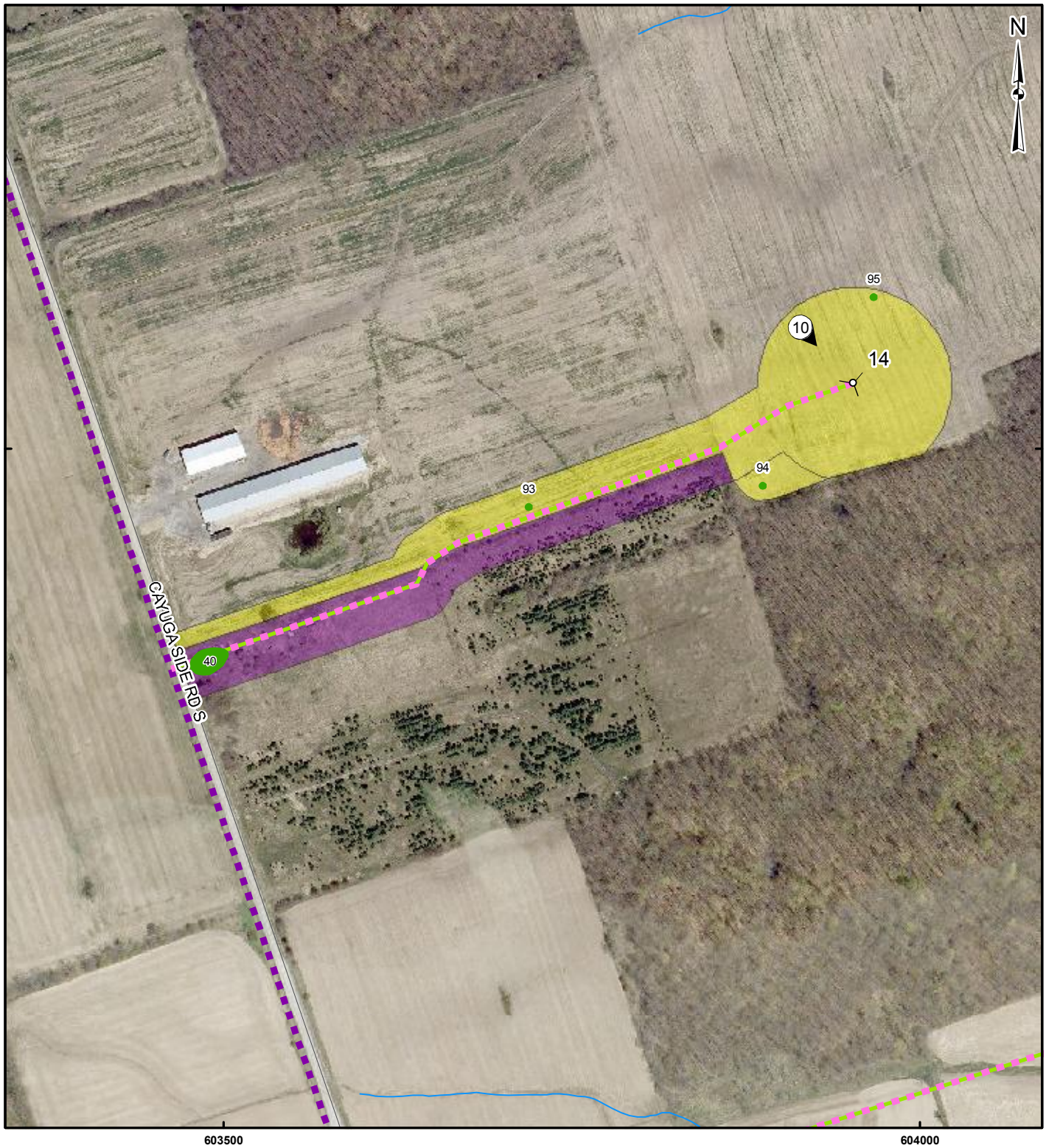

LEGEND

- Turbine
- 8 Plate Number and Direction
- Archaeological Site (No Stage 3 Required)
- Stage 2 Completed Winter 2010-2011
- Surveyed Area Spring and Summer 2011 (Pedestrian 5m Intervals)
- Underground Cable
- Overhead Cable
- Access Road
- Watercourse

REFERENCE

Base Data - MNR NRVIS, obtained 2004, CANMAP v2006.4
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150 75 0 150

SCALE 1:4,000 METRES

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TITLE

STAGE 2 METHODS AND RESULTS

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GIS	BC	3 May. 2011	
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LEGEND

- Turbine
- 8 Plate Number and Direction
- Archaeological Site (No Stage 3 Required)
- Archaeological Site (Stage 3 Required)
- Stage 2 Completed Winter 2010-2011
- Surveyed Area Spring and Summer 2011 (Pedestrian 5m Intervals)
- Underground Cable
- Overhead Cable
- Access Road
- Watercourse

REFERENCE

Base Data - MNR NRVIS, obtained 2004, CANMAP v2006.4
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150 75 0 150
SCALE 1:6,500 METRES

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

TITLE
STAGE 2 METHODS AND RESULTS

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PROJECT NO. 10-1136-0072		SCALE AS SHOWN	REV. 0.0
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GIS	BC	3 May. 2011	
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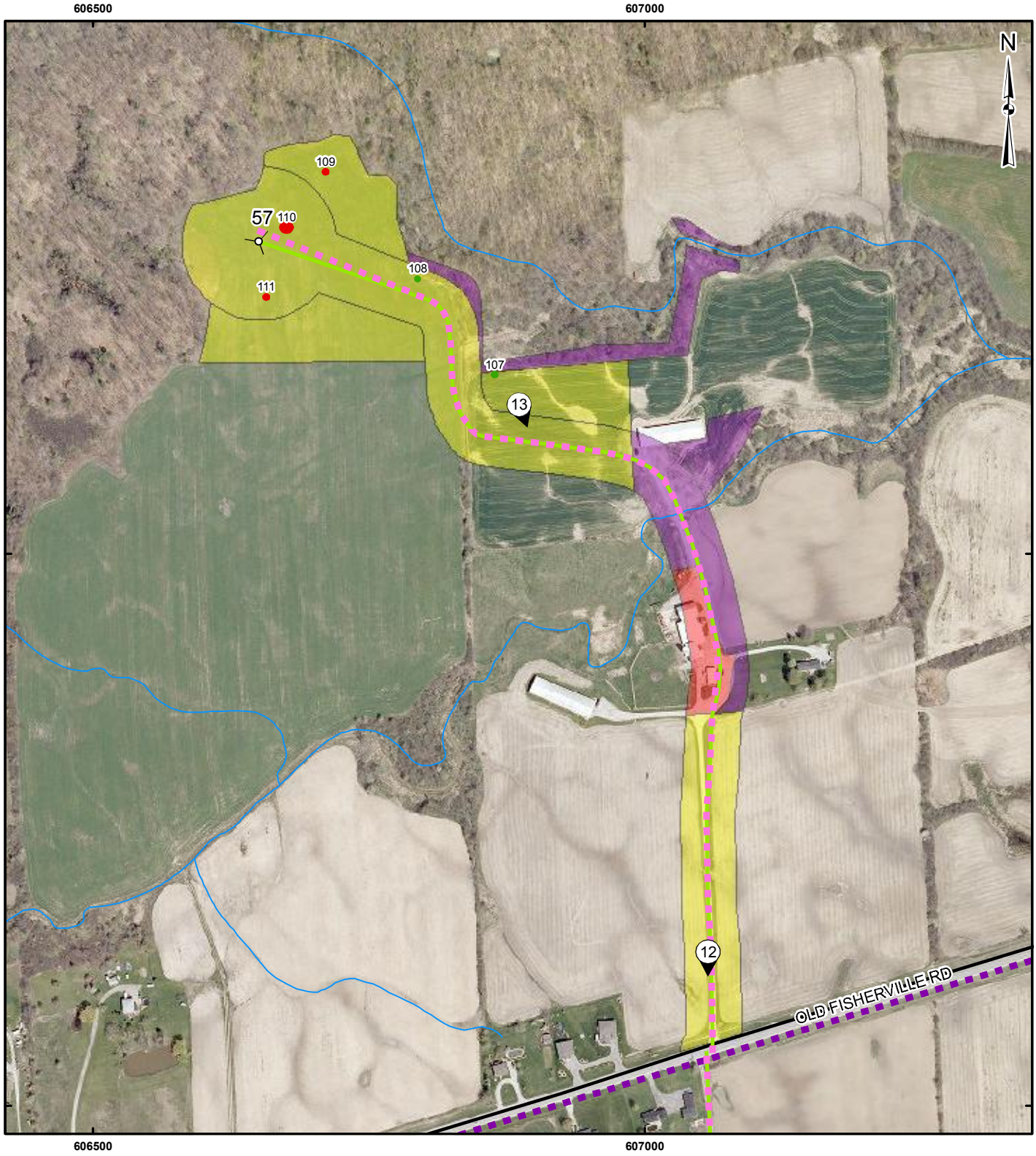

LEGEND

- Turbine
- 8 Plate Number and Direction
- Archaeological Site (No Stage 3 Required)
- Archaeological Site (Stage 3 Required)
- Stage 2 Completed Winter 2010-2011
- Surveyed Area Spring and Summer 2011 (Pedestrian 5m Intervals)
- Disturbed Area
- Underground Cable
- Overhead Cable
- Access Road
- Watercourse

150 75 0 150

SCALE 1:5,000 METRES

PROJECT

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

TITLE

STAGE 2 METHODS AND RESULTS

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GIS	BC	3 May. 2011		
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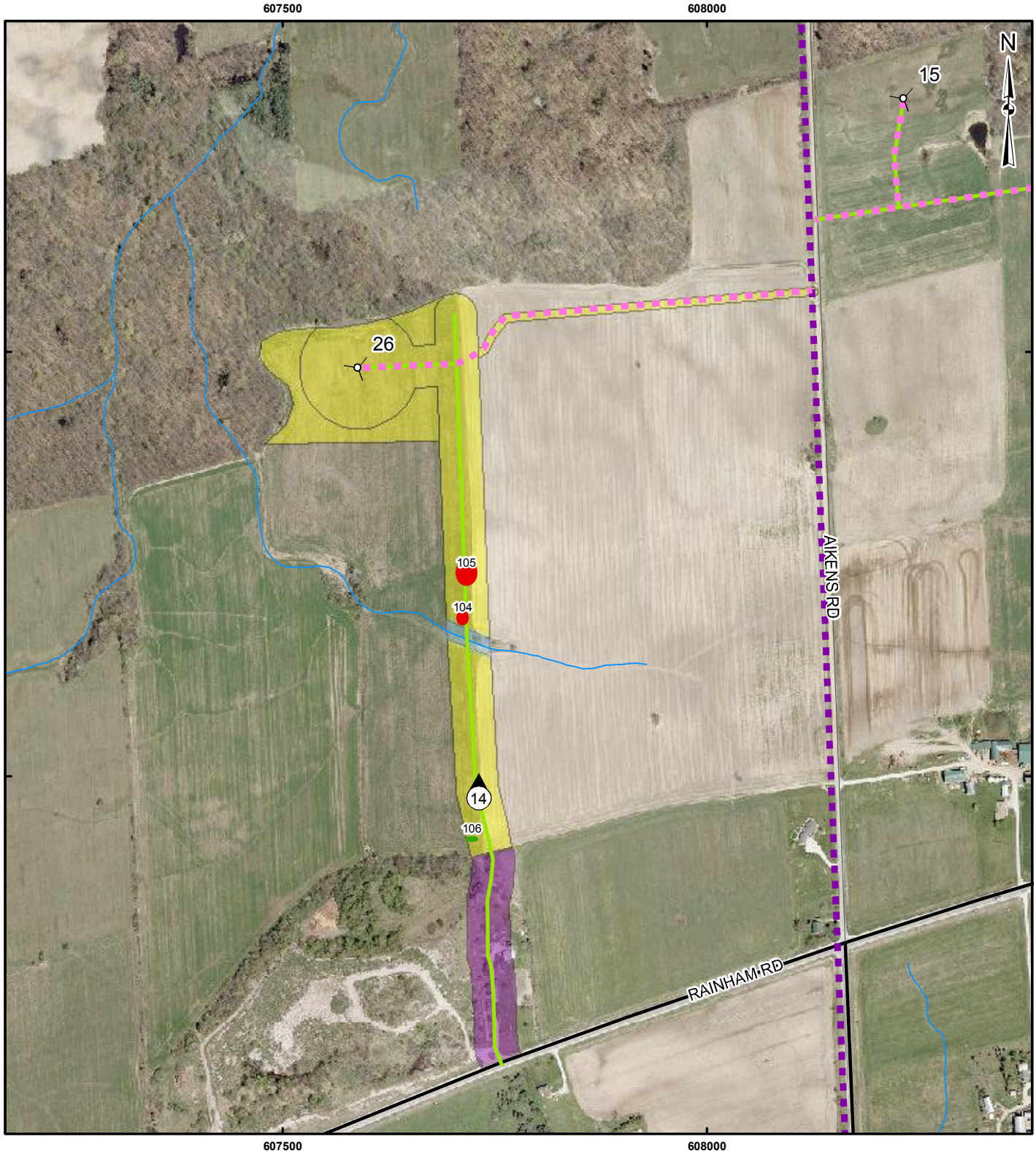

LEGEND

- Turbine
- 8 Plate Number and Direction
- Underground Cable
- Overhead Cable
- Access Road
- Watercourse
- Archaeological Site (No Stage 3 Required)
- Archaeological Site (Stage 3 Required)
- Stage 2 Completed Winter 2010-2011
- Surveyed Area Spring and Summer 2011 (Pedestrian 5m Intervals)
- Poorly Drained Area

REFERENCE

Base Data - MNR NRVIS, obtained 2004, CANMAP v2006.4
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150 75 0 150
SCALE 1:6,500 METRES

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

TITLE
STAGE 2 METHODS AND RESULTS

Golder Associates
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PROJECT NO. 10-1136-0072			SCALE AS SHOWN	REV. 0.0
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GIS	BC	3 May. 2011		
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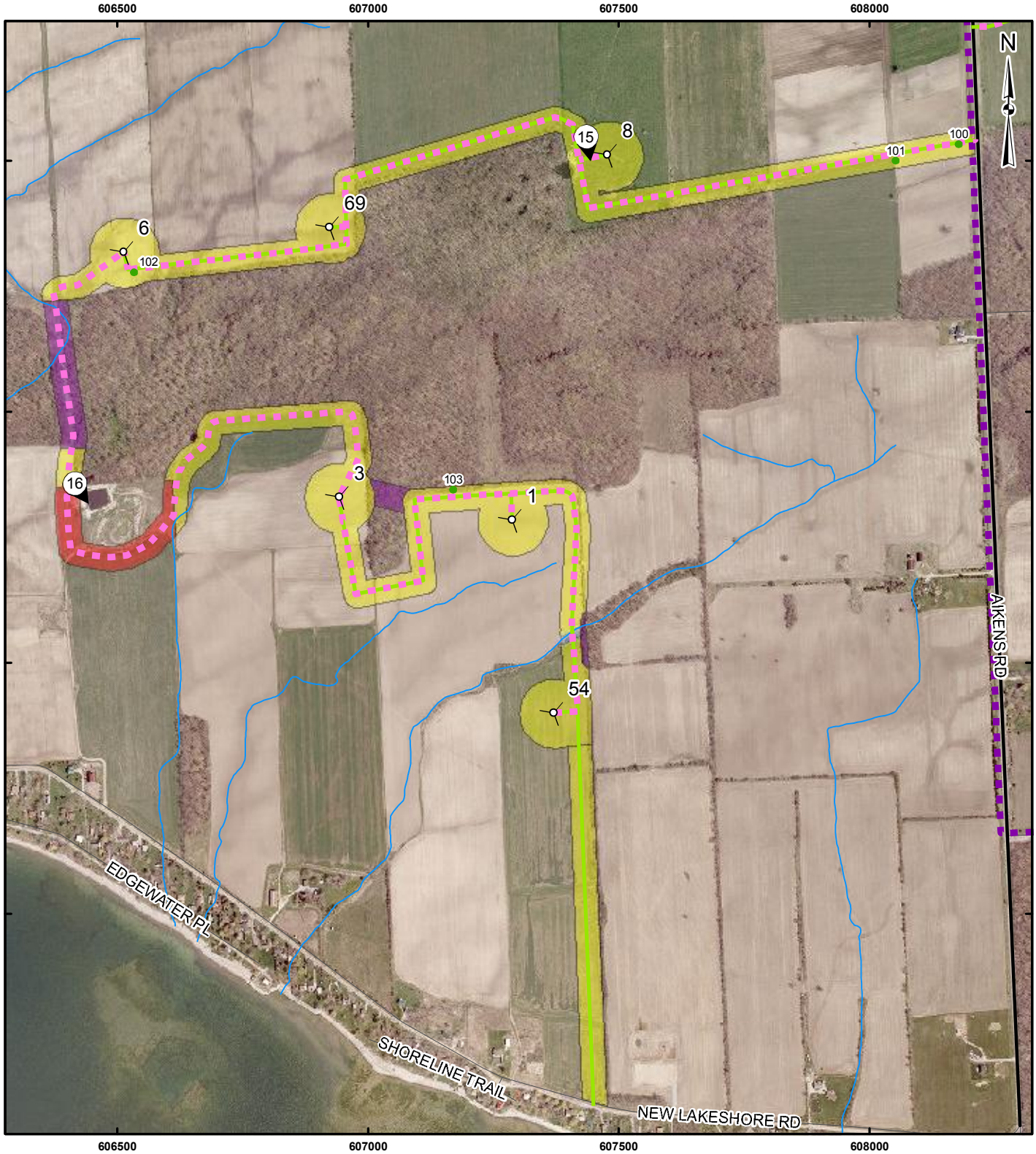

LEGEND

- Turbine
- 8 Plate Number and Direction
- Underground Cable
- Overhead Cable
- Access Road
- Watercourse
- Archaeological Site (No Stage 3 Required)
- Stage 2 Completed Winter 2010-2011
- Surveyed Area Spring and Summer 2011 (Pedestrian 5m Intervals)
- Disturbed Area
- Poorly Drained Area

REFERENCE

Base Data - MNR NRVIS, obtained 2004, CANMAP v2006.4
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250 125 0 250
SCALE 1:11,000 METRES

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

TITLE
STAGE 2 METHODS AND RESULTS

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PROJECT NO. 10-1136-0072			SCALE AS SHOWN	REV. 0.0
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GIS	BC	3 May. 2011		
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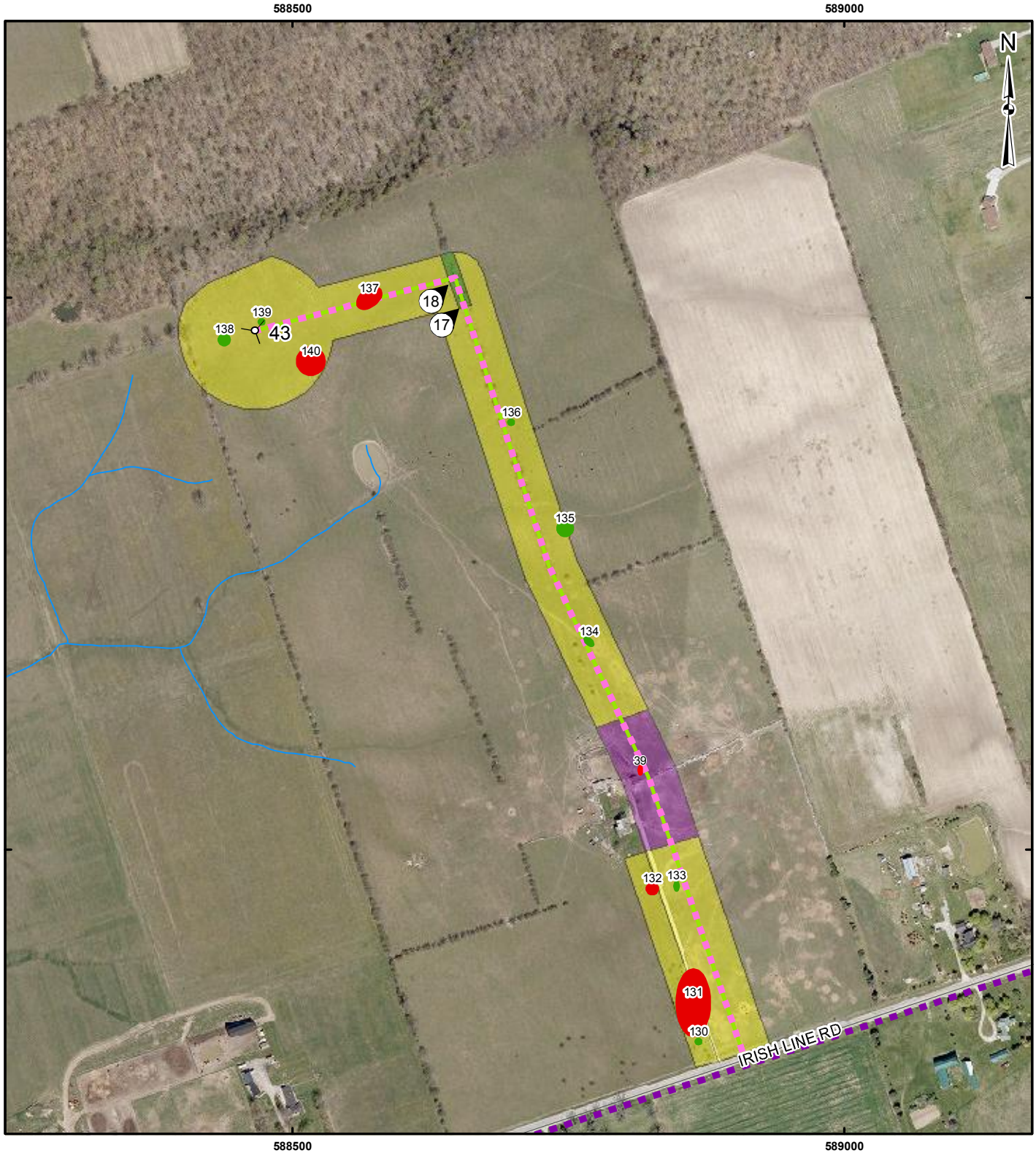

LEGEND

- Turbine
- 8 Plate Number and Direction
- Underground Cable
- Overhead Cable
- Access Road
- Watercourse
- Archaeological Site (No Stage 3 Required)
- Archaeological Site (Stage 3 Required)
- Stage 2 Completed Winter 2010-2011
- Surveyed Area Spring and Summer 2011 (Pedestrian 5m Intervals)
- Surveyed Area Spring 2011 (Test Pitted 5m Intervals)

150 75 0 150

SCALE 1:5,000 METRES

PROJECT

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	3 May. 2011		
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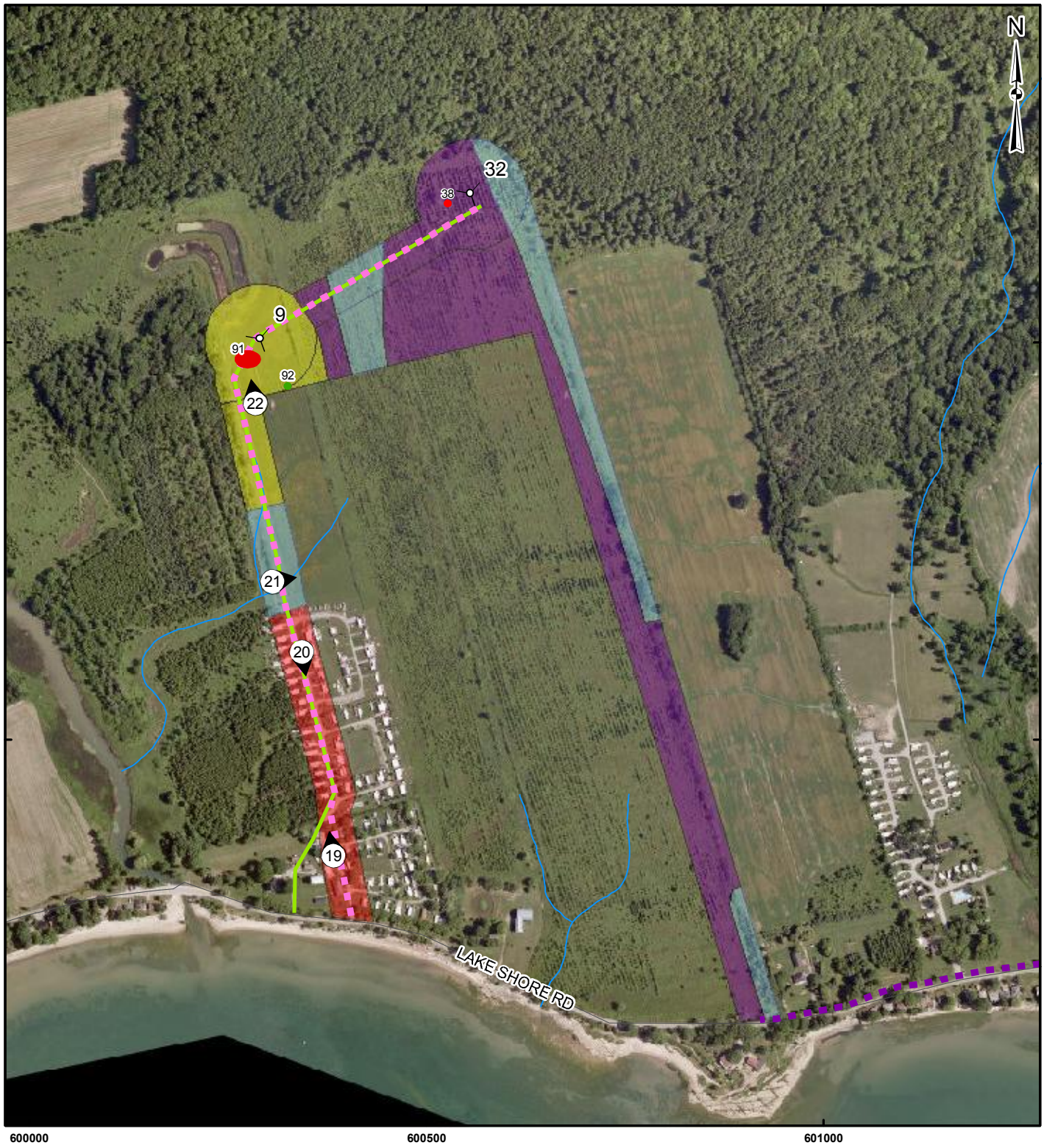

LEGEND

- Turbine
- 8 Plate Number and Direction
- Underground Cable
- Overhead Cable
- Access Road
- Watercourse
- Archaeological Site (No Stage 3 Required)
- Archaeological Site (Stage 3 Required)
- Stage 2 Completed Winter 2010-2011
- Surveyed Area Spring and Summer 2011 (Pedestrian 5m Intervals)
- Poorly Drained Area
- Disturbed Area

REFERENCE

Base Data - MNR NRVIS, obtained 2004, CANMAP v2006.4
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150 75 0 150
SCALE 1:7,000 METRES

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STAGE 2 ARCHAEOLOGICAL ASSESSMENT
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HALDIMAND COUNTY, ONTARIO

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PROJECT NO. 10-1136-0072			SCALE AS SHOWN	REV. 0.0
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GIS	BC	3 May. 2011		
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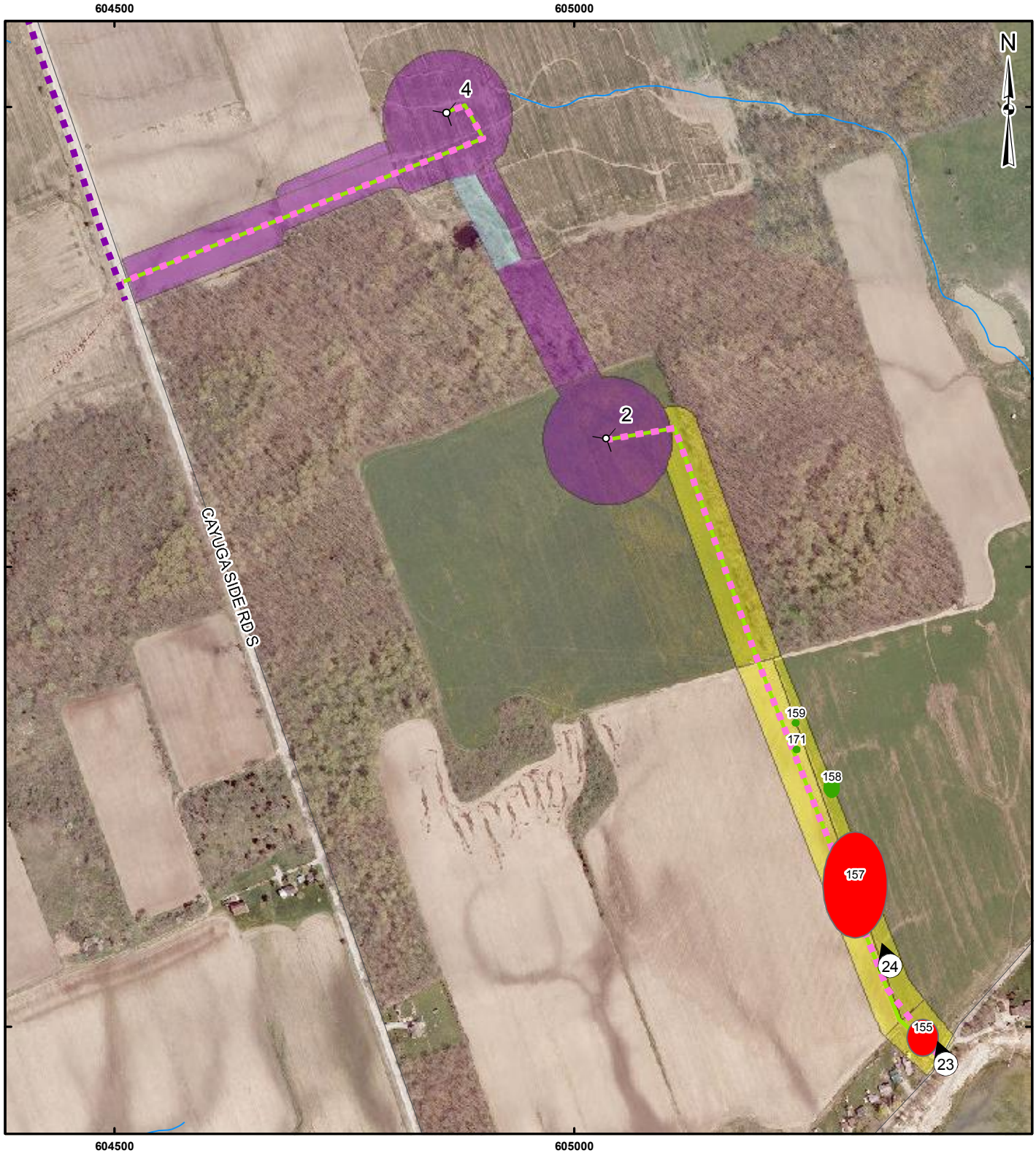

LEGEND

- Turbine
- 8 Plate Number and Direction
- Archaeological Site (No Stage 3 Required)
- Archaeological Site (Stage 3 Required)
- Stage 2 Completed Winter 2010-2011
- Surveyed Area Spring and Summer 2011 (Pedestrian 5m Intervals)
- Poorly Drained Area
- Underground Cable
- Overhead Cable
- Access Road
- Watercourse

REFERENCE

Base Data - MNR NRVIS, obtained 2004, CANMAP v2006.4
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150 75 0 150
SCALE 1:6,000 METRES

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GRAND RENEWABLE ENERGY PARK
HALDIMAND COUNTY, ONTARIO

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STAGE 2 METHODS AND RESULTS

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PROJECT NO. 10-1136-0072			SCALE AS SHOWN	REV. 0.0
DESIGN	AH	12 Jan. 2011	TILE N	
GIS	BC	3 May. 2011		
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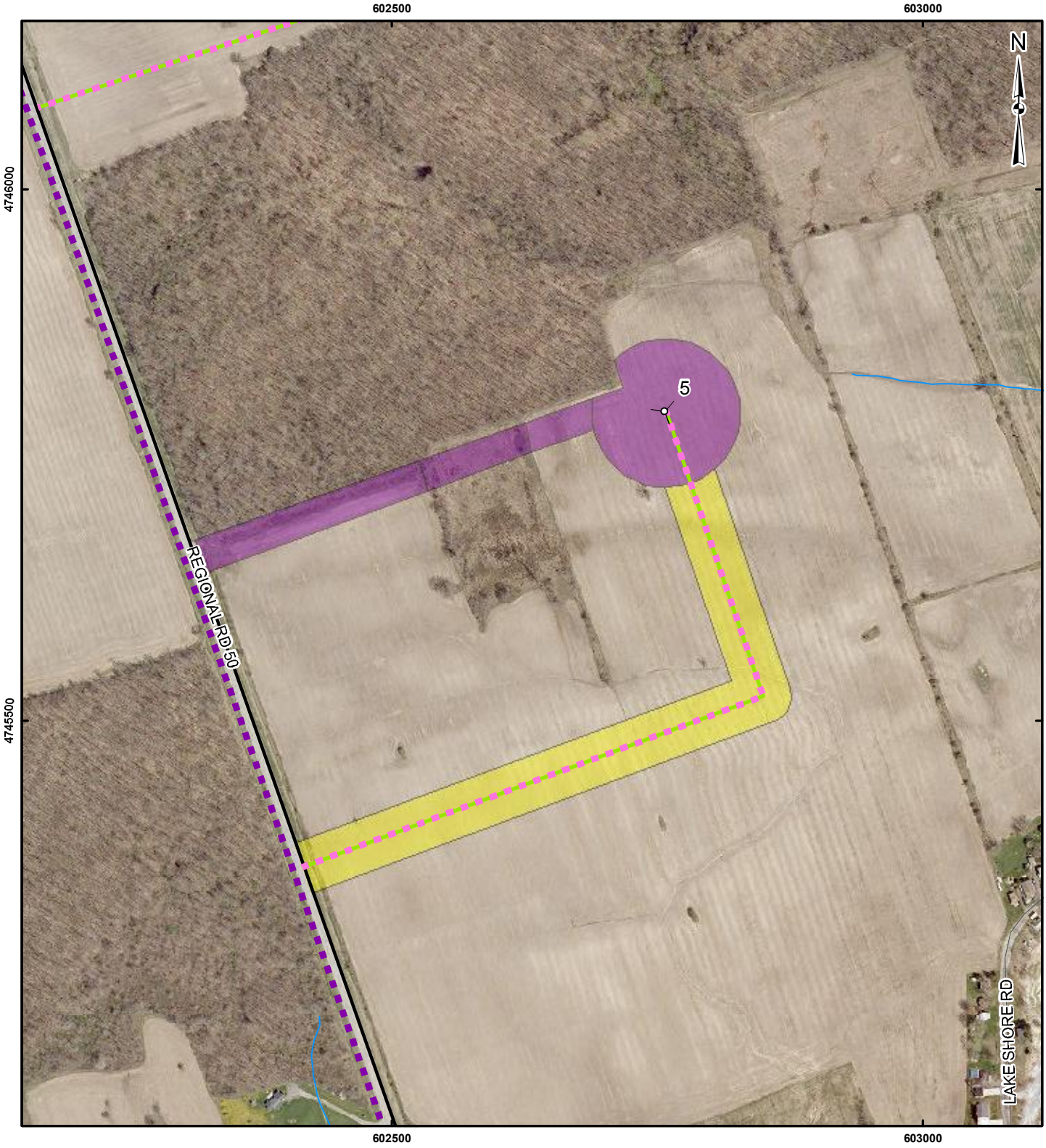

LEGEND

- Turbine
- Stage 2 Completed Winter 2010-2011
- Surveyed Area Spring and Summer 2011 (Pedestrian 5m Intervals)
- 8 Plate Number and Direction
- Underground Cable
- Overhead Cable
- Access Road
- Watercourse

REFERENCE

Base Data - MNR NRVIS, obtained 2004, CANMAP v2006.4
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150 75 0 150
SCALE 1:5,160 METRES

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

TITLE
STAGE 2 METHODS AND RESULTS

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PROJECT NO. 10-1136-0072		SCALE AS SHOWN	REV. 0.0
DESIGN	AH	12 Jan. 2011	TILE O
GIS	BC	3 May. 2011	
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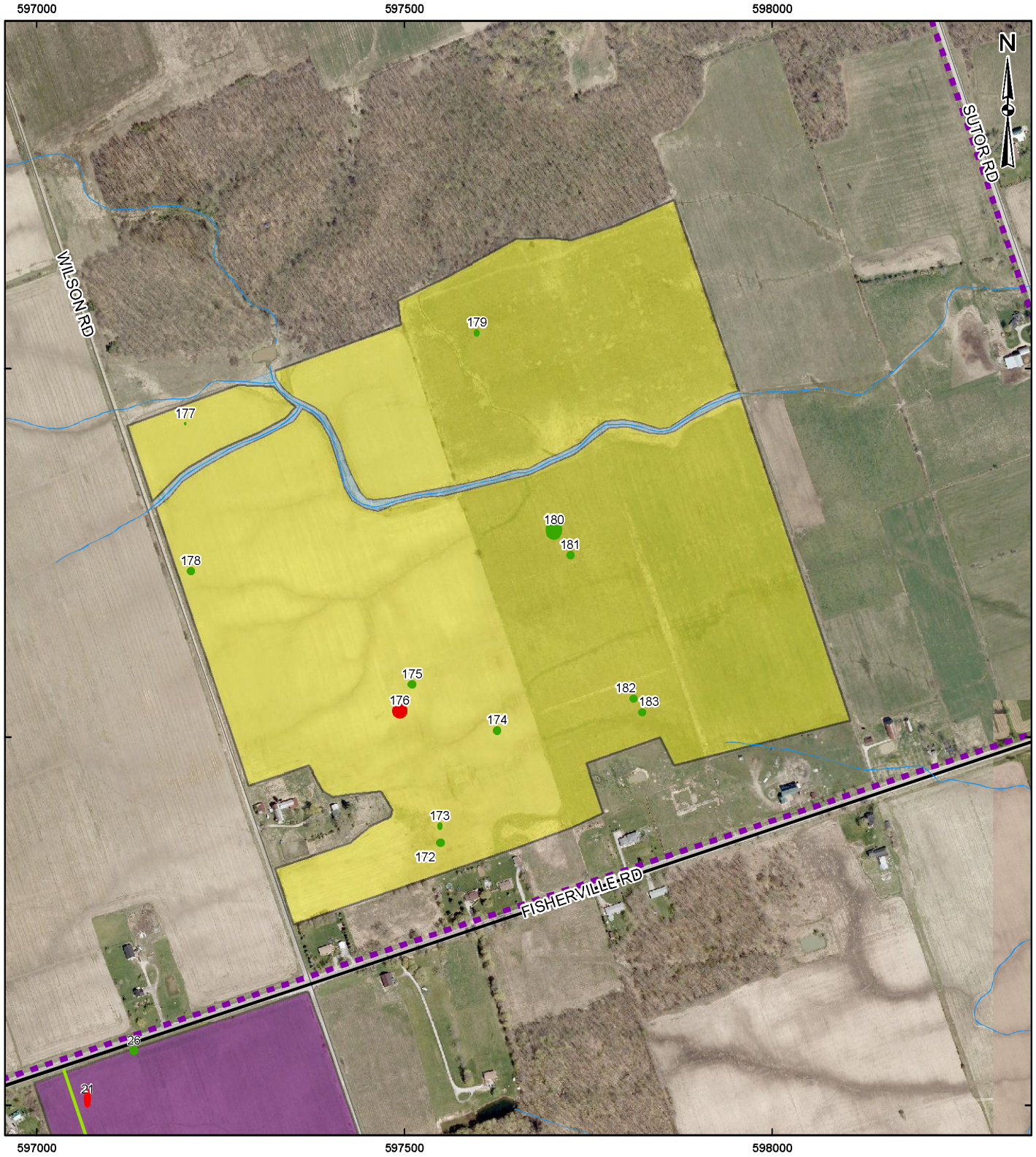

LEGEND

- Turbine
- Plate Number and Direction
- Overhead Cable
- Access Road
- Watercourse
- Archaeological Site (No Stage 3 Required)
- Archaeological Site (Stage 3 Required)
- Stage 2 Completed Winter 2010-2011
- Surveyed Area Spring and Summer 2011 (Pedestrian 5m Intervals)
- Poorly Drained Areas

150 75 0 150

SCALE 1:7,500 METRES

PROJECT

STAGE 2 ARCHAEOLOGICAL ASSESSMENT
GRAND RENEWABLE ENERGY PARK
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DESIGN	AH	12 Jan. 2011	TILE P
GIS	BC	3 May. 2011	
CHECK			
REVIEW			

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APPENDIX C

Complete Stage 2 Catalogue

Location 64 (AfGw-190)	Cat. No.	Context	Artifact(s)	Freq.	Comments
	1	surface	PPO	1	Onondaga; Adena-like
	2	surface	SCR	1	Dundee; end

Location 65 (AfGw-191)	Cat. No.	Context	Artifact(s)	Freq.	Comments
	1	surface	BIF	1	Onondaga; stemmed lanceolate; reworked

Location 66 (AfGw-192)	Cat. No.	Context	Artifact(s)	Freq.	Comments
	1	surface	PPO	1	Onondaga; side-notched; base
	2	surface	PPO	1	Onondaga; bifurcate base-like; base; one tang edge damaged
	3	surface	PPO	1	Dundee; corner-notched; stem missing; tip damaged

Location 71 (AfGw-196)	Cat. No.	Context	Artifact(s)	Freq.	Comments
	1	surface	PPO	1	Onondaga; Meadowood; reworked

Location 73 (AfGw-198)	Cat. No.	Context	Artifact(s)	Freq.	Comments
	1	surface	PPO	1	Onondaga; Ace of Spades; possible knife

Location 79 (AfGw-200)	Cat. No.	Context	Artifact(s)	Freq.	Comments
	1	surface	PPO	1	Onondaga; Ace of Spades; base
	2	surface	PPO	1	Onondaga; corner-notched; tip and one tang edge missing

Location 82 (AfGw-202)	Cat. No.	Context	Artifact(s)	Freq.	Comments
	1	surface	PPO	1	Onondaga; Brewerton Side-Notched; tip damaged; one barb damaged

Location 87 (AfGw-205)	Cat. No.	Context	Artifact(s)	Freq.	Comments
	1	surface	PPO	1	Onondaga; Meadowood; midshaft

Location 88 (AfGw-206)	Cat. No.	Context	Artifact(s)	Freq.	Comments
	1	surface	PPO	1	Haldimand; Nettling

Location 91 (AfGw-208)	Cat. No.	Context	Artifact(s)	Freq.	Comments
	1	surface	PPO	1	Onondaga; Brewerton Corner-Notched
	2	surface	BIF	1	Onondaga; fragment; radial fracture; burnt; possible ritual kill

Location 94	Cat. No.	Context	Artifact(s)	Freq.	Comments
	1	surface	PPO	1	Onondaga; stem and tip missing

Location 96	Cat. No.	Context	Artifact(s)	Freq.	Comments
	1	surface	PPO	1	Onondaga; mid-shaft

Location 97	Cat. No.	Context	Artifact(s)	Freq.	Comments
	1	surface	PPO	1	Onondaga; stem missing

Location 98 (AfGw-226)	Cat. No.	Context	Artifact(s)	Freq.	Comments
	1	surface	BIF	1	Haldimand; stemmed; base damaged; reused as side scraper

Location 103	Cat. No.	Context	Artifact(s)	Freq.	Comments
	1	surface	PPO	1	Haldimand; corner-notched; stem missing

Location 109 (AfGw-211)	Cat. No.	Context	Artifact(s)	Freq.	Comments
	1	surface	PPO	1	Kettle Point; Jack's Reef Corner-Notched; tip and one tang edge missing

Location 111 (AfGw-213)	Cat. No.	Context	Artifact(s)	Freq.	Comments
	1	surface	FSH	1	Aboriginal ceramic; surface treatment obliterated

Location 115 (AfGw-215)	Cat. No.	Context	Artifact(s)	Freq.	Comments
	1	surface	SCR	1	end; lateral edges also retouched
	2	surface	SCR	1	side

Location 118 (AfGw-216)	Cat. No.	Context	Artifact(s)	Freq.	Comments
	1	surface	PPO	1	Onondaga; Otter Creek; one lateral edge and tang edge missing

Location 123 (AfGw-219)	Cat. No.	Context	Artifact(s)	Freq.	Comments
	1	surface	PPP	1	Onondaga; side-notched; stem damaged

Location 124 (AfGw-220)	Cat. No.	Context	Artifact(s)	Freq.	Comments
	1	surface	SCR	1	Onondaga; thumbnail; end

Location 126 (AfGw-222)	Cat. No.	Context	Artifact(s)	Freq.	Comments
	1	surface	PPO	1	Onondaga; Brewerton Side-Notched; stem damaged

Location 136 (AfGx-740)	Cat. No.	Context	Artifact(s)	Freq.	Comments
	1	surface	PPO	1	Onondaga; Brewerton Side-Notched

Location 143	Cat. No.	Context	Artifact(s)	Freq.	Comments
	1	surface	PPO	1	Haldimand; stemmed; shoulders and stem damaged

Location 149 (AfGw-224)	Cat. No.	Context	Artifact(s)	Freq.	Comments
	1	surface	PPO	1	Onondaga; Meadowood; base; one tang edge missing

Location 157 (AfGw-241)	Cat. No.	Context	Artifact(s)	Freq.	Comments
	1	surface	SCR	1	end; possible perforator reused

Location 157 (AfGw-242)	Cat. No.	Context	Artifact(s)	Freq.	Comments
	1	surface	BIF	1	prob. corner notched; two-piece mend; base missing; reused
	2	surface	BIF	1	midshaft; serrated
	3	surface	SCR	1	side
	4	surface	SCR	1	end; fossil cavity near bit end

Location 167	Cat. No.	Context	Artifact(s)	Freq.	Comments
	1	surface	SCR	1	end

Location 175	Cat. No.	Context	Artifact(s)	Freq.	Comments
	1	surface	PPO	1	Haldimand; stemmed; tip, shoulders and stem damaged

Location 183	Cat. No.	Context	Artifact(s)	Freq.	Comments
	1	surface	PPO	1	Kettle Point; possibly corner notched; extensive base and tip damage; lateral edge reworked

APPENDIX D

UTM Coordinates of Archaeological Sites

Site Name	Borden Number	UTM Coordinates
Location 56	none	17T 598058/4750396
Location 57	none	17T 598069/4750322
Location 58	AfGw-188	17T 598015/4750320
Location 59	AfGw-189	17T 597993/4750294
Location 60	none	17T 597971/4750280
Location 61	AfGw-230	17T 596649/4748366
Location 62	none	17T 596754/4748078
Location 63	none	17T 596766/4748059
Location 64	AfGw-190	17T 596776/4748011
Location 65	AfGw-191	17T 596842/4748000
Location 65 F1	AfGw-191	17T 596869/4748000
Location 66	AfGw-192	17T 596864/4748117
Location 67	none	17T 596836/4748206
Location 68	AfGw-193	17T 596845/4748261
Location 69	AfGw-194	17T 596879/4748239
Location 70	AfGw-195	17T 596879/4748169
Location 71	AfGw-196	17T 596930/4748106
Location 72	AfGw-197	17T 596992/4748029
Location 73	AfGw-198	17T 596902/4748271
Location 74	none	17T 596932/4748234
Location 75	none	17T 596966/4748154
Location 76	AfGw-231	17T 597029/4748018
Location 77	AfGw-232	17T 597005/4748111
Location 78	AfGw-199	17T 596967/4748284
Location 79	AfGw-200	17T 597119/4748041
Location 80	none	17T 599798/4747404
Location 81	AfGw-201	17T 599785/4747456
Location 82	AfGw-202	17T 599758/4747506
Location 83	none	17T 599701/4747667
Location 84	none	17T 599706/4747710
Location 85	AfGw-203	17T 599681/4747776
Location 86	AfGw-204	17T 599645/4748026
Location 87	AfGw-205	17T 599761/4748046
Location 88	AfGw-206	17T 599632/4747963
Location 89	AfGw-207	17T 599695/4747970
Location 90	none	17T 599734/4747659
Location 91	AfGw-208	17T 600275/4744979
Location 92	none	17T 600325/4744945

Site Name	Borden Number	UTM Coordinates
Location 93	none	17T 603719/4749958
Location 94	none	17T 603887/4749973
Location 95	none	17T 603967/4750109
Location 96	none	17T 602868/4749596
Location 97	none	17T 602708/4749587
Location 98	AfGw-226	17T 602488/4750143
Location 99	AfGw-227	17T 602419/4750335
Location 100	none	17T 608178/4747533
Location 101	none	17T 608052/4747500
Location 102	none	17T 606533/4747278
Location 103	none	17T 607169/4746844
Location 104	AfGw-209	17T 607712/4749187
Location 105	AfGw-210	17T 607717/4749240
Location 106	AfGw-233	17T 607723/4748926
Location 107	none	17T 606864/4751162
Location 108	AfGw-234	17T 606794/4751249
Location 109	AfGw-211	17T 606711/4751346
Location 110	AfGw-212	17T 606675/4751296
Location 111	AfGw-213	17T 606657/4751233
Location 112	AfGw-235	17T 598467/4751142
Location 113	AfGw-236	17T 598484/4751082
Location 114	AfGw-214	17T 598482/4751028
Location 115	AfGw-215	17T 598481/4750946
Location 116	none	17T 598715/4750320
Location 117	none	17T 598909/4750267
Location 118	AfGw-216	17T 599024/4750251
Location 119	AfGw-217	17T 599143/4750240
Location 120	AfGw-237	17T 599130/4750303
Location 121	AfGw-238	17T 599174/4750281
Location 122	AfGw-218	17T 601731/4751857
Location 123	AfGw-219	17T 601743/4751798
Location 124	AfGw-220	17T 601756/4751744
Location 125	AfGw-221	17T 601785/4751670
Location 126	AfGw-222	17T 601834/4751513
Location 127	AfGw-228	17T 602033/4751538
Location 128	none	17T 602030/4751565
Location 129	AfGw-223	17T 601943/4751803
Location 130	none	17T 588868/4752326

Site Name	Borden Number	UTM Coordinates
Location 131	AfGx-737	17T 588863/4752361
Location 132	AfGx-738	17T 588826/4752465
Location 133	none	17T 588848/4752467
Location 134	AfGx-739	17T 588769/4752688
Location 135	AfGx-854	17T 588747/4752791
Location 136	AfGx-740	17T 588698/4752887
Location 137	AfGx-741	17T 588570/4753000
Location 138	AfGx-855	17T 588438/4752962
Location 139	none	17T 588472/4752978
Location 140	AfGx-742	17T 588517/4752943
Location 141	none	17T 602275/4748236
Location 142	none	17T 602139/4748705
Location 143	none	17T 602362/4748980
Location 144	none	17T 602470/4749004
Location 145	none	17T 602458/4749082
Location 146	none	17T 602239/4748933
Location 147	none	17T 602338/4748671
Location 148	none	17T 602363/4748596
Location 149	AfGw-224	17T 602377/4748559
Location 150	AfGw-239	17T 602424/4748595
Location 151	none	17T 602525/4748635
Location 152	AfGw-225	17T 602887/4748671
Location 153	AfGw-240	17T 603192/4748763
Location 154	none	17T 603289/4748839
Location 155	AfGw-241	17T 605384/4745996
Location 156	none	17T 605361/4746050
Location 157	AfGw-242	17T 605301/4746154
Location 158	AfGw-243	17T 605280/4746260
Location 159	none	17T 605241/4746330
Location 160	none	17T 598490/4750545
Location 161	none	17T 598555/4750347
Location 162	none	17T 598476/4750804
Location 163	AfGw-244	17T 602138/4748732
Location 164	AfGw-245	17T 602128/4748750
Location 165	AfGw-246	17T 602135/4748771
Location 166	none	17T 602107/4748928
Location 167	none	17T 602141/4748919
Location 168	none	17T 602147/4748946

Site Name	Borden Number	UTM Coordinates
Location 169	none	17T 602145/4748975
Location 170	none	17T 602164/4748860
Location 171	none	17T 605242/4746301
Location 172	none	17T 597549/4748857
Location 173	AfGw-248	17T 597548/4748879
Location 174	none	17T 597626/4749009
Location 175	none	17T 597510/4749071
Location 176	AfGw-249	17T 597494/4749036
Location 177	none	17T 597202/4749425
Location 178	none	17T 597209/4749226
Location 179	AfGw-250	17T 597598/4749549
Location 180	AfGw-251	17T 597703/4749281
Location 181	none	17T 597725/4749247
Location 182	none	17T 597811/4749053
Location 183	none	17T 597822/4749034

At Golder Associates we strive to be the most respected global group of companies specializing in ground engineering and environmental services. Employee owned since our formation in 1960, we have created a unique culture with pride in ownership, resulting in long-term organizational stability. Golder professionals take the time to build an understanding of client needs and of the specific environments in which they operate. We continue to expand our technical capabilities and have experienced steady growth with employees now operating from offices located throughout Africa, Asia, Australasia, Europe, North America and South America.

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Golder Associates

REPORT ADDENDUM

August 30, 2011 ADDENDUM

STAGE 2 ARCHAEOLOGICAL ASSESSMENT

Samsung Grand Renewable Energy Park
Turbine 47 and Related Access Road
Lot 9, Concession 5S, South Cayuga Township
Haldimand County, Ontario

Submitted to:
Mr. Larry Galajda, P.Eng., Vice President
Stantec Consulting Ltd.
49 Frederick Street
Kitchener, Ontario N2H 6M7
Tel.: (519) 585-7292 Fax: (519) 579-6733

Licensee: Scott Martin, Ph.D. (P218)

PIF Numbers: P218-098-2010 and P218-023-2011

Report Number: 10-1136-0072-R03A

Distribution:

3 Copies - Stantec Consulting Ltd.
3 Copies & 1 CD - Ministry of Tourism and Culture
2 Copies - Golder Associates Ltd.

Golder Associates

Acknowledgments

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Project Manager	Tracie Carmichael, B.A., B.Ed. (R140)
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Office Assistant	Amanda Laprise, B.A.
Graphics Production	Ben Clark, B.A.
Senior Review	Jim Wilson, M.A., Principal (P001)
Proponent Contacts	Mr. Larry Galajda and Mr. Rob Nadolny

Executive Summary

A Stage 1 archaeological background study was previously conducted on behalf of Samsung Renewable Energy Inc. 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 2010). This area is proposed to be the site of approximately 67 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 corridor construction or other infrastructure construction related activities.

During the winter of 2010 and 2011, Stage 2 archaeological assessment of a portion of the proposed project area was undertaken by Golder Associates Ltd. (Golder) on behalf of Stantec (Golder 2011a). The Stage 2 archaeological assessment conducted by Golder in winter 2010-2011 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 in winter 2010-2011 were recommended for Stage 3 assessment to further evaluate their cultural heritage value or interest.

During the spring and summer of 2011, Stage 2 archaeological assessment of the remainder of the portion of the proposed project area to be assessed by Golder (Golder 2011b) was undertaken. The Stage 2 archaeological assessment conducted by Golder in the spring and summer of 2011 resulted in the identification of a further 128 locations, all of which are pre-contact Aboriginal sites. In order to further evaluate their cultural heritage value or interest, 48 of the 128 archaeological locations identified within the study area in the spring and summer of 2011 were recommended for Stage 3 assessment.

On August 26th, 2011, one further property consisting of one turbine location (Turbine 47) and related access road corridor underwent Stage 2 archaeological assessment by pedestrian survey. This assessment is the subject of this addendum to the earlier Golder Stage 2 Revised report (Golder 2011b).

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 2011 Ministry of Tourism and Culture's *Standards and Guidelines for Consultant Archaeologists* were employed as best practices.

The Stage 2 archaeological assessment of the Turbine 47 study area did not result in the identification of any archaeological resources of cultural heritage value or interest and **no further archaeological assessment is recommended**.

The Ontario Ministry of Tourism and Culture is asked to review the results and recommendations presented herein, accept this addendum report into the Provincial Public Register of Archaeological Reports and issue a letter stating that **there are no further concerns with regards to alterations to archaeological sites on the subject property**.

This report is submitted to the Minister of Tourism and 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 it complies with the standards and guidelines that are issued by the Minister, and that the archaeological fieldwork and report recommendations ensure the conservation, protection and preservation of the cultural heritage of Ontario. When all matters relating to archaeological sites within the project area of a development proposal have been addressed to the satisfaction of the Ministry of Tourism and Culture, a letter will be issued by the ministry stating that there are no further concerns with regards to alterations to archaeological sites by the proposed development.

It is an offence under Section 48 and 69 of the *Ontario Heritage Act* for any party other than a licensed archaeologist to make any alterations to a known archaeological site or to remove any artifact or other physical evidence of past human use or activity from the site, until such time as a licensed archaeologist has completed archaeological fieldwork on the site, submitted a report to the Minister stating that the site has no further cultural heritage value or interest, and the report has been filed in the Ontario Public Register of Archaeological reports referred to in Section 65.1 of the *Ontario Heritage Act.*

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 Section 48(1) of the *Ontario Heritage Act*.

The *Cemeteries Act,* R.S.O. 1990 c. C.4 and the *Funeral, Burial and Cremation Services Act,* 2002, S.O. 2002, c.33 (when proclaimed in force) require that any person discovering human remains must notify the police or coroner and the Registrar of Cemeteries at the Ministry of Consumer Services.

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.

Table of Contents

1.0 INTRODUCTION

A Stage 1 archaeological background study was previously conducted on behalf of Samsung Renewable Energy Inc. 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 2010). This area is proposed to be the site of approximately 67 wind turbines, at least three areas of solar panels and project-related infrastructure 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. As a result, Stage 2 archaeological assessment was recommended for any areas to be impacted by turbine or solar panel construction, access road corridor construction or other infrastructure construction related activities.

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On August 26th, 2011, one further property consisting of one turbine location (Turbine 47) and related access road corridor underwent Stage 2 archaeological assessment by pedestrian survey (Figure 2). This assessment is the subject of this addendum to the earlier Golder Stage 2 Revised report (Golder 2011b).

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 2011 Ministry of Tourism and Culture's *Standards and Guidelines for Consultant Archaeologists* were employed as best practices.

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LEGEND

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

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

2,000 1,000 0 2,000 4,000 6,000
SCALE 1:125,000 METRES

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

TITLE
LOCATION OF STUDY AREA

Golder Associates
Mississauga, Ontario

PROJECT NO. 10-1136-0072			SCALE AS SHOWN	REV. 0.0
DESIGN	JO	14 Nov. 2008		
GIS	BC	29 Aug. 2011		
CHECK	SM	29 Aug. 2011		
REVIEW				

FIGURE: 1

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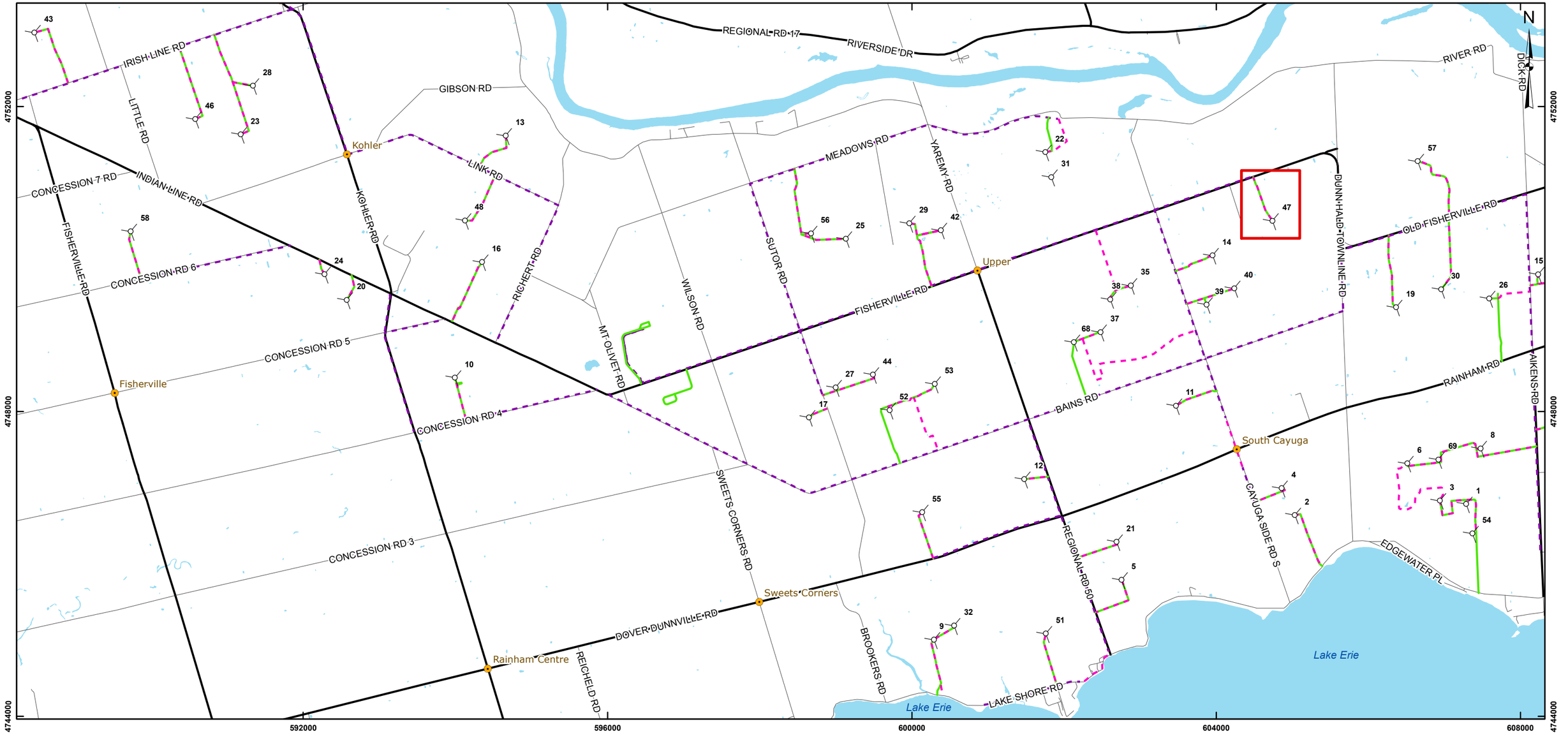

LEGEND

- Turbine Location
- Access Road
- Underground Cable
- Overhead Cable
- Principal Highway
- Major Road
- Local Road
- Turbine 47 Study Area
- 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

1,000 500 0 1,000 2,000 3,000
SCALE 1:50,000 METRES

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

TITLE
LOCATION OF TURBINE 47 IN STUDY AREA

Golder Associates
Mississauga, Ontario

PROJECT NO. 10-1136-0072			SCALE AS SHOWN	REV. 0.0
DESIGN	JO	14 Nov. 2008	FIGURE: 2
GIS	BC	24 Jun. 2011	
CHECK			
REVIEW			

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2.0 SUMMARY OF STAGE 1 ARCHAEOLOGICAL INVESTIGATIONS

A Stage 1 archaeological assessment of the study area was previously conducted by Stantec (2010). Additional background data sources were also consulted by Golder (Golder 2011a, 2011b).

2.1 Natural Environment

The study area of Turbine 47 is located in Haldimand County, in the Geographic Township of South Cayuga. 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).

2.2 Previously Known Archaeological Resources and Surveys

Previous archaeological assessments and research surveys in Haldimand County have demonstrated that the area was intensively utilized by pre-contact Aboriginal communities. According to the Ontario Archaeological Sites Database (ASDB), there are 231 archaeological sites registered within the study area (Government of Ontario n.d.; Robert von Bitter, personal communication, January 17th, 2011 and July 11th, 2011; cf. Stantec 2010:8-9). In addition to those sites registered in the ASDB, seventy-one further sites will be registered in the study area, stemming from the first portion of Stage 2 archaeological assessments for this project by Golder (Stantec 2011a) and Stantec (Stantec 2011a) in the winter of 2010 and 2011. Sites registered or to be registered, current to the end of winter 2010-2011, are presented in Golder (2011b). The second portion of work by Golder (Golder 2011b) and Stantec (Stantec 2011b) in the spring and summer of 2011 will add an additional 70 and 10 registered sites, respectively, to the ASDB, representing 79 pre-contact Aboriginal sites and one Euro-Canadian World War II military site.

2.3 Historic Research

The study area is located in Haldimand County in the Geographic Township of South Cayuga. For a detailed historical background of Haldimand County, including South Cayuga Township, refer to Golder (2011a and 2011b).

2.4 Archaeological Potential

As discussed in the Stage 1 archaeological assessment (Stantec 2010:12-13), the Stage 2 interim archaeological assessments (Golder 2011a; Stantec 2011a) and the reports on spring and summer 2011 Stage 2 work (Golder 2011b; Stantec 2011b), the archaeological potential for pre-contact Aboriginal sites in the study area is judged to be moderate to high. 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 as well as the presence of historic transportation routes.

3.0 STAGE 2 STUDY METHODS AND RESULTS

3.1 Summary of Previous Stage 2 Investigations

For a detailed summary of the winter 2010 and spring and summer 2011 work by Golder preceding the archaeological assessment of the Turbine 47 study area, refer to Golder (2011a and 2011b).

3.2 Stage 2 Field Assessment Methods

The study area that is the subject of this report addendum comprises the Turbine 47 wind turbine location and its related access road and collector route (Appendix A, Tile A). This Stage 2 archaeological assessment was undertaken by Golder on August 26th, 2011. This work was conducted under archaeological consulting licence P218, issued to Scott Martin, Ph.D., by the Ontario Ministry of Tourism and Culture. A total of approximately 4.38 hectares was subject to Stage 2 archaeological assessment. Only those areas to be affected by the construction, operation, and decommissioning of the wind turbine have undergone archaeological assessment. The access route was assessed with a 50-metre wide survey corridor. The circular turbine location was assessed on a 70-metre radius.

Approximately 4.38 hectares of a well-weathered ploughed field was assessed by the standard pedestrian survey method at transect intervals of five metres (Plates 1 and 2). Plate locations and photograph directions are provided in Appendix A, Tile A. No artifacts were encountered during the pedestrian survey.

The weather during the Stage 2 assessment on August 23rd, 2011 was warm with a mix of sun and cloud. At no time were the conditions detrimental to the recovery of archaeological material. Field visibility during the pedestrian survey was excellent. Permission to enter the property and remove artifacts was given by proponent contact, Mr. Larry Galajda.

3.3 Stage 2 Field Assessment Results

The August 26th, 2011 Stage 2 archaeological assessment conducted by Golder resulted in the identification of no new archaeological locations. One hundred percent of the study area was assessed by the standard pedestrian survey method at five metre intervals (Plates 1 and 2). Tile A in Appendix A depicts the location of the Turbine 47 study area, method of archaeological assessment and photograph locations and directions.

Plate 1: Pedestrian Survey, Field Conditions, Turbine 47, Walked at Five-Metre Intervals, Facing East

Plate 2: Pedestrian Survey, Field Conditions, Turbine 47, Walked at Five-Metre Intervals, Facing Northwest

4.0 SUMMARY OF AUGUST 26TH, 2011 STAGE 2 INVESTIGATIONS

While archaeological potential was considered moderate to high for pre-contact Aboriginal and historic Euro-Canadian occupation, the Stage 2 archaeological assessment of the Turbine 47 study area did not result in the identification of any archaeological resources of cultural heritage value or interest and **no further archaeological assessment is recommended**.

5.0 RECOMMENDATIONS AND ADVICE ON COMPLIANCE WITH LEGISLATION

In summary, the Stage 2 archaeological assessment of the Turbine 47 study area did not result in the identification of any archaeological resources of cultural heritage value or interest and **no further archaeological assessment is recommended**.

The Ontario Ministry of Tourism and Culture is asked to review the results and recommendations presented herein, accept this addendum report into the Provincial Public Register of Archaeological Reports and issue a letter stating that **there are no further concerns with regards to alterations to archaeological sites on the subject property**.

This report is submitted to the Minister of Tourism and 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 it complies with the standards and guidelines that are issued by the Minister, and that the archaeological fieldwork and report recommendations ensure the conservation, protection and preservation of the cultural heritage of Ontario. When all matters relating to archaeological sites within the project area of a development proposal have been addressed to the satisfaction of the Ministry of Tourism and Culture, a letter will be issued by the ministry stating that there are no further concerns with regard to alterations to archaeological sites by the proposed development.

It is an offence under Sections 48 and 69 of the *Ontario Heritage Act* for any party other than a licensed archaeologist to make any alteration to a known archaeological site or to remove any artifact or other physical evidence of past human use or activity from the site, until such time as a licensed archaeologist has completed fieldwork on the site, submitted a report to the Minister stating that the site has no further cultural heritage value or interest, and the report has been filed in the Ontario Public Register of Archaeology Reports referred to in Section 65.1 of the *Ontario Heritage Act*.

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 Section 48(1) of the *Ontario Heritage Act*.

The *Cemeteries Act*, R.S.O. 1990 c. C.4 and the *Funeral, Burial and Cremation Services Act*, 2002, S.O. 2002, c. 33 (when proclaimed in force) require that any person discovering human remains must notify the police or coroner and the Registrar of Cemeteries at the Ministry of Consumer Services.

GOLDER ASSOCIATES LTD.

ORIGINAL SIGNED

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

ORIGINAL SIGNED

Jim Wilson, M.A.
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SWJM/TLC/JAW/slc

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6.0 REFERENCES CITED

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Golder Associates Ltd.

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2011b *Revised Stage 2 Archaeological Assessment. Samsung 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*. Report on file, Ontario Ministry of Tourism and Culture, Toronto.

Government of Ontario

1993 *Archaeological Assessment Technical Guidelines (Stages 1-3 & Reporting Format)*. Ministry of Culture, Tourism and Recreation, Cultural Programs Branch, Archaeology and Heritage Planning, Toronto.

2011 *Standards and Guidelines for Consultant Archaeologists*. Ministry of Tourism and Culture, Toronto.

n.d. Archaeological Sites Database (ASDB) Files. Culture Services Unit, Ontario Ministry of Tourism and Culture, Toronto.

Stantec Consulting Inc.

2010 *Final Report, Stage 1 Archaeological Assessment, Grand Renewable Energy Park, Haldimand County, Ontario*. Report submitted to Samsung Renewable Energy Inc., Mississauga.

2011a *Interim Report, Stage 2 Archaeological Assessment, Samsung Grand Renewable Energy Park, Haldimand County, Ontario*. Report submitted to Samsung Renewable Energy Inc., Mississauga.

2011b *Final Report (Revised), Stage 2 Archaeological Assessment, SPK Grand Renewable Energy Park, Haldimand County, Ontario*. Cayuga Township – Lot 39, Concession 1 South; Lot 25, Concession 5, South Rainham Township – Lot 8, Concession 6; Lot 24, Concession 1, Dunn Township – Lot 4, Concession 1 North of Rainham Road; Lots 7-9, Concession 1 North of Rainham Road; Lots 15-17, Concession 2 South of Rainham Road; Lots 21-24, Concession 2 South of Rainham Road. Report submitted to Samsung Renewable Energy Inc., Mississauga.

MacDonald, I.D.

1980 *Life Science Features of the Haldimand Clay Plain Physiographic Region*. Ontario Ministry of Natural Resources, Parks and Recreation Section, Central Region, Richmond Hill, ON.

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 1993 *Archaeological Assessment Technical Guidelines (Stages 1-3 & Reporting Format)*.

APPENDIX A

Stage 2 Study Methods and Results

LEGEND

- Turbine
- Surveyed Area August 26th, 2011 (Pedestrian 5m Intervals)
- 8 PlateLocationsAddendum
- Underground Cable
- Overhead Cable
- Access Road
- Watercourse

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

150 75 0 150

SCALE 1:5,000 METRES

PROJECT

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

TITLE

STAGE 2 METHODS AND RESULTS

Golder Associates
Mississauga, Ontario

PROJECT NO. 10-1136-0072			SCALE AS SHOWN	REV. 0.0
DESIGN	SM	29 Aug. 2011	TILE A	
GIS	BC	29 Aug. 2011		
CHECK	SM	29 Aug. 2011		
REVIEW				

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Golder Associates

REVISED REPORT
Stage 2 Archaeological Assessment, SPK Grand Renewable Energy Park, Haldimand County, Ontario

Cayuga Township – Lot 39, Concession 1 South; Lot 25, Concession 5 South
Rainham Township – Lot 8, Concession 6; Lot 24, Concession 1
Dunn Township – Lot 4, Concession 1 North of Rainham Road; Lots 7-9, Concession 1 North of Rainham Road; Lots 15-17, Concession 2 South of Rainham Road; Lots 21-24, Concession 2 South of Rainham Road

Prepared for:
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September 20, 2011

CIF # P002-222-2011

Project No.: 161010624

EXECUTIVE SUMMARY

Samsung C&T (Samsung), Korea Power Electric Corporation (KEPCO), and Pattern Energy (Pattern) plan to build and operate the world's largest renewable energy cluster in Southern Ontario (Ontario Alternative Energy Cluster). Together, these companies (referred to herein as "SPK") will be involved in the development of the first phase of the energy cluster development.

The Grand Renewable Energy Park (the Project) is proposed within the County of Haldimand and is generally bounded by Townline Road to the north, Haldimand Road 20 to the west, the Grand River to the east and Lake Erie to the south. It consists of a 1513.1 MW (nameplate capacity) wind project, a 100 MW (nameplate capacity) solar project located on privately owned and Ontario Realty Corporation (ORC) managed lands and a transmission line to convey electricity to the existing power grid. According to subsection 6(3) of O. Reg. 359/09, the wind component of the Project is classified as a Class 4 Wind Facility and the solar component of the Project is classified as a Class 3 Solar Facility.

The basic components of the Project include 67 wind turbines, approximately 425,000 photovoltaic (PV) solar panels installed on fixed ground-mounted racking structures organized into 100 1 MW solar units, a collector sub-station, interconnect station and Operations and Maintenance building, temporary storage and staging areas, approximately 19 km of 230 kV transmission lines along Haldimand Road 20, approximately 82 km of new overhead 34.5 kV collector lines along public roads, approximately 48 km of new underground collector lines along turbine access roads, approximately 45 km of turbine access roads and 40 km of solar panel maintenance roads.

A Stage 1 Archaeological Assessment (AA) was completed by Stantec Consulting Ltd. (Stantec) as part of an application for the proposed SPK Grand Renewable Energy Park (GREP), also referred to as Project, consisting of both solar and wind power generation in Haldimand County, Ontario. The results of the Stage 1 AA indicated that most of the proposed Project Area demonstrated the potential for the presence of significant and intact archaeological resources.

Stantec archaeological staff completed Stage 2 AA for 359 ha of land for both the solar and wind turbine components of the Project in 2010. At the end of the 2010 field season a total of 50 ha remained to be surveyed over 17 turbine pads and their associated access roads. As well, two other access roads where modifications were required were assessed. With the exception of one supplemental area surveyed using a test pit excavation methodology, all turbine pads and associated access roads were assessed using a pedestrian survey methodology on ploughed agricultural lands.

The Stage 2 AA completed by Stantec in 2011 resulted in the identification and recording of 30 archaeological sites consisting of several hundred discrete pre-contact period artifacts, including 12 formal or expedient tools (11 projectile points, or "arrowheads" and one core). One other archaeological site was discovered where the density of lithic flakes was too high to record individually. Of these, the cultural heritage value or interest of 21 archaeological sites, represented by 8 artifact clusters and 13 isolated find spots, is considered sufficiently documented and assessed at Stage 2, therefore, no further archaeological assessment of these is required or recommended.

Based on the 2011 *Standards and Guidelines for Consultant Archaeologists* prepared by the Ministry of Tourism and Culture Stantec the remaining nine (9) discrete archaeological site locations will require Stage 3 Archaeological Assessment (Table 1).

Table 1 - Archaeological Sites Requiring Stage 3 Assessment

Stantec Site #	Borden #	Culture Period(s) Represented	Dimensions (in m)	Stantec Site #	Borden #	Culture Period(s) Represented	Dimensions (in m)
46	AfGx-768	Indeterminate	145 x 40	51	AfGx-770	Indeterminate	40 x 40
47	AfGx-769	Indeterminate	65 x 40	52	AfGx-771	Indeterminate	30 x 20
48	AfGv-124	Indeterminate	30x 30	53	AfGx-772	Indeterminate	35 x 20
49	AfGv-125	Middle Woodland	50 x 50	54	AfGv-127	Early Woodland	30 x 10
50	AfGw-229	Indeterminate	50 x 50				

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PROJECT PERSONNEL

Project Director	Colin Varley, M.A., R.P.A. (P002)
Field Director	Colin Varley, M.A., R.P.A.
Field Crew	Christienne Uchiyama, B.A. (Hons) (R309) Tavis Maplesden, B.A. (Hons) Steve Jarrett, M.A. Mike Rooney, B.A. (Hons) Daphne Parrington Blake Sault Mike Hill
Report and Graphics	Colin Varley, M.A., R.P.A. Sarah Rogers, B.Sc (Hons) G.Dip. Christienne Uchiyama, B.A. (Hons)

1 INTRODUCTION

Samsung C&T (Samsung), Korea Power Electric Corporation (KEPCO) and Pattern Energy (Pattern) plan to build and operate the world's largest renewable energy cluster in Southern Ontario (Ontario Alternative Energy Cluster). Together these companies (herein referred to as "SPK") are proposing to develop, construct, and operate the Grand Renewable Energy Park (the "Project") as the development of the first phase of the energy cluster development.

A Stage 1 Archaeological Assessment (AA) was completed by Stantec Consulting Ltd. (Stantec, 2010, PIF # P002-208-2010) as part of an application for the proposed SPK Grand Renewable Energy Park (GREP), also known as Project, consisting of both solar and wind power generation in Haldimand County, Ontario. At the time of the Stage 1 AA specific details of the proposed GREP were not available and the Stage 1 AA encompassed a large region that included most or all of Dunn, South Cayuga, North Cayuga and Rainham Townships in Haldimand County. The results of the Stage 1 AA indicated that most of the proposed Project Area demonstrated the potential for the presence of significant and intact archaeological resources.

Based on the widespread archaeological potential of the wider GREP Project study area it was decided that all previously undisturbed (except by agricultural activity) areas where Project infrastructure was planned would be subject to Stage 2 AA. Due to changing Project needs new lands requiring Stage 2 AA were added late in the 2010 field season, necessitating that some Project Areas be assessed by Golder Associates, Inc. (Golder, 2011, PIF # P218-012-2010) (Figure 1-1). Further, early snow cover in December resulted in the assessment of some Project Areas not being completed at the end of 2010. The portion of the areas that had been assigned to Stantec for Stage 2 AA and remained incomplete at the end of the 2010 field season are the subject of the present report.

2 PROJECT CONTEXT

2.1 Development Context

The Grand Renewable Energy Park (the Project) is proposed within the County of Haldimand and is generally bounded by Townline Road to the north, Haldimand Road 20 to the west, the Grand River to the east and Lake Erie to the south. It consists of a 1513.1 MW (nameplate capacity) wind project, a 100 MW (nameplate capacity) solar project located on privately owned and Ontario Realty Corporation (ORC) managed lands and a transmission line to convey electricity to the existing power grid. According to subsection 6(3) of O. Reg. 359/09, the wind component of the Project is classified as a Class 4 Wind Facility and the solar component of the Project is classified as a Class 3 Solar Facility.

The basic components of the Project include 67 wind turbines, approximately 425,000 photovoltaic (PV) solar panels installed on fixed ground-mounted racking structures organized into 100 1 MW solar units, a collector sub-station, interconnect station and Operations and Maintenance building, temporary storage and staging areas, approximately 19 km of 230 kV transmission lines along Haldimand Road 20, approximately 82 km of new overhead 34.5 kV collector lines along public roads, approximately 48 km of new underground collector lines along turbine access roads, approximately 45 km of turbine access roads and 40 km of solar panel maintenance roads.

The Stages 1 and 2 Archaeological Assessment of the Project occurred in the pre-submission stage of the Project development. Permission to access lands and undertake archaeological fieldwork, including recovery of artifacts, associated with this Stage 2 Archaeological Assessment were provided by landowners through the proponents representatives.

2.2 O.Reg. 359/09 Requirements, Archaeological Assessment

This Stage 2 Archaeological Assessment Report has been conducted in accordance with O.Reg. 359/09, s.22 (1), (2) and (3). O. Reg.359/09 s.22 states that:

22. (1) This section applies to a person if,

> *(a) as a result of the consideration mentioned in subsection 20 (1), the person concludes that engaging in the renewable energy project may have an impact on an archaeological resource described in paragraph 1 of subsection 20 (1); or*
>
> *(b) the person concludes, after complying with section 21, that the project location is situated as described in subclause 21 (2) (a) (i) or (ii) or clause 21 (2) (b). O. Reg. 359/09, s. 22 (1).*

(2) A person to whom this section applies shall ensure that,

> *(a) an archaeological assessment is conducted by a consultant archaeologist; and*
>
> *(b) an archaeological assessment report is prepared by the consultant archaeologist mentioned in clause (a) and submitted to the Ministry of Culture. O. Reg. 359/09, s. 22 (2).*

(3) As part of an application for the issue of a renewable energy approval, a person to whom this section applies shall submit,

> *(a) written comments provided by the Ministry of Culture in respect of the archaeological assessment conducted under clause (2) (a);*
>
> *(b) the archaeological assessment report prepared under clause (2) (b); and*
>
> *(c) if the project location is on property described in subclause 21 (2) (a) (ii), a copy of the permit issued by the Minister of Culture to excavate or alter the property or to remove an artifact from that property, as the case may be. O. Reg. 359/09, s. 22 (3).*

2.3 Historical Context

Named after Sir Frederick Haldimand, a German mercenary soldier fighting for the British in the American War of Independence and later Governor of Quebec, Haldimand County was originally created as part of Norfolk County in 1792 from lands originally seeded to the Joseph Brant and the Six Nations People in 1784, but sold back to and taken back by, the Crown. Haldimand County was designated as its own County in 1800 (Brueton, 1967). Originally, the land given to the Six Nations was an area of six miles on either side of the Grand River, from its head to its mouth at Lake Erie. Brant, who had fought for and alongside the British in the American War of Independence subsequently leased tracts of the land to allies of the Six Nations, particularly members of the 'Butler's Rangers', a Loyalist unit that fought for the British. These men were the first European settlers in the county.

The county was officially opened for settlement by the Government in 1832 but settlement was slow due to the tough conditions of the heavily forested and sometimes swampy lands. The land was so poor in spots, in fact, that it had been fairly unused by Native populations since the destruction and dispersion of the Neutral tribe by the Iroqouis in the mid-15th Century (Harper, 1950). Like much of Ontario, settlers were a mix of United Empire Loyalists (UEL) fleeing a post-revolution United States and immigrants from Britain and other European countries. In Haldimand County, these settlers found that the waterfront (front) of the county was far more acceptable than the interior and tended to set up residence close to the banks of Lake Erie. Even though grants were given for lots in the rear of the County, it would take much longer for these to be cleared and settled (Nelles, 1905).

2.3.1 Dunn Township, Township Survey and Early Settlement

Two of Butler's Rangers had land leased to them by Joseph Brant in Dunn Township. In and around 1784, Hugh Earl, Brant's brother-in-law, and a man name William Butler Sheehan each received 1000 acres which would become known as the 'Earl' and 'Sheehan' tracts. Another 1000 acres was leased, in 1803, to a James Muirhead and would become known as the 'Haldimand tract' (Nelles, 1905).

The first settler after the opening of the township was a Colonel Agnew P. Farrell, who arrived in 1833 in a small clearing in the otherwise untouched wilderness. Mainly settled by Irish and Scottish immigrants, Dunn Township quickly expanded and thrived. By 1845, fifteen hundred acres were cultivated and by 1850 that number had risen to seven thousand (Cowell, 1967).

In 1835, the population of the relatively small township was only 200 people but by the time of the 1861 Census that number had grown to 955. Of the 10,000 acres of the township at the time, just over 4,000 were under cultivation (Irwin and Burnham, 1867).

2.3.2 Rainham Township, Township Survey and Early Settlement

The Township of Rainham was surveyed by Thomas Walsh around the same time as Walpole Township. Like Walpole, Rainham had not been part of the lands given to Brant and was opened at an earlier date and in keeping, was equally slow in attracting settlers. By 1816, in fact, only six families were living in the entire township after others had come and gone, finding it much too hard to settle. One of the earliest and most successful families to immigrate to Rainham was the Hoover family, displaced Loyalists of Swiss heritage that had originally fled Europe in fear of persecution who arrived and quickly prospered (Nelles, 1905).

By the time of the 1861 Census, the population of Rainham Township had steadily grown to 2,116; up from 552 in 1835 and 1,618 in 1852. Of the 23,000 acres of good quality soil at the time, over 15,000 was under cultivation (Irwin and Burnham, 1867).

2.3.3 South Cayuga Township, Township Survey and Early Settlement

The only 'Brant Lease' in South Cayuga was given to a John Dochstader, who, like John Huff, deserted to the Americans during the War of 1812. His land, however, was not expropriated, but was instead passed down to his family (Harper, 1950).

South Cayuga was officially opened for settlement in 1832 but records indicate that the first man to settle there was a John Honsburger in 1835 (Harper, 1950). The majority of early settlers were of German descent, some of whom were Mennonite and are still represented in the area.

By the time of the 1861 Census, roughly half of the 14,000 acres of the township were under cultivation with the other half consisting of still wild and wooded land (Irwin and Burnham, 1867).

2.3.4 North Cayuga Township, Township Survey and Early Settlement

The first European settlement of North Cayuga Township consisted of two tracts of land leased out by Joseph Brant. These 'Brant Leases' as they were known were usually given in out in good faith to people who had either helped or become friendly with the Six Nations People. The earliest of these leases was given to a Butler's Ranger by the name of John Huff. The land would subsequently be known as the 'Huff tract.' During the War of 1812, Huff deserted to America and his land was repossessed. In 1797, a parcel of land of 4800 acres was leased to Augustus Jones, the man who had surveyed the lands around the Grand River that had been ceded to Brant, as payment for services rendered (Harper, 1950).

In 1826, another tract, the 'Claus tract', was leased to a William Claus in return for having close ties and a family history with the Six Nations Peoples. The 15,300 acre claim, which along with the 'Jones tract' made up the entirety of North Cayuga Township, was deemed by the Government to have been somewhat fraudulent and exploitive of the Native peoples and was cancelled. The land was subsequently taken over by the Government and opened for settlement in 1832.

In 1835, the population of both North and South Cayuga was only 296 and yet by 1852, that number had multiplied almost ten-fold. The Census of 1861 indicates that, at the time, the population of both North and South Cayuga was 2,919 with just under half the 30,000 acres of North Cayuga Township being under cultivation (Irwin and Burnham, 1867).

2.3.5 Walpole Township, Township Survey and Early Settlement

Walpole Township was initially surveyed in 1780 by Thomas Walsh, Registrar with the County of Norfolk. Unlike the previously mentioned townships, Walpole was never part of the land ceded to Joseph Brant and, as such, was available to be opened for settlement by Europeans much earlier (Nelles, 1905). The first settlers started to arrive over the course of the next decade. Settlement was slow and grueling as the land itself was either thick forest or swamp and the initial survey marks aged poorly or disappeared, making Lots and Concessions nearly impossible to properly locate. The majority of settlers who did come to the township settled close to the lakeshore where the land was more suitable for both agriculture and building. By 1833, the settlers had petitioned for a new township survey on the grounds that new settlers were wary of choosing the township and that the lack of numbers in the area made the upkeep of roads and bridges much too difficult. In spite of the rejection of the survey petition the township continued to grow and develop and by the 1830s was beginning to establish industries, stores and the small towns of Nanticoke and Selkirk. The township was not incorporated until 1850, one year after being officially declared part of Haldimand County. Prior to that, it had been considered part of Norfolk County (Brueton, 1967).

The growth of the township of Walpole was much faster and more intensive than the majority of the others in the county owing to the high quality of the land and the vast amount of it available. In 1835, the population was only 683 but that number would jump dramatically to 2,778 by 1850 and further still to 4,842 by the time of the 1861 Census. Of the roughly 60,000 acres in the township, over 30,000 were under cultivation by the same time (Irwin and Burnham, 1867).

2.4 Archaeological Context

At the time of the completion of the Stage 1 AA report by Stantec (Stantec, 2010, PIF # P002-208-2010) two hundred and ten (210) registered prehistoric period archaeological sites or components had been recorded within the Project area (MTC, 2010). Of these 210 sites, eight (8) sites, or site components of multi-component sites, date to the Palaeo-Indian period, sixty-seven (67) date to the Archaic period, thirty-five (35) date to the Woodland period and sixty-nine (69) are undetermined as to age or cultural affiliation. Another fifty-one (51) sites had no date or cultural affiliation information attached to their records.

Stage 2 AA completed on Project components by Stantec and Golder in 2010 resulted in the identification of a further 220 archaeological sites (165 by Stantec (Table 2-1), 55 by Golder (Tables 2-1 and 2-2) within the limits of Project components (Golder, 2011, PIF # P218-012-2010; Stantec, 2011, PIF # P002-211-2010).

The large number of archaeological sites in the Project area is largely due to intensive and systematic surveys carried out by four main research programs. The following discussion is based on information received from the MTC Archaeological Sites Database (MTC, 2010). The first and most extensive research program was completed by David Stothers of the Archaeological Survey of Canada in 1974. He undertook a survey of the Grand River from Cayuga to the mouth of the river, and registered ninety-six individual sites (MTC, 2010). Fred Moerschfelder and Bill Fox did some survey work together in 1981, also along the Grand River (MTC, 2010). Later, in 1981 and again in 1985, Moerschfelder surveyed parts of the interior of the county, particularly in South Cayuga, North Cayuga and Rainham Townships, and a section of Rainham along the Lake Erie shoreline (MTC, 2010). Moerschfelder and Fox's work accounts for another fifty-three (53) sites. Also in 1985, and again in 1986 and 1987, Lorenz Bruechert surveyed inland parts of Walpole Township and parts of the Lake Erie shoreline in Rainham (MTC, 2010). Bruechert's work resulted in the registration of a further twenty-two (22) sites (MTC, 2010). The last directed research program in the Project area was Gary Crawford's work in 1997 along the Grand River, just below Cayuga (MTC, 2010). Crawford's survey registered another nine archaeological sites (MTC, 2010).

The information presented by the sites database suggests that archaeological resources are widespread and numerous throughout western Haldimand County. Part of the reason for such intensive use of the region by prehistoric peoples is the fact that there are three well known sources of high quality tool stone in the region, all of which occur within the limits of the Project area (Fox, 2009). These tool stone sources include Selkirk chert, Haldimand chert and Onondaga chert. Onondaga and Haldimand chert are found in the Bois Blanc geological formation and have general similarities in colour and workability. Onondaga chert outcrops are located along the Lake Erie shoreline. Haldimand chert has its source along the Grand River near Cayuga. Selkirk chert is found in the later Dundee formation, and outcrops near the western extreme of the county (Fox, 2009). The result of these rich tool stone sources is that there are numerous quarry and lithic reduction sites (MTC, 2010).

Overall conditions in the Project area were very favourable for prehistoric occupation, including access to a wide variety of econiches for the harvesting of plant, fish and animal resources, a number of excellent sources of tool stone, and access to major transportation routes along the Grand River and Lake Erie shoreline.The majority of land use in the general Project Area is agricultural, with pockets of wooded areas throughout. In an effort to limit the amount of woodlot cutting required the majority of the proposed Project infrastructure was planned to be

located on agricultural fields, which allowed for the majority of the Stage 2 AA to be conducted using a pedestrian survey strategy. Specific Lot and Concession locations for each Project component assessed, whether solar field or turbine access roads and pads, are listed in Table 3.1 in Section 3.

The Project Area is located in the Haldimand Clay Plain physiographic region, a large region that occupies approximately 1,350 square miles and is characterised by recessional moraines in the northern part, deep river valley in the middle, and flat and low lying ground to the south (Chapman and Putnam 1984).

The surficial geology of the Project Area is predominantly silty clay loam till soils. Generally the only other soil types represented are alluvial deposits in flood plains spanning the length of the minor waterways and some small areas of lacustrine silty clay in the eastern part of the Project Area. The silty clay loam tills, such as the Gobles and Kelvin series of soils, are characterised by poor to imperfect drainage (Presant and Acton, 1984). The general homogeneity of the Project Area soils was clearly evident during the Stage 2 AA field surveys. With one exception all solar fields and turbine access road and pad locations were located in areas of heavy, blocky clay soil of medium brown colour. The only discernible difference in these areas was around the margins of small drainage channels, natural and artificial, that ran through the surveyed areas, in which case the soil was darker and somewhat siltier.

Topographically the Project Area is generally nearly level to gently rolling. Where there is micro-topographic relief, the lower ground typically acts as a water collector and drainage channel for the surrounding ground. Even in areas where there is greater relief the underlying clay subsoils do not absorb water quickly and after rain events there was usually standing water underneath the ploughed surfaces. In no locations surveyed were there any soils which could be classified as having good drainage; most soils were imperfectly or poorly drained.

2.4.1 Summary of Previous Stages 1 and 2 Archaeological Assessment

A Stage 1 Archaeological Assessment (AA) completed under PIF P002-208-2010 by Stantec Consulting Ltd. (Stantec) indicated that most of the proposed Project Area demonstrated the potential for the presence of significant and intact archaeological resources (Stantec, 2010). Based on the widespread archaeological potential of the wider GREP Project study area it was decided that all previously undisturbed (except by agricultural activity) areas where Project infrastructure was planned would be subject to Stage 2 AA.

As noted previously, most of the Project infrastructure areas were assessed during the 2010 field season. Stage 2 AA of Project components was completed by Stantec (PIF P002-211-2010) and Golder Associates Ltd. (PIF P218-012-2010) (Golder, 2011; Stantec, 2011). Stage 2 AA completed by Stantec in 2010 on 359 ha of solar and wind component lands resulted in the identification of 165 archaeological sites, composed of 70 isolated findspots of limited cultural heritage value or interest, 50 discrete artifact clusters of limited cultural heritage value or interest and 45 locations which were recommended to undergo Stage 3 AA (Stantec, 2011). Each archaeological site, referred to as either a “site”, “cluster” or “isolated findspot” was given a discrete identifier. The following report continues on from those identifiers, such that the first site in this report is GREP Site #46, the first artifact cluster is CL51 and the first isolated find is IF71.

The results of the 2010 Stage 2 archaeological field program confirmed the general conclusions of the Stage 1 AA study that the majority of the Project area had elevated potential for the presence of undiscovered archaeological resources.

The 45 archaeological sites requiring Stage 3 AA identified during the first phase of the Stage 2 AA completed in 2010 as well as those sites recommended for no further assessment are shown in Table 2-1 below.

Table 2-1 Archaeological Sites Documented by Stantec During the 2010 Stage 2 AA

Stantec Identifier	Borden #	Culture Period(s) Represented	Stage 3 Recommended ?	Stantec Identifier	Borden #	Culture Period(s) Represented	Stage 3 Recommended ?
Site 1	AfGx-710	Indeterminate	Yes	CL 38	n/a	Indeterminate	No
Site 2	AfGx-711	Indeterminate	Yes	CL 39	n/a	Indeterminate	No
Site 3	AfGx-712	Indeterminate	Yes	CL 40	n/a	Indeterminate	No
Site 4	AfGx-713	Indeterminate	Yes	CL 41	n/a	Indeterminate	No
Site 5	AfGx-714	Indeterminate	Yes	CL 42	n/a	Indeterminate	No
Site 6	AfGx-715	Indeterminate	Yes	CL 43	n/a	Indeterminate	No
Site 7	AfGx-716	Indeterminate	Yes	CL 44	n/a	Indeterminate	No
Site 8	AfGx-717	Indeterminate	Yes	CL 45	n/a	Indeterminate	No
Site 9	AfGx-718	Indeterminate	Yes	CL 46	n/a	Indeterminate	No
Site 10	AfGx-719	Indeterminate	Yes	CL 47	n/a	Indeterminate	No
Site 11	AfGx-720	Early Woodland	Yes	CL 48	n/a	Indeterminate	No
Site 12	AfGw-137	Late Palaeo-Indian/Early Woodland	Yes	CL 49	n/a	Indeterminate	No
Site 13	AfGw-138	Middle Archaic	Yes	CL 50	n/a	Indeterminate	No
Site 14	AfGw-139	Late Archaic	Yes	IF 1	n/a	Indeterminate	No
Site 15	AfGw-140	Indeterminate	Yes	IF 2	n/a	Indeterminate	No
Site 16	AfGw-141	19th Century Historic	Yes	IF 3	n/a	Indeterminate	No
Site 17	AfGw-142	Late Archaic	Yes	IF 4	n/a	Indeterminate	No
Site 18	AfGw-143	Early Archaic	Yes	IF 5	n/a	Indeterminate	No
Site 19	AfGw-144	Early Woodland	Yes	IF 6	n/a	Indeterminate	No
Site 20	AfGw-145	Indeterminate	Yes	IF 7	n/a	Indeterminate	No
Site 21	AfGw-146	Indeterminate	Yes	IF 8	n/a	Indeterminate	No
Site 22	AfGw-147	Late Woodland	Yes	IF 9	n/a	Indeterminate	No
Site 23	AfGw-148	Indeterminate	Yes	IF 10	n/a	Indeterminate	No
Site 24	AfGw-149	Late Archaic	Yes	IF 11	n/a	Indeterminate	No
Site 25	AfGw-150	Indeterminate	Yes	IF 12	n/a	Indeterminate	No
Site 26	AfGw-151	Middle Archaic	Yes	IF 13	n/a	Late Archaic	No
Site 27	AfGw-152	Indeterminate	Yes	IF 14	n/a	Indeterminate	No
Site 28	AfGw-153	Late Palaeo-Indian	Yes	IF 15	n/a	Indeterminate	No
Site 29	AfGw-154	Indeterminate	Yes	IF 16	n/a	Indeterminate	No
Site 30	AfGw-155	Indeterminate	Yes	IF 17	n/a	Indeterminate	No

Site 31	AfGw-156	Indeterminate	Yes	IF 18	n/a	Indeterminate	No
Site 32	AfGw-157	Middle Archaic	Yes	IF 19	n/a	Late Archaic	No
Site 33	AfGw-158	Early Woodland	Yes	IF 20	n/a	Euro-Canadian	No
Site 34	AfGw-159	Indeterminate	Yes	IF 21	n/a	Early Woodland	No
Site 35	AfGW-160	Indeterminate	Yes	IF 22	n/a	Indeterminate	No
Site 36	AfGw-161	Indeterminate	Yes	IF 23	n/a	Indeterminate	No
Site 37	AfGw-162	Indeterminate	Yes	IF 24	n/a	Indeterminate	No
Site 38	AfGw-163	Indeterminate	Yes	IF 25	n/a	Indeterminate	No
Site 39	AfGw-164	Early Archaic	Yes	IF 26	n/a	Indeterminate	No
Site 40	AfGw-165	Late Palaeo-Indian	Yes	IF 27	n/a	Indeterminate	No
Site 41	AfGw-166	Early Archaic	Yes	IF 28	n/a	Indeterminate	No
Site 42	AfGw-167	Late Palaeo-Indian	Yes	IF 29	n/a	Indeterminate	No
Site 43	AfGx-721	Early Archaic	Yes	IF 30	n/a	Indeterminate	No
Site 44	AfGw-184	Indeterminate	Yes	IF 31	n/a	Indeterminate	No
Site 45	AfGx-732	Indeterminate	Yes	IF 32	n/a	Indeterminate	No
CL 1	n/a	Indeterminate	No	IF 33	n/a	Indeterminate	No
CL 2	n/a	Late Archaic	No	IF 34	n/a	Middle Woodland	No
CL 3	n/a	Indeterminate	No	IF 35	n/a	Early Woodland	No
CL 4	n/a	Indeterminate	No	IF 36	n/a	Indeterminate	No
CL 5	n/a	Indeterminate	No	IF 37	n/a	Indeterminate	No
CL 6	n/a	Indeterminate	No	IF 38	n/a	Indeterminate	No
CL 7	n/a	Indeterminate	No	IF 39	n/a	Indeterminate	No
CL 8	n/a	Early Woodland	No	IF 40	n/a	Indeterminate	No
CL 9	n/a	Indeterminate	No	IF 41	n/a	Indeterminate	No
CL 10	n/a	Indeterminate	No	IF 42	n/a	Indeterminate	No
CL 11	n/a	Indeterminate	No	IF 43	n/a	Indeterminate	No
CL 12	n/a	Indeterminate	No	IF 44	n/a	Late Archaic	No
CL 13	n/a	Indeterminate	No	IF 45	n/a	Indeterminate	No
CL 14	n/a	Indeterminate	No	IF 46	n/a	Late Archaic	No
CL 15	n/a	Indeterminate	No	IF 47	n/a	Indeterminate	No
CL 16	n/a	Indeterminate	No	IF 48	n/a	Indeterminate	No
CL 17	n/a	Indeterminate	No	IF 49	n/a	Late Archaic	No
CL 18	n/a	Indeterminate	No	IF 50	n/a	Indeterminate	No
CL 19	n/a	Late Archaic	No	IF 51	n/a	Middle Woodland	No
CL 20	n/a	Indeterminate	No	IF 52	n/a	Late Archaic	No
CL 21	n/a	Indeterminate	No	IF 53	n/a	Indeterminate	No
CL 22	n/a	Indeterminate	No	IF 54	n/a	Indeterminate	No
CL 23	n/a	Indeterminate	No	IF 55	n/a	Indeterminate	No
CL 24	n/a	Indeterminate	No	IF 56	n/a	Indeterminate	No
CL 25	n/a	Indeterminate	No	IF 57	n/a	Indeterminate	No
CL 26	n/a	Indeterminate	No	IF 58	n/a	Indeterminate	No

CL 27	n/a	Indeterminate	No	IF 59	n/a	Indeterminate	No
CL 28	n/a	Indeterminate	No	IF 60	n/a	Indeterminate	No
CL 29	n/a	Indeterminate	No	IF 61	n/a	Indeterminate	No
CL 30	n/a	Indeterminate	No	IF 62	n/a	Indeterminate	No
CL 31	n/a	Middle Woodland	No	IF 63	n/a	Indeterminate	No
CL 32	n/a	Indeterminate	No	IF 64	n/a	Indeterminate	No
CL 33	n/a	Indeterminate	No	IF 65	n/a	Indeterminate	No
CL 34	n/a	Indeterminate	No	IF 66	n/a	Indeterminate	No
CL 35	n/a	Indeterminate	No	IF 67	n/a	Indeterminate	No
CL 36	n/a	Indeterminate	No	IF 68	n/a	Indeterminate	No
CL 37	n/a	Indeterminate	No	IF 69	n/a	Late Archaic	No
				IF 70	n/a	Indeterminate	No

Stage 2 AA completed on other Project lands by Golder Associates on approximately 75 ha of land for both solar and wind components resulted in the identification of 55 archaeological sites, including 54 pre-contact Aboriginal archaeological sites and one historic period Euro-Canadian site. Of the 55 sites identified 25 were recommended to undergo Stage 3 AA (Golder, 2011). A list of all of the sites located by Golder is shown below.

Table 2-2: Archaeological Sites Documented by Golder Associates During the 2010 Stage 2 AA

Golder Site Location #	Borden #	Cultural Affiliation	Stage 3 Recommended	Golder Site Location #	Borden #	Cultural Affiliation	Stage 3 Recommended
1	n/a	pre-contact	No	28	n/a	pre-contact	No
2	AfGw-168	pre-contact	Yes	29	AfGw-177	pre-contact	Yes
3	n/a	pre-contact	No	30	AfGw-178	pre-contact	Yes
4	n/a	pre-contact	No	31	n/a	pre-contact	No
5	AfGw-169	pre-contact	Yes	32	n/a	pre-contact	No
6	n/a	pre-contact	No	33	n/a	pre-contact	No
7	n/a	pre-contact	No	34	AfGw-179	Early/Middle Woodland	Yes
8	n/a	pre-contact	No	35	n/a	pre-contact	No
9	n/a	pre-contact	No	36	n/a	pre-contact	No
10	n/a	pre-contact	No	37	n/a	pre-contact	No
11	n/a	pre-contact	No	38	AfGw-180	pre-contact	Yes
12	AfGw-170	Middle Archaic	Yes	39	AfGx-722	pre-contact	Yes
13	n/a	pre-contact	No	40	n/a	Euro-Canadian	No
14	n/a	pre-contact	No	41	AfGw-182	pre-contact	Yes
15	AfGw-171	pre-contact	Yes	42	n/a	pre-contact	No
16	AfGw-172	pre-contact	Yes	43	n/a	pre-contact	No
17	AfGw-173	pre-contact	Yes	44	AfGw-183	pre-contact	Yes
18	AfGw-174	pre-contact	Yes	45	AfGx-723	pre-contact	Yes
19	n/a	pre-contact	No	46	AfGx-724	pre-contact	Yes

20	n/a	pre-contact	No	47	AfGx-725	pre-contact	Yes
21	AfGw-175	pre-contact	Yes	48	AfGx-726	pre-contact	Yes
22	n/a	pre-contact	No	49	AfGx-727	pre-contact	Yes
23	n/a	pre-contact	No	50	AfGx-728	pre-contact	Yes
24	AfGw-176	pre-contact	Yes	51	AfGx-729	pre-contact	Yes
25	n/a	pre-contact	No	52	AfGx-730	pre-contact	Yes
26	n/a	pre-contact	No	53	AfGx-731	pre-contact	Yes
27	n/a	pre-contact	No	54	n/a	pre-contact	No
				55	n/a	pre-contact	No

3 STAGE 2 ASSESSMENT FIELD METHODS

At the completion of the 2010 Stage 2 AA field program (halted by snowfall and enduring winter conditions on December 6, 2010) there were 16 turbine pads and their associated access roads that still required Stage 2 field assessment. During the winter of 2010-2011 adjustments were also made to three wind components that had been surveyed during the 2010 field season. These three adjustments also required completion of Stage 2 field assessment for the 2011 field season. Permission to access the various Project properties was secured from individual landowners by the proponent and fieldwork was conducted between April 13-15, June 15-16 and on September 1 2011. As part of SPK's ongoing engagement with local First Nation communities, an archaeological monitor from the Six Nations of the Grand, Daphne Parrington, was assigned to the Stage 2 AA. Ms. Parrington was present during the April and June, 2011 Stage 2 AA field program and actively participated in the field surveys. Two aboriginal monitors, Blake Sault and Mike Hill, participated in the September 1, 2011 field survey.

Field assessment followed standard procedures as outlined in the 2011 *Standards and Guidelines for Consultant Archaeologists* prepared by the Ministry of Tourism and Culture (MTC 2011). All pedestrian survey was completed on recently ploughed lands with greater than 80% visibility of the ground surface at 5 m intervals (or less). Ploughing of the fields was deep enough to provide total topsoil exposure. Ploughed fields were allowed to weather through several rainfalls prior to pedestrian survey. When artifacts were encountered survey interval was reduced to 1 m intervals and intensified for an area of minimum 20 x 20 m from either the individual artifact or from the centre of the initial scatter encountered until the full extent of the site was determined. All diagnostic or formal tools encountered during the pedestrian survey were collected. With the exception of isolated formal tools artifacts were left in the field to allow relocation of sites in the field.

In the one area where test pit survey was completed field assessment followed procedures detailed in the 2011 *Standards and Guidelines for Professional Archaeologists*:

- The area assessed by test pit survey was terrain where ploughing was not possible or viable given the extremely small size of the area, and the lack of direct access roads to this location that would enable the plough to avoid negative impacts to crops within lands not part of this project;
- Test pits were spaced at a maximum interval of 5 m (400 test pits per hectare) in areas less than 300 m from a feature of archaeological potential;

- Ensured that test pits are at least 30 cm in diameter;
- Excavated each test pit by hand, into the first 5 cm of subsoil and examine the pit for stratigraphy, cultural features, or evidence of fill;
- Screened soil through mesh no greater than 6 mm; and
- Backfilled all test pits.

The 2011 Stage 2 AA Project area included a total of 59.6 ha of land. Of that 59.6 ha 50.2 ha (84.2%) was surveyed using a pedestrian survey, 0.835 (1.4%) was surveyed using a test pit excavation survey, 8.13 ha (13.6%) was not assessed due to previous disturbance and 0.46 ha (0.77%) was not assessed due to low archaeological potential (Table 3-1).

Table 3-1 Location, Size, Survey Strategy and Results of Stage 2 AA By Survey Area

Survey Area	Location (Lot, Concession, Township)	Area Surveyed ha (%)	Low Potential, Not Surveyed ha (%)	Survey Methodology	Archaeological Sites Recorded
Turbine 41	Lot 39, Concession 1, South Cayuga	2 (100)	0 (0)	Pedestrian, 5 m intervals	AfGX-768, AfGx-769
Turbines 65-67	Lots 14-16, Concession 2 South of Rainham Road, Dunn	10.5 (98.9)	0.11 (1.1)	Pedestrian, 5 m intervals	AfGv-124, AfGv-125, AfGv-127
Turbine 58	Lot 8, Concession 6, Rainham	4.2 (97.0)	0.12 (3.0)	Pedestrian, 5 m intervals	AfGx-770, AfGx-771, AfGx-772
Turbine 51	Lot 24, Concession 1, Rainham	3.3 (100)	0 (0)	Pedestrian, 5 m intervals	AfGw-229
Turbine 30	Lot 4, Concession 1 North of Rainham Road, Dunn	5.5 (100)	0 (0)	Pedestrian, 5 m intervals	none
Turbines 59-64 (Complex 3)	Lots 21-24, Concession 2 South of Rainham Road, Dunn and Lot 2, Concession 3 South of Rainham Road, Dunn	15 (67.8)	8.13 (32.2) (previously disturbed)	Pedestrian, 5 m intervals	none
Turbines 15, 49 and 50	Lots 7-9, Concession 1 North of Rainham Road, Dunn	8.1 (96)	0.2 (4)	Pedestrian, 5 m intervals	none
Turbine 12, New Access Road	Lot 19, Concession 6, South Cayuga	1.6 (100)	0 (0)	Pedestrian, 5 m intervals	none
Turbines 23 and 28, Access Road	Lots 39 and 40, Concession 2, South Cayuga	0.76 (96.2)	0.03 (3.8)	Test pit, 5 m intervals	none
Turbine 10, Turn-Around	Lot14, Concession4, Rainham	0.075 (100)	0 (0)	Test Pit, 5 m intervals	none

Recording of archaeological site locations for the 2011 Stage 2 AA was conducted using a handheld Garmin GPS75 Geographic Position System (GPS) device. All GPS co-ordinates in this study were located in UTM grid 17T and were recorded using the North American Datum (NAD) 83 datum. The method of correction for GPS co-ordinates was 3D Differential GPS (DGPS). In several instances one GPS point recorded the location of several tightly clustered flakes. In one instance (discussed below) GPS data was recorded only for the limits of a very dense scatter of lithic flakes. Where test pit survey was completed the location of each initial positive test pit was recorded. A minimum of one GPS reading was taken for each small site (less than 10 m x 10m) and five for each large site (greater than 10 m x 10 m). For the most part each artifact, and all diagnostic artifacts, found during pedestrian survey (including

individual flakes) were recorded in the field. Readings were also taken of all fixed reference landmarks for each site.

Only Aboriginal pre-contact period artifacts were documented during the assessment. With the exception of material recovered from test pits, only diagnostic or formal tools were collected during the Stage 2 AA. All other artifacts encountered during the pedestrian survey component of the Project were left *in-situ*. Formal tools collected during the field survey were given specific alpha-numeric designations by tool type (*e.g.* Point), GPS unit designation of 3 to differentiate the 2011 survey results from those in 2010 and sequential number of that tool type, resulting in designations such as Point 3-9. These designations have been carried forward, where applicable, to the artifact catalogues, either of registered archaeological sites (*e.g.* AfGv-125.1 for Point 3-2) or as part of the non-site affiliated collection (*e.g.* 161010624.45).

Archaeological resources that meet the definition of artifact and archaeological site under the *Ontario Heritage Act* and the criteria listed in Section 2.2 of the 2011 *Standards and Guidelines for Consultant Archaeologists* will require Stage 3 archaeological assessment. Archaeological resources that do not require Stage 3 assessment either lack cultural heritage value or interest and, therefore, do not meet the definition of an artifact and archaeological site under the *Ontario Heritage Act* or their cultural heritage value or interest has been sufficiently assessed and documented in Stage 2. Since the Project Area is located west of the Niagara Escarpment the minimum number of non-diagnostic artifacts, such as stone flakes from the production of stone tools, for a Stage 3 assessment to be required is higher than in the remainder of the province. These more stringent requirements for land west of the Escarpment recognise that there is a much higher occurrence of archaeological sites consisting of less than ten (10) pieces of chipping detritus where their cultural heritage value or interest can be sufficiently documented and assessed at Stage 2. As outlined in the 2011 *Standards and Guidelines for Consultant Archaeologists* at least one of the following criteria should be met in order for an archaeological site to require a Stage 3 assessment:

- Pre-contact archaeological resources containing diagnostic artifacts or a concentration of artifacts (or both):
    - In pedestrian survey, finding within a 10 x 10 metre area:
        - at least one diagnostic artifact or fire-cracked rock in addition to two or more non-diagnostic artifacts; or
        - in areas on or west of the Niagara Escarpment, at least 10 non-diagnostic artifacts.
    - In test pit survey, within a 10 m x 10 m area:
        - at least one diagnostic artifact from combined test pit and test unit excavations; or
        - at least five non-diagnostic artifacts from combined test pit and test unit excavations.
- Single examples of archaeological resources of special interest:
    - Aboriginal ceramics;
    - Exotic or period-specific cherts; and
    - An isolated Paleo-Indian or Early Archaic diagnostic artifact;
- Post-contact archaeological sites containing at least 20 artifacts that date the period of use to before 1900;
- 20th century archaeological sites where background documentation or archaeological

features indicate possible cultural heritage value or interest;

- The presence of human remains.

The 2011 *Standards and Guidelines for Consultant Archaeologists* do allow for some flexibility to recommend Stage 3 assessment for archaeological sites that do not meet these criteria above based on the professional judgment of the consultant archaeologist. Given that artifact locations were recorded using a handheld GPS that had an average accuracy error of between 3-5 m at any given time some allowances have been made in determining sites that are not entirely within the designated 10 x 10 m area. Therefore, in some instances sites that contained just over the minimum number of non-diagnostics but which were distributed over a larger area than 10 m x 10 m were recommended for Stage 3 assessment have been designated as sites because they represented the only artifact cluster in an otherwise blank archaeological landscape.

Site forms, or Borden forms, were submitted for only those archaeological sites documented that meet the criteria as defined in Section 7.12 of the *2011 Standards and Guidelines for Consultant Archaeologists*. These criteria are not the same as those used to determine if Stage 3 assessment is required for an archaeological site documented during a Stage 2 assessment. Borden numbers are an alpha-numeric numbering system for archaeological sites that is used throughout Canada. A Borden Block is composes of four letters, two major (UPPER CASE) and two minor (lower case), each letter of which represents a major and minor subdivision within the block. In the case of site AfGw-167, for instance, **A** is the major South-North locator. Each major block represents 2 degrees of Latitude from south to north (using letters A - U); **f** is the minor South-North Locator, with each minor block representing 10 minutes of Latitude from south to north (using letters a-l). **G** is the major East-West Locator, with each major block representing 4 degrees of longitude from east to west (letters A - W); **w** is the minor East-West Locator, with each minor block representing 10 minutes of longitude from east to west (letters a - x). Within each of these blocks sites are numbered consecutively as they are registered, and each site gets a unique number. In the case of site AfGx-768 this is the 768th site found within Borden block AfGx.

4 RECORD OF FINDS

The documentary record generated in the field during the Stage 2 AA includes: field notes, photographs, GPS points and tracks. This information is housed at the Stantec office in Ottawa. The total collection of artifacts collected from the Stage 2 AA occupies one-quarter of a standard 38 x 20 x 25 cm (15 x 12 x 10 inch) Bankers Box. Artifacts and other records associated with the Stage 2 AA will be curated at the Stantec office in Ottawa, Ontario.

The Stage 2 AA completed by Stantec in 2011 resulted in the identification and recording of several hundred pre-contact period artifacts, including 12 formal or expedient tools (11 projectile points, or “arrowheads” and one core). Unless otherwise noted, all tool forms were produced on Bois Blanc formation cherts (*e.g.* Onondaga chert or Haldimand chert) (Fox, 2009). One location was completely recorded based on the limits of a dense lithic scatter where GPS points of individual artifacts were not taken.

The majority of artifacts located were flakes or chips of stone that are the results of stone tool making. Lithic flakes exhibit different characteristics, depending on when in the tool making process they were produced. In general tool stone making follows four general stages. The following are descriptions of the stages defined and used by the author.

Once a piece of lithic material has been chosen *primary reduction* of the material begins. This stage typically involves the removal of the outside, or cortex, of the stone so that a rough tool shape is produced. The product of this stage is referred to as a primary blank, which can be further modified into a wide array of formal tools. The flakes produced at this stage are often rectangular and blocky and exhibit a large amount of cortex on the flakes.

Secondary reduction occurs when a primary blank is further reduced through the removal of material from both sides of the piece, referred to as bifacial thinning. The product of this work, the secondary blank, can be used as a tool itself, or can be further refined into more formal tools. Flakes produced in this stage of reduction show some flake scarring (the marks left when flakes are removed from a piece of stone), have reduced striking platforms (the spot where percussion is applied to remove the flake), have no, or very little, cortex, and are less blocky.

The further reduction of secondary blanks into formal tool shapes is referred to as *tertiary reduction*. The same basic processes are used here as in secondary reduction, although there is the addition of more precise flake removal through pressure flaking, where the maker applies direct pressure onto a specific part of the tool in order to facilitate flake removal. Pressure flaking generally produces smaller, thinner flakes than does percussion flaking. These tertiary flakes also exhibit many more flake scars.

The fourth stage of reduction involves the sharpening, or retouching, of tool edges after the final tool shape has been achieved. These *retouch* flakes are also produced as tools are resharpened after they wear down and become dull. Retouch flakes are produced by careful pressure flaking and produce very small, narrow, and thin flakes.

Particular emphasis is placed on projectile points in this assessment as they are the most reliable artifactual indicators (*i.e.* diagnostic) of cultural period associations, and thus of age, rarity and other criteria that assist in assigning cultural heritage value or interest to archaeological sites. Such emphasis on diagnostic artifacts is reflected in the special provisions made in the 2011 *Standards and Guidelines for Consultant Archaeologists* for single examples of Palaeo-Indian, Early Archaic, or Late Woodland period artifacts. All projectile points collected during the Stage 2 AA are shown on Plate 1. Every projectile point was analysed and sorted according to cultural affiliation and period. Although not all of the points could be confidently typed or given an age, analysis did lead to the identification of: four Middle and Late Archaic points; two Early Woodland and one Middle Woodland period points. A further four points could not be assigned to a period or date due to their incomplete nature (Table 4-1).

Based on the 2011 *Standards and Guidelines for Consultant Archaeologists* Stantec has identified a total of 9 discrete archaeological site locations that will require Stage 3 Archaeological Assessment (Table 4-2). A further 8 artifact clusters and 13 isolated findspots which did not meet the criteria for a Stage 3 archaeological assessment were also documented during the Stage 2 AA (Table 4-3).

Table 4-1 Archaeological Culture Period and Dates of Recovered Projectile Points

Survey Location	Survey ID #	Borden #	Period	Date
T65 Pad	Point 3-1	AfGv-127	Early Woodland	2,850-2,350 BP
T66 Pad	Point 3-2	AfGv-125	Middle Woodland	2,500-1,500 BP
T58 Road	Point 3-3	n/a	Indeterminate	Indeterminate
T58 Road	Point 3-4	AfGx-903	Poss. Late Archaic	4,000-3,500 BP
T58 Road	Point 3-5	n/a	Indeterminate	Indeterminate
T58 Road	Point 3-6	n/a	Indeterminate	Indeterminate
T58 Road	Point 3-7	n/a	Indeterminate	Indeterminate
T58 Road	Point 3-8	AfGx-904	Late Archaic	3,500-2,800 BP
T58 Road	Point 3-9	AfGx-905	Late Archaic	3,500-2,800 BP
T41 Pad	Point 3-10	AfGx-906	Middle Archaic	5,000-4,500 BP
Turbine Complex 3 Road	Point 3-11	AfGv-128	Early Woodland	2,850-2,350 BP

Artifact Identification Sources: Ellis and Ferris, 1990; Justice, 1987; LCOAS, n.d.; Ritchie, 1969

Table 4-2 Archaeological Sites Recommended for Stage 3 Assessment

GREP Site #	Location	Borden #	# Tools/ Diagnostics	# non-Tools	Total # Artifacts	Cultural Period	Dimensions (in m)	Stage 3 Recommended
46	T41	AfGx-768	0	160	160	Indeterminate	145 X 40	Yes
47	T41	AfGx-769	0	n/a	n/a	Indeterminate	65 x 40	Yes
48	T66	AfGv-124	0	38	38	Indeterminate	30 x 30	Yes
49	T66	AfGv-125	1	15	16	Middle Woodland	50 x 50	Yes
50	T51	AfGw-229	1	12	13	Indeterminate	50 x 50	Yes
51	T58	AfGx-770	0	10	10	Indeterminate	25 x 25	Yes
52	T58	AfGx-771	1	7	8	Indeterminate	30 x 20	Yes
53	T58	AfGx-772	1	5	6	Indeterminate	35 x 20	Yes
54	T65	AfGv-127	1	3	4	Early Woodland	30 x 10	Yes

Table 4-3 Archaeological Sites Not Recommended for Stage 3 Assessment

GREP Site #	Location	Borden #	# Tools	# Lithic Flakes	Total # Artifacts	Cultural Period	Dimensions (in m)	Comment
CL 51	T41	n/a	0	5	5	Indeterminate	25 X 5	
CL 52	T58	n/a	0	4	4	Indeterminate	35 x 20	
CL 53	C 3	n/a	0	3	3	Indeterminate	25 x 10	
CL 54	T12	n/a	0	5	5	Indeterminate	15 x 10	
CL 55	T12	n/a	0	5	5	Indeterminate	20 x 6	
CL 56	C 3	AfGv-128	1	1	2	Early Woodland	5 x 5	Point 3-11
CL 57	T23	AfGx-901	0	6	6	Indeterminate	10 x 10	Test pits
CL 58	T23	AfGx-902	0	5	5	Indeterminate	10 x 10	Test pits
IF 71	T41	n/a	0	1	1	Indeterminate	n/a	Isolated lithic flake
IF 72	T41	n/a	0	1	1	Indeterminate	n/a	Isolated lithic flake

IF 73	T41	AfGx-906	1	0	1	Middle Archaic	n/a	Point 3-10
IF 74	T65	n/a	0	1	1	Indeterminate	n/a	Isolated lithic flake
IF 75	T30	n/a	0	1	1	Indeterminate	n/a	Isolated lithic flake
IF 76	T58	AfGx-903	1	0	1	Poss. Late Archaic	n/a	Point 3-4
IF 77	T58	n/a	1	1	1	Indeterminate	n/a	Point 3-5
IF 78	T58	n/a	1	0	1	Indeterminate	n/a	Point 3-7
IF 79	T58	AfGx-904	1	0	1	Late Archaic	n/a	Point 3-8
IF 80	T58	n/a	0	1	1	Indeterminate	n/a	Isolated lithic flake
IF 81	T58	AfGx-905	1	0	1	Late Archaic	n/a	Point 3-9
IF 82	T12	n/a	0	1	1	Indeterminate	n/a	Isolated lithic flake
IF 83	T12	n/a	0	1	1	Indeterminate	n/a	Isolated lithic flake

4.1 Turbine 41

The access road and pad for Turbine is located in Lot 39, Concession 1, South Cayuga, on the south side of Highway 3. The access road for T41 is also common to Turbines 34 and 45. Both of those turbine pads and the access road were surveyed in 2010. The T41 pad was surveyed on April 15, 2011. This surveyed area encompasses a total of 2.05 ha, or 100% of the Project component area (Figure 4-1). The topography of this area is level for the entire surveyed area. A series of shallow drainage features cross the area from west to east, which during wetter times of the year results in a thin overlay of water across the fields. Eventually these drainage channels flow into the Grand River, approximately 3 km to the east. At the time of the Stage 2 AA the channels were dry and all parts of the pad were assessed.

Two sites composed exclusively of lithic debitage were located on the T41 pad during the survey (Figure 4-1). These sites were registered as AfGx-768 and AfGx-769. A cluster of five lithic debitage artifacts was recorded on the access from the common access road. There were also three isolated artifacts, including a Middle Archaic projectile point, were also located during the survey (Figure 4-1).

4.1.1 Turbine 41 Sites

4.1.1.1 GREP Site #46 (AfGx-768)

GREP Site #46 (AfGx-768) is composed of 160 lithic flakes across an area of approximately 145 m x 40 m in two major clusters on the north side of the T41 pad at its junction with the access road (Figure 4-1). The site is located on level ground in the north-west corner of the T41 pad. There were no diagnostic tools located at the site and thus it is presently of indeterminate culture period and/or age. This site meets the criteria for Stage 3 assessment as it consists of a large number of non-diagnostic artifacts (10 or more) in a minimum 10 m x 10 m area (Standard1a.i.3).

4.1.1.2 GREP Site #47 (AfGx-769)

GREP Site #47 (AfGx-769) is composed of an undetermined number lithic flakes across an area of approximately 65 m x 40 m in the south-west corner of the T41 pad (Figure 4-1). The site is located on level ground in the south-west corner of the T41 pad, opposite Site #46. There were too many flakes, estimated in the hundreds, within this area for each flake to be meaningfully recorded with the hand held GPS. Five GPS points were taken in the middle and around the perimeter of the scatter. It is possible that these artifacts are part of the same site as AfGx-768 but based on the distance between the two concentrations of artifacts, a distinct break in the

lithic scatter pattern between the two sites and the presence of a drainage channel between them it was decided that for the time being they should be considered as separate entities. There were no diagnostic tools located at the site and thus it is presently of indeterminate culture period and/or age. This site meets the criteria for Stage 3 assessment as it consists of a large number of non-diagnostic artifacts (10 or more) in a minimum 10 m x 10 m area (Standard1a.i.3).

4.1.2 Turbine 41 Artifact Clusters

4.1.2.1 Artifact Cluster #51

CL #51 is composed of five lithic flakes in very close proximity located on the T41 access road (Figure 4-1). The low artifact density of the cluster does not meet minimum criteria for a Stage 3 assessment and, as such, its cultural heritage value and interest can be considered sufficiently documented and assessed at Stage 2.

4.1.3 Turbine 41 Isolated Findspots

4.1.3.1 Isolated Findspot 71

IF #71 is composed of a single piece of lithic debitage of indeterminate age or cultural affiliation located to the west of GREP Site #46 (Figure 4-1). The single artifact does not meet minimum criteria for a Stage 3 assessment and, as such, its cultural heritage value and interest can be considered sufficiently documented and assessed at Stage 2.

4.1.3.2 Isolated Findspot 72

IF #72 is composed of a single piece of lithic debitage of indeterminate age or cultural affiliation located to the west of GREP Site #46 (Figure 4-1).). The single artifact does not meet minimum criteria for a Stage 3 assessment and, as such, its cultural heritage value and interest can be considered sufficiently documented and assessed at Stage 2.

4.1.3.3 Isolated Findspot 73

IF #73 is composed of a single projectile point, Point 3-10, approximately 30 m to the south-east of GREP Site #47 (Figure 4-1). Point 3-10 is a Middle Archaic Brewerton Side Notched type projectile point, and dates to between 5,000-4,500 BP. The single artifact does not meet minimum criteria for a Stage 3 assessment and, as such, its cultural heritage value and interest can be considered sufficiently documented and assessed at Stage 2.

4.2 Turbines 65, 66 and 67

The access roads and pads for Turbines 65, 66 and 67 (T65-T67) are located in Lots 14, 15 and 16, Concession 2 South of Rainham Road in Dunn Township, south of Haldimand Tract Road (Figure 4-2). This surveyed area encompasses a total of 10.5 ha, or 98.9% of the Project component area (Figure 4-2). Survey of this Project Area was completed on April 14, 2011. The topography of this area is almost level, with only gentle undulations. A headwater for the Mazi Drain, which empties into the Grand River to the east, crosses the common access road just north of where the separate turbine access roads branch off (Figure 4-2; Photo 1). Just before the T67 pad there is another wide ditch that is part of the Mazi Drain (Figure 4-2; Photo

3). Other than these two narrow areas all of the access road and turbine pad areas were surveyed by pedestrian survey.

Three sites, one composed exclusively of lithic debitage(AfGv-124) and the other two composed of lithic flakes and a projectile point (AfGv-125 and AfGv-127 were located during the survey (Figure 4-2). One isolated artifact were also located during the survey (Figure 4-2). Locations of all formal tools are shown on Figure 4-2 and are itemised in the Artifact Catalogues in Appendix A.

4.2.1 Turbines 65, 66 and 67 Sites

4.2.1.1 GREP Site #48 (AfGv-124)

GREP Site #48 (AfGv-124) is composed of 38 flakes of lithic debitage in an area of approximately 30 m x 25 m, located on the east side of the common access road, approximately midway between Haldimand Tract Road and the Mazi Drain (Figure 4-2). The site is located on level ground between a series of small ephemeral drainage channels.

This site meets the criteria for Stage 3 assessment as it consists of a large number of non-diagnostic artifacts (10 or more) in a minimum 10 m x 10 m area (Standard1a.i.3).

4.2.1.2 GREP Site #49 (AfGv-125)

GREP Site #49 (AfGv-125) is composed of a Point 3-2 and 15 pieces of lithic debitage (Plate 1), located on the north-east corner of the T66 pad (Figure 4-2). The site is located on level ground between a number of small ephemeral drainage channels approximately 140 m south of the Mazi Drain (Figure 4-2). Point 3-2 is a Middle Woodland Saugeen type point manufactured on Onondaga chert

Based on the criterion of a diagnostic artifact and two or more non-diagnostic artifacts the site meets the criteria for a Stage 3 assessment (Standard1a.i.1).

4.2.1.3 GREP Site #54 (AfGv-127)

GREP Site #54 (AfGv-127) is composed of Point 3-1 and three pieces of lithic debitage located on the north-west edge of the T65 pad over an area of approximately 30 m x 25 m (Figure 4-2). The point and two of the flakes are separated by approximately 7 m. Point 3-1 is the distal end of an Early Woodland projectile point manufactured on Bois Blanc formation chert (Plate 1). The site is located on level ground near no notable topographic features.

Based on the criterion of a diagnostic artifact and two or more non-diagnostic artifacts this site meets the criteria for a Stage 3 assessment (Standard1a.i.1).

4.2.2 Turbines 65, 66 and 67 Isolated Findspots

4.2.2.1 Isolated Findspot 74

IF 74 was composed of a single flake of Bois Blanc formation chert that was located on the south side of the drainage ditch that runs across the T65-67 access road and approximately 90 m north of GREP site #49 (Figure 4-2). The single artifact does not meet minimum criteria for a Stage 3 assessment and, as such, its cultural heritage value and interest can be considered sufficiently documented and assessed at Stage 2.

4.3 Turbine 58

The access road and pad for Turbine 58 (T58) are located in Lot 8, Concession 6, Rainham Township, north of Concession Road 6 (Figure 4-3). This surveyed area encompasses a total of 4.2 ha, or 97% of the Project component area (Figure 4-3). T20 was surveyed on April 14, 2011. The topography of this area is characterised by gently sloping grade, rising to the north and south of the tributary of Hemlock Creek that intersects the access road toward the south end of the Project location (Figure 4-3; Photos 6 and 7). Hemlock Creek drains into Lake Erie near Selkirk, to the south-west of T58. During the fall of 2010 the tributary was very full, and was uncrossable on foot due to its wide and shallow bed. In the spring of 2011 the water level had subsided considerably and allowed for pedestrian survey on the north side of the stream. The wide stream bed was not surveyed, as indicated on Figure 4-3 (Photo 4). The T58 turbine is located an the east side of a treeline from the access road, and the narrow limits of the unploughed tree line were not archaeologically surveyed, although the width of the unsurveyed area was less than 5 m and did not compromise the efficacy of the pedestrian survey.

A proportionately large number of artifacts were documented on the T58 access road and pad, including three registered sites (AfGx-770, AfGx-771 and AfGx-772), a cluster of lithic debitage and six isolated findspots, five of which are projectile points or projectile point fragments (Figure 4-3). Locations of all formal tools are shown on Figure 4-3 and are itemised in the Artifact Catalogues in Appendix A.

4.3.1 Turbines 58 Sites

4.3.1.1 GREP Site #51 (AfGx-770)

GREP Site #51 (AfGx-770) is located on the turbine pad of T58 (Figure 4-3). The site is composed of 10 lithic flakes distributed over an area of 25 x 25 m, although seven of those flakes are within an area of 12 m x 7 m. Moreover, this group of flakes is noticeably contained in a relatively small area over 100 m from the nearest other artifacts. The site is located on elevated, level ground approximately 400 m north of the tributary of Hemlock Creek.

Based on professional judgment of the relative tight clustering of artifacts, this site meets the criteria for a Stage 3 assessment (Standard1a.i.3).

4.3.1.2 GREP Site #52 (AfGx-771)

GREP Site #52 (AfGx-771) is located on the access road of T58 (Figure 4-3). The site is composed of Point 3-3 and 7 lithic flakes distributed over an area of 30 x 20 m. The site is located on level, elevated ground between the channels of two ephemeral drainages, approximately 300 m north of the tributary of Hemlock Creek. Point 3-3 is a point tip of indeterminate age or cultural affiliation (Plate 1).

Based on the criterion of a diagnostic artifact and two or more non-diagnostic artifacts the site meets the criteria for a Stage 3 assessment (Standard1a.i.1).

4.3.1.3 GREP Site #53 (AfGx-772)

GREP Site #53 (AfGx-752) is located on the access road of T58, approximately 50 m north of the tributary of Hemlock Creek (Figure 4-3). The site is composed of Point 3-6 and 5 lithic flakes distributed over an area of 35 m x 20 m. Point 3-6 is the basal end of a broken finely

flaked point, either a corner notched or eared point form, manufactured on Bois Blanc formation chert (Plate 1). Due to the fragmentary nature of the point it is of indeterminate age or cultural affiliation.

Based on the criterion of a diagnostic artifact and two or more non-diagnostic artifacts the site meets the criteria for a Stage 3 assessment (Standard1a.i.1).

4.3.2 Turbine 58 Artifact Clusters

4.3.2.1 Artifact Cluster #52

CL #52 is composed of four lithic flakes scattered across an area of 25 m x 15 m on the T58 access road (Figure 4-3). The low artifact density of the cluster does not meet minimum criteria for a Stage 3 archaeological assessment and, therefore, the cultural heritage value or interest of this site is considered sufficiently documented and assessed at Stage 2.

4.3.3 Turbine 58 Isolated Findspots

4.3.3.1 Isolated Findspot 76

IF #76 is composed of Point 3-4, the basal end of a possibly Late Archaic corner notched from that was broken early in its manufacture based on the relatively limited amount of flaking evident (Figure 4-2; Plate 1). IF #76 is located approximately 25 m south-east of GREP Site #52 (Figure 4-2). The single artifact does not meet minimum criteria for a Stage 3 archaeological assessment and, therefore, the cultural heritage value or interest of this site is considered sufficiently documented and assessed at Stage 2.

4.3.3.2 Isolated Findspot 77

IF #77 is composed of Point 3-5 (Figure 4-2; Plate 1). The point, located approximately70 m south of GREP Site #52, is the medial section of a narrow projectile point, worked on only one side and manufactured on light Onondaga chert. Due to its incomplete nature the point is of indeterminate age or cultural affiliation. The single artifact does not meet minimum criteria for a Stage 3 archaeological assessment and, therefore, the cultural heritage value or interest or this site is considered sufficiently documented and assessed at Stage 2.

4.3.3.3 Isolated Findspot 78

IF #78 is composed of Point 3-7, a small fragment of a point manufactured from Selkirk chert that was located immediately north of the tributary of Hemlock Creek (Figure 4-2; Plate 1). The point fragment is very small and appears to have been shattered during use rather than broken during manufacture as there is no discernible portion that shows a flaw in the stone or any specific flaking error. Due to the small size of the point fragment it is not possible to determine cultural affiliation or age of the artifact. The single artifact does not meet minimum criteria for a Stage 3 archaeological assessment and, therefore, the cultural heritage value or interest of this site is considered sufficiently documented and assessed at Stage 2.

4.3.3.4 Isolated Findspot 79

IF #79 is composed of Point 3-8, a very finely made Late Archaic Small Point Horizon type point manufactured on Bois Blanc formation chert (Figure 4-2; Plate 1). IF #79 is located approximately 40 m south of the tributary of Hemlock Creek and 30 m north-west of IF #80. The

single artifact does not meet minimum criteria for a Stage 3 archaeological assessment and, therefore, the cultural heritage value or interest of this site is considered sufficiently documented and assessed at Stage 2.

4.3.3.5 Isolated Findspot 80

IF #80 is composed of a single piece of lithic debitage of indeterminate age or cultural affiliation located approximately 30 m south-east of IF #79 (Figure 4-2). The single artifact does not meet minimum criteria for a Stage 3 archaeological assessment and, therefore, the cultural heritage value or interest of this site is considered sufficiently documented and assessed at Stage 2.

4.3.3.6 Isolated Findspot 81

IF #81 is composed of Point 3-9, a Late Archaic Small Point Horizon type point (Figure 4-2; Plate 1). The point is not flaked on one side and appears to have been broken during manufacture. The single artifact does not meet minimum criteria for a Stage 3 archaeological assessment and, therefore, the cultural heritage value or interest of this site is considered sufficiently documented and assessed at Stage 2.

4.4 Turbine 51

The access road and pad for Turbine 51 (T51) are located in Lot 24, Concession 1, Rainham Township, to the north of Lakeshore Road (Figure 4-4). This surveyed area encompasses a total of 3.3 ha, 100% of the Project component area (Figure 4-4). T51 was surveyed on April 14, 2011 under sunny skies. The topography of this area gently rises as it moves north from Lakeshore Road. The ground is well drained throughout the length of the access road, and is notably sandier and better drained in the T51 pad area. A narrow tree line (less than 5 m in width) near the north end of the access road was not pedestrian surveyed, but was of sufficiently narrow width as to allow for full survey coverage at 5 m intervals throughout the access road area.

A site composed of a single core (Core 3-1) and 12 pieces of lithic debitage was located on the south-eastern edge of theT51 pad during the survey (Figure 4-4).

4.4.1 Turbines 51 Sites

4.4.1.1 GREP Site #50 (AfGw-229)

GREP Site #50 (AfGw-229) is located on the south-eastern edge of the T51 pad (Figure 4-4). The site is composed of a single core and 12 lithic flakes distributed over an area of 30 x 30 m. The site is located on elevated ground overlooking the headwaters of several unnamed drainage channels.

Based on the presence of the core and several flakes within a relatively concentrated area Site #50 meets the criteria for a Stage 3 assessment (Standard1a.i.1).

4.5 Turbine 30

The access road and pad for Turbine 30 (T30) are located in Lot 4, Concession 1 North of Rainham Road, Dunn Township, to the south of Haldimand Road 20 (Figure 4-5). This Project Area encompasses a total of 5.5 ha, 100% of the Project component area (Figure 4-5). For the

first 120 m south of Haldimand Road 20 a width of approximately 20 m was surveyed as there was an existing house, yard and pond on the west side of the access road (Figure 4-5). Past that area, however, the access road was surveyed for the full 40 m width. T30 was surveyed on April 14, 2011 under sunny skies. Approximately 2/3 of the way south along the access road there is a very narrow and shallow drainage channel that ploughed through allowing for full survey coverage. Where the access road turns tot eh south-west to reach the T30 pad area the road passes on the north-west side of a small man-made pond. That pond is not within the limits of the access road RoW and full survey coverage was completed.

Only a single artifact was recovered during the survey of the T30 pad and access road.

4.5.1 Turbine 30 Isolated Findspots

4.5.1.1 Isolated Findspot 75

IF #75 is composed of a single lithic flake located at the north end of the access road, just south of Haldimand Road 20 (Figure 4-5). The single artifact does not meet minimum criteria for a Stage 3 archaeological assessment and, therefore, the cultural heritage value or interest of this site is considered sufficiently documented and assessed at Stage 2.

4.6 Turbines 59-64 (Complex 3)

The access road and pads for Turbines 59-64 (T59-64), also known as Complex 3, are located in Lots 21-24, Concession 2 South of Rainham Road, Dunn Township. The surveyed area encompasses a total of 15 ha in and around the Dunnville Airport, approximately 67.8% of the Project component area (Figure 4-6). Complex 3 was surveyed on April 15, June 16 and September 1, 2011, all under dry, sunny conditions. The topography of the area is generally level. The area of the airport runways and infield is slightly, and unnaturally, elevated from the access road on the south. Discussions with Frank Collins, the General Manager of the Dunnville Airport, during the field visits determined that all of the land associated with the airport runways and infield was heavily disturbed during construction of the airfield during the Second World War (Collins, pers. comm.). Beyond the grading and paving that were readily evident there are also several drains that have been installed throughout the airfield subgrade. Because of the significant construction disturbance associated with the construction and improvements of the airport over the last 70 years the portion of the Project Area within the limits of the airfield were considered to have low potential for intact archaeological resources and was not archaeologically surveyed (Photos 9-11). All other areas of the Complex 3 Project Area were pedestrian surveyed at 5 m intervals. There was some corn stubble left on the field along the south portion of the access road; however, visibility was sufficient to meet a minimum of 80% visibility along the pedestrian transects (Photos 12 and 13). The area was reploughed for the purposes of the intensified 1 m interval survey.

Stage 2 AA of Complex 3 resulted in the identification of two artifact clusters (CL #53 and 56).

4.6.1 Turbine 59-64 (Complex 3) Artifact Clusters

4.6.1.1 Artifact Cluster #53

CL #53 is composed of three lithic flakes in an area of 25 m x 10 m located at the south-east end of the T64 pad, on the south side of the Ramsay Road right-of-way (Figure 4-6). The low artifact density of the cluster does not meet minimum criteria for a Stage 3 archaeological

assessment and, therefore, the cultural heritage value or interest of this site is considered sufficiently documented and assessed at Stage 2.

4.6.1.2 Artifact Cluster #56

CL #56 is composed of Point 3-11 and a single lithic flake in close proximity along the south edge of the of the Complex 3 access road just to the west of Port Maitland Road (Figure 4-6). The point and flake were initially discovered in April 2011, but an effective intensified survey could not be completed at that time due to some concentrations of corn stalks on the field. An attempt to increase surface visibility through raking of the corn stalks was undertaken, but this is not a supported practiced in this context. As such the area around the two artifacts was reploughed on August 31, 2011 and weathered through heavy rain on the night of August 31, 2011. Intensified survey for a distance of 25 m X 25 m around the location of the two artifacts was conducted on September 1, 2011. No further artifacts were identified during the intensification. Point 3-11 is a finely manufactured Early Woodland Meadowood point on Bois Blanc formation chert (Plate 1).

The low artifact density of the cluster does not meet minimum criteria for a Stage 3 archaeological assessment and, therefore, the cultural heritage value or interest of this site is considered sufficiently documented and assessed at Stage 2.

4.7 Turbines 15, 49 and 50

The access road and pad for Turbines 15, 49 and 50 are located in Lots 7-9, Concession 1 North of Rainham Road, Dunn Township (Figure 4-7). The surveyed area encompasses a total of 8.1 ha, or 96% of the Project component area (Figure 4-7). The three turbine pads and access roads were surveyed on April 13, 2011. The topography of the area is generally level, with some slight undulations between the pads for T49 and T50 (Photo 20) area where there are some shallow drainage channels. At the east side of the T49 pad there was an area of standing water that did not allow for ground visibility, although the low elevation and very wet soil conditions resulted in this specific area being reassigned as of low archaeological potential (Photo 21). Although the ground along the access roads is generally level there is a notable rise in elevation to the south of the Project Area, and in particular a small knoll located south of the T15 pad area (Photos 18 and 19).

No artifacts were located during the Stage 2 AA of Turbines 15, 49 and 50. It is possible that the specific area where the wind power infrastructure is planned was of generally low archaeological potential in relation to the distinct elevated knoll to the south and south-west of the turbine locations and that the more elevated ground was a more attractive landscape feature than the lower ground. The persistence of water across some of the access road suggests that this area is much less well-drained than the knoll.

4.8 New Access Road, Turbine 12

The access road and pad for Turbine 12 (T12) are located in Lot 19, Concession 6, South Cayuga Township, west of Haldimand Road 50 (Figure 4-8). The 3 ha of access road and turbine pad for the original T12 was originally surveyed on December 2, 2010. The access road was subsequently moved south of the existing former quarry site (Figure 4-8). The present survey area encompasses 1.6 ha (100% of the Project component area) and runs almost due west from Haldimand Road 50 the T12 pad location. From Haldimand Road 50 the ground

slopes down gently to the T12 pad location to the west. At the western-most end of the access road, and at the lowest relief point, there is a small drainage channel that runs between the end of the access road and the T12 pad (Figure 4-8). At the time of the survey the channel was dry, but muddy soil was evident in that area and it is likely that water flows through there during wetter periods of the year.

Two small clusters of lithic flakes and two isolated lithic flakes were recorded at the eastern 1/3 of the new T12 access road.

4.8.1 New Access Road, Turbine 12 Artifact Clusters

4.8.1.1 Artifact Cluster #54

CL #54 is composed of five lithic flakes across an area of approximately 15 m x 10 m (Figure 4-8). The low artifact density of the cluster does not meet minimum criteria for a Stage 3 archaeological assessment and, therefore, the cultural heritage value or interest of this site is considered sufficiently documented and assessed at Stage 2.

4.8.1.2 Artifact Cluster #55

CL #55 is composed of five lithic flakes in a roughly linear pattern over an area measuring 20 m x 6 m and located approximately 22 m south-west of Cluster #55 (Figure 4-8). The low artifact density of the cluster does not meet minimum criteria for a Stage 3 archaeological assessment and, therefore, the cultural heritage value or interest of this site is considered sufficiently documented and assessed at Stage 2.

4.8.2 New Access Road, Turbine 12 Isolated Findspots

4.8.2.1 Isolated Findspot 82

IF #82 is composed of a single piece of lithic debitage of indeterminate age or cultural affiliation 60 m west the western-most artifact in Cluster #56 (Figure 4-8). The single artifact does not meet minimum criteria for a Stage 3 archaeological assessment and, therefore, the cultural heritage value or interest of this site is considered sufficiently documented and assessed at Stage 2.

4.8.2.2 Isolated Findspot 83

IF #83 is composed of a single piece of lithic debitage of indeterminate age or cultural affiliation 20 m north of Cluster #56 and 20 m east of Cluster #55 (Figure 4-8). The single artifact does not meet minimum criteria for a Stage 3 archaeological assessment and, therefore, the cultural heritage value or interest of this site is considered sufficiently documented and assessed at Stage 2.

4.9 Access Road, Turbines 23 and 28

The access road for Turbines 23 (T23) and 28 (T28) is located in Lots 39 and 40, Concession 2, South Cayuga, south of Irish Line Road. These turbines were originally surveyed in 2010 but a small section to the west of the original access road immediately south of Irish Line was subsequently required and needed to be surveyed (Figure 4-9). The total area of new surveyed ground was 0.76 ha and all of it was in unploughed land that has not been recently cultivated and was overgrown with high grasses. The area was surveyed using a test pit excavation

methodology (Photo 18) on June 15, 2011. Excavation of test units over initial positive test pits occurred on July 28, 2011. The topography of the surveyed area is generally level, with a very slight rise at the extreme south end of the surveyed area. Two on-grid positive test pits were encountered at two discrete locations during the test pit survey. Supplemental test pit excavation of eight test pits surrounding each initial positive test pit and excavation of a test unit above the initial positive test pits did not yield either a diagnostic artifact or sufficient numbers of non-diagnostic artifacts to warrant registration of the archaeological resources. The resources have been classified as artifact clusters and are documented below. All artifacts from the test pit survey are recorded in the Artifact Catalogue in Appendix A. According to the 2011 *Standards and Guidelines for Consultant Archaeologists*, this area is not considered to have been assessed to standard. However, the area has been removed from the required land for the Project. In the event that the area is required at a later date it will need to be ploughed, allowed to weather and then surveyed using a pedestrian survey methodology at 5 m intervals.

4.9.1 Access Road, Turbines 23 and 28 Artifact Clusters

4.9.1.1 Artifact Cluster #57

CL #57 is composed of six lithic flakes in close proximity located on the T23 and T28 access road, between two small branches of Holmes Creek, approximately 60 m south of Irish Line, 40 m west of GREP Site #10 identified in 2010 and 30 m north of CL #59 (Figure 4-9). Three flakes were found in three separate test pits, one in the primary on-grid test pit, and one each in supplemental test pits to the south and north-west of the primary test pit. Three more were located in the test unit excavated over the initial positive test pit. The low artifact density of the cluster does not meet minimum criteria for a Stage 3 archaeological assessment and, therefore, the cultural heritage value or interest of this site is considered sufficiently documented and assessed at Stage 2.

4.9.1.2 Artifact Cluster #58

CL #58 is composed of five lithic flakes in close proximity located on the T23 and T28 access road, between two small branches of Holmes Creek, approximately 40 m west of GREP Site #10 identified in 2010 and 30 m south of CL #58 (Figure 4-9). Two flakes were found in two separate test pits, one in the primary on-grid test pit, and one in the supplemental test-pit excavated to the north-east of the primary test pit. Three more flakes were located in the test unit excavated over the initial positive test pit. The low artifact density of the cluster does not meet minimum criteria for a Stage 3 archaeological assessment and, therefore, the cultural heritage value or interest of this site is considered sufficiently documented and assessed at Stage 2.

4.10 Access Road Turn-Around, Turbine 10

The access road and turbine pad for Turbine 10 (T10) is located in Los 14, Concession 4, Rainham Township. This location was originally surveyed in 2010 but a small turn-around road was subsequently determined to be required on the east side of the access (Figure 4-10). The total area of new needed ground was 50 m x 10 m (0.05 ha) in size, 100% of which was surveyed. The field was visually assessed in April, 2011 but did not meet the required amount of visibility. Subsequent discussions with ARO staff concluded that, given the extremely small size of the area, and the lack of direct access roads to this location that would enable the plough to

avoid negative impacts to crops within lands not part of this project, test petting of this area would be permitted. This was carried out on June 16, 2011.

The small area was considered to have archaeological potential as the 2010 survey had identified an archaeological resource (GREP Site #45) on the turbine pad to the north of the turn-around. Four rows of test pits were excavated at 5 m intervals from east to west across the length of the proposed turn-around up to the limits of the previous 2010 pedestrian assessment (Figure 4.10). A total of 32 test pits were excavated, all of which were negative.

No artifacts or other resources were located during the Stage 2 AA of the T10 turn-around extension.

5 ANALYSIS AND CONCLUSIONS

The Stage 2 AA of the GREP completed in 2011 resulted in the identification of 30 archaeological sites, consisting of 8 artifact clusters, 13 isolated find spots and 9 sites which will require Stage 3 AA. The full Stage 2 AA of GREP infrastructure by Stantec has resulted in the documentation of 196 archaeological sites which consist of 54 archaeological sites requiring Stage 3 AA, 58 artifact clusters and 83 isolated findspots.

5.1 Sites Requiring Stage 3 Archaeological Assessment

The 2011 Stage 2 AA of the GREP by Stantec has resulted in the documentation of 9 archaeological sites which will require Stage 3 AA (Table 5-1). At minimum all 9 sites will require Stage 3 AA in order to determine their extent, to further refine our understanding of the age, cultural association and cultural heritage value or interest and, if required, the appropriate Stage 4 mitigations strategy at each site location. At present at least two of the sites, AfGx-768 and AfGx-769, show sufficiently high level of cultural heritage value or interest and as to likely require Stage 4 mitigation.

Table 5-1 Archaeological Sites Requiring Stage 3 Assessment

GREP Site #	Location	Borden #	# Tools/ Diagnostics	# non-Tools	Total # Artifacts	Cultural Period	Dimensions (in m)	Criterion met
46	T41	AfGx-768	0	160	160	Indeterminate	145 X 40	Standard 1a.i.3
47	T41	AfGx-769	0	n/a	n/a	Indeterminate	65 x 40	Standard 1a.i.3
48	T66	AfGv-124	0	38	38	Indeterminate	30 x 30	Standard 1a.i.3
49	T66	AfGv-125	1	15	16	Middle Woodland	50 x 50	Standard 1a.i.1
50	T51	AfGw-229	1	12	13	Indeterminate	50 x 50	Standard 1a.i.1
51	T58	AfGx-770	0	10	10	Indeterminate	25 x 25	Standard 1a.i.3
52	T58	AfGx-771	1	7	8	Indeterminate	30 x 20	Standard 1a.i.1
53	T58	AfGx-772	1	5	6	Indeterminate	35 x 20	Standard 1a.i.1
54	T65	AfGv-127	1	3	4	Early Woodland	30 x 10	Standard 1a.i.1

5.1.1 GREP Site #46 (AfGx-768)

GREP Site #46 (AfGx-768) is composed of 160 lithic flakes across an area of approximately 145 m x 40 m in two major clusters on the north side of the T41 pad at its junction with the access

road. There were no diagnostic tools located at the site and thus it is presently of indeterminate culture period and/or age. This site meets the criteria for Stage 3 assessment Standard1a.i.3 as it consists of a large number of non-diagnostic artifacts (10 or more) in a minimum 10 m x 10 m area. Given the high number of artifacts identified on the ground surface and the extent of the site this site shows a high level of cultural heritage value or interest and is likely to require Stage 4 mitigation.

5.1.2 GREP Site #47 (AfGx-769)

GREP Site #47 (AfGx-769) is composed of an undetermined number lithic flakes across an area of approximately 65 m x 40 m in the south-west corner of the T41 pad. There were no diagnostic tools located at the site and thus it is presently of indeterminate culture period and/or age. This site meets the criteria for Stage 3 assessment Standard1a.i.3 as it consists of a large number of non-diagnostic artifacts (10 or more) in a minimum 10 m x 10 m area. Given the high number of artifacts identified on the ground surface and the extent of the site this site shows a high level of cultural heritage value or interest and is likely to require Stage 4 mitigation.

5.1.3 GREP Site #48 (AfGv-124)

GREP Site #48 (AfGv-124) is composed of 38 flakes of lithic debitage in an area of approximately 30 m x 25 m, located on the east side of the common access road of Turbines 65-67. This site meets the criteria for Stage 3 assessment Standard1a.i.3 as it consists of a large number of non-diagnostic artifacts (10 or more) in a minimum 10 m x 10 m area.

5.1.4 GREP Site #49 (AfGv-125)

GREP Site #49 (AfGv-125) is composed of a Point 3-2 and 15 pieces of lithic debitage located on the north-east corner of the T66 pad. Point 3-2 is a Middle Woodland Saugeen type point manufactured on Onondaga chert. This site meets the criteria for Stage 3 assessment Standard1a.i.1 as it consists of a diagnostic artifact and two or more non-diagnostic artifacts in a minimum 10 m x 10 m area.

5.1.5 GREP Site #54 (AfGv-127)

GREP Site #54 (AfGv-127) is composed of Point 3-1 and three pieces of lithic debitage located on the north-west edge of the T65 pad over an area of approximately 30 m x 25 m. The point and two of the flakes are separated by approximately 7 m. Point 3-1 is the distal end of an Early Woodland projectile point manufactured on Bois Blanc formation chert. This site meets the criteria for Stage 3 assessment Standard1a.i.1 as it consists of a diagnostic artifact and two or more non-diagnostic artifacts in a minimum 10 m x 10 m area.

5.1.6 GREP Site #50 (AfGw-229)

GREP Site #50 (AfGw-229) is located on the south-eastern edge of the T51 pad. The site is composed of a single core and 12 lithic flakes distributed over an area of 30 x 30 m. Based on the presence of the core and several flakes within a relatively concentrated area Site #50 meets the criteria for Stage 3 assessment Standard 1a.i.1.

5.1.7 GREP Site #51 (AfGx-770)

GREP Site #51 (AfGx-770) is located on the turbine pad of T58. The site is composed of 10 lithic flakes distributed over an area of 25 x 25 m, although seven of those flakes are within an area of 12 m x 7 m. Moreover, this group of flakes is noticeably contained in a relatively small area over 100 m from the nearest other artifacts. Based on professional judgment of the relative tight clustering of artifacts, this site meets the criteria for Stage 3 assessment Standard 1a.i.3.

5.1.8 GREP Site #52 (AfGx-771)

GREP Site #52 (AfGx-771) is located on the access road of T58. The site is composed of Point 3-3 and 7 lithic flakes distributed over an area of 30 x 20 m. Point 3-3 is a point tip of indeterminate age or cultural affiliation. This site meets the criteria for Stage 3 assessment Standard1a.i.1 as it consists of a diagnostic artifact and two or more non-diagnostic artifacts in a minimum 10 m x 10 m area.

5.1.9 GREP Site #53 (AfGx-772)

GREP Site #53 (AfGx-752) is located on the access road of T58. The site is composed of Point 3-6 and 5 lithic flakes distributed over an area of 35 m x 20 m. Point 3-6 is the basal end of a broken point, either a corner notched or eared point form, manufactured on Bois Blanc formation chert. Due to the fragmentary nature of the point it is of indeterminate age or cultural affiliation. This site meets the criteria for Stage 3 assessment Standard1a.i.1 as it consists of a diagnostic artifact and two or more non-diagnostic artifacts in a minimum 10 m x 10 m area.

5.2 Resources Not Requiring Stage 3 Archaeological Assessment

A total of 21 sites consisting of 8 artifact clusters (CL) and 13 isolated findspots (IF) were also documented at Project components during the 2011 Stage 2 AA (Table 5-2). None of these resources meet the criteria for Stage 3 as per the 2011 *Standards and Guidelines for Consultant Archaeologists*. The cultural heritage value or interest of these sites is considered sufficiently documented and assessed at Stage 2, and therefore none of these sites require further archaeological assessment. Details regarding all collected formal tools or diagnostic artifacts can be found in the Artifact Catalogue in Appendix A.

Table 5-2 Archaeological Sites Not Requiring Stage 3 Assessment

GREP Site #	Location	Borden #	# Tools	# Lithic Flakes	Total # Artifacts	Cultural Period	Dimensions (in m)	Figure #	Plate #
CL 51	T41	n/a	0	5	5	Indeterminate	25 X 5	4-1	n/a
CL 52	T58	n/a	0	4	4	Indeterminate	35 x 20	4-3	n/a
CL 53	C 3	n/a	0	3	3	Indeterminate	25 x 10	4-6	n/a
CL 54	T12	n/a	0	5	5	Indeterminate	15 x 10	4-8	n/a
CL 55	T12	n/a	0	5	5	Indeterminate	20 x 6	4-8	n/a
CL 56	C 3	AfGv-128	1	1	2	Early Woodland	5 x 5	4-6	1
CL 57	T23	AfGx-901	0	6	6	Indeterminate	10 x 10	4-9	n/a
CL 58	T23	AfGx-902	0	5	5	Indeterminate	10 x 10	4-9	n/a
IF 71	T41	n/a	0	1	1	Indeterminate	n/a	4-1	n/a
IF 72	T41	n/a	0	1	1	Indeterminate	n/a	4-1	n/a
IF 73	T41	AfGx-906	1	0	1	Middle Archaic	n/a	4-1	n/a

IF 74	T65	n/a	0	1	1	Indeterminate	n/a	4-2	n/a
IF 75	T30	n/a	0	1	1	Indeterminate	n/a	4-5	n/a
IF 76	T58	AfGx-903	1	0	1	Poss. Late Archaic	n/a	4-3	1
IF 77	T58	n/a	1	1	1	Indeterminate	n/a	4-3	1
IF 78	T58	n/a	1	0	1	Indeterminate	n/a	4-3	1
IF 79	T58	AfGx-904	1	0	1	Late Archaic	n/a	4-3	1
IF 80	T58	n/a	0	1	1	Indeterminate	n/a	4-3	n/a
IF 81	T58	AfGx-905	1	0	1	Late Archaic	n/a	4-3	1
IF 82	T12	n/a	0	1	1	Indeterminate	n/a	4-3	n/a
IF 83	T12	n/a	0	1	1	Indeterminate	n/a	3-3	n/a

5.2.1 Artifact Cluster #51

CL #51 is composed of five lithic flakes of indeterminate age or cultural affiliation in very close proximity located on the T41 access road. The low artifact density of the cluster does not meet minimum criteria for a Stage 3 assessment and, as such, its cultural heritage value and interest can be considered sufficiently documented and assessment at Stage 2.

5.2.2 Artifact Cluster #52

CL #52 is composed of four lithic flakes of indeterminate age or cultural affiliation scattered across an area of 25 m x 15 m on the T58 access road. The low artifact density of the cluster does not meet minimum criteria for a Stage 3 archaeological assessment and, therefore, the cultural heritage value or interest of this site is considered sufficiently documented and assessed at Stage 2.

5.2.3 Artifact Cluster #53

CL #53 is composed of three lithic flakes of indeterminate age or cultural affiliation in an area of 25 m x 10 m located at the south-east end of the T64 pad. The low artifact density of the cluster does not meet minimum criteria for a Stage 3 archaeological assessment and, therefore, the cultural heritage value or interest of this site is considered sufficiently documented and assessed at Stage 2.

5.2.4 Artifact Cluster #54

CL #54 is composed of five lithic flakes of indeterminate age or cultural affiliation across an area of approximately 15 m x 10 m on the new T12 access road. The low artifact density of the cluster does not meet minimum criteria for a Stage 3 archaeological assessment and, therefore, the cultural heritage value or interest of this site is considered sufficiently documented and assessed at Stage 2.

5.2.5 Artifact Cluster #55

CL #55 is composed of five lithic flakes of indeterminate age or cultural affiliation located in a roughly linear pattern over an area measuring 20 m x 6 m on the new T12 access road. The low artifact density of the cluster does not meet minimum criteria for a Stage 3 archaeological assessment and, therefore, the cultural heritage value or interest of this site is considered sufficiently documented and assessed at Stage 2.

5.2.6 Artifact Cluster #56

CL #56 is composed of Point 3-11 and a single lithic flake in close proximity near the east end of the of the Complex 3 access road. No further artifacts were identified during the intensification. Point 3-11 is a finely manufactured Early Woodland Meadowood point on Bois Blanc formation chert. The low artifact density of the cluster does not meet minimum criteria for a Stage 3 archaeological assessment and, therefore, the cultural heritage value or interest of this site is considered sufficiently documented and assessed at Stage 2.

5.2.7 Artifact Cluster #57

CL #58 is composed of six lithic flakes of indeterminate age or cultural affiliation in close proximity located to the west of the T23 and T28 access road. The low artifact density of the cluster does not meet minimum criteria for a Stage 3 archaeological assessment and, therefore, the cultural heritage value or interest of this site is considered sufficiently documented and assessed at Stage 2.

5.2.8 Artifact Cluster #58

CL #59 is composed of five lithic flakes of indeterminate age or cultural affiliation in close proximity located to the west of the T23 and T28 access road. The low artifact density of the cluster does not meet minimum criteria for a Stage 3 archaeological assessment and, therefore, the cultural heritage value or interest of this site is considered sufficiently documented and assessed at Stage 2.

5.2.9 Isolated Findspot 71

IF #71 is composed of a single piece of lithic debitage of indeterminate age or cultural affiliation located to the west of GREP Site #46. The single artifact does not meet minimum criteria for a Stage 3 assessment and, as such, its cultural heritage value and interest can be considered sufficiently documented and assessment at Stage 2.

5.2.10 Isolated Findspot 72

IF #72 is composed of a single piece of lithic debitage of indeterminate age or cultural affiliation located to the west of GREP Site #46. The single artifact does not meet minimum criteria for a Stage 3 assessment and, as such, its cultural heritage value and interest can be considered sufficiently documented and assessment at Stage 2.

5.2.11 Isolated Findspot 73

IF #73 is composed of a single projectile point, Point 3-10, located on the T41 pad. Point 3-10 is a Middle Archaic Brewerton Side Notched type projectile point, and dates to between 5,000-4,500 BP. The single artifact does not meet minimum criteria for a Stage 3 assessment and, as such, its cultural heritage value and interest can be considered sufficiently documented and assessment at Stage 2.

5.2.12 Isolated Findspot 74

IF 74 is composed of a single flake of Bois Blanc formation chert of indeterminate age or cultural affiliation that was located on the south side of the drainage ditch that runs across the T65-67 access road. The single artifact does not meet minimum criteria for a Stage 3 assessment and,

as such, its cultural heritage value and interest can be considered sufficiently documented and assessment at Stage 2.

5.2.13 Isolated Findspot 75

IF #75 is composed of a single lithic flake of indeterminate age or cultural affiliation located at the north end of the T30 access road. The single artifact does not meet minimum criteria for a Stage 3 archaeological assessment and, therefore, the cultural heritage value or interest of this site is considered sufficiently documented and assessed at Stage 2.

5.2.14 Isolated Findspot 76

IF #76 is composed of Point 3-4, the basal end of a possibly Late Archaic corner notched from that was broken early in its manufacture based on the relatively limited amount of flaking evident. IF #76 is located on the access road of T58. The single artifact does not meet minimum criteria for a Stage 3 archaeological assessment and, therefore, the cultural heritage value or interest of this site is considered sufficiently documented and assessed at Stage 2.

5.2.15 Isolated Findspot 77

IF #77 is composed of Point 3-5, the medial section of a narrow projectile point, worked on only one side and manufactured on light Onondaga chert, located on the T58 access road. Due to its incomplete nature the point is of indeterminate age or cultural affiliation. The single artifact does not meet minimum criteria for a Stage 3 archaeological assessment and, therefore, the cultural heritage value or interest or this site is considered sufficiently documented and assessed at Stage 2.

5.2.16 Isolated Findspot 78

IF #78 is composed of Point 3-7, a small fragment of a point manufactured from Selkirk chert located on the T58 access road. Due to the small size of the point fragment it is not possible to determine cultural affiliation or age of the artifact. The single artifact does not meet minimum criteria for a Stage 3 archaeological assessment and, therefore, the cultural heritage value or interest of this site is considered sufficiently documented and assessed at Stage 2.

5.2.17 Isolated Findspot 79

IF #79 is composed of Point 3-8, a very finely made Late Archaic Small Point Horizon type point manufactured on Bois Blanc formation chert, located on the T58 access road. The single artifact does not meet minimum criteria for a Stage 3 archaeological assessment and, therefore, the cultural heritage value or interest of this site is considered sufficiently documented and assessed at Stage 2.

5.2.18 Isolated Findspot 80

IF #80 is composed of a single piece of lithic debitage of indeterminate age or cultural affiliation located on the T58 access road. The single artifact does not meet minimum criteria for a Stage 3 archaeological assessment and, therefore, the cultural heritage value or interest of this site is considered sufficiently documented and assessed at Stage 2.

5.2.19 Isolated Findspot 81

IF #81 is composed of Point 3-9, a Late Archaic Small Point Horizon type located on the T58 access road and which is flaked on one side and appears to have been broken during manufacture. The single artifact does not meet minimum criteria for a Stage 3 archaeological assessment and, therefore, the cultural heritage value or interest of this site is considered sufficiently documented and assessed at Stage 2.

5.2.20 Isolated Findspot 82

IF #82 is composed of a single piece of lithic debitage of indeterminate age or cultural affiliation on the new T12 access road. The single artifact does not meet minimum criteria for a Stage 3 archaeological assessment and, therefore, the cultural heritage value or interest of this site is considered sufficiently documented and assessed at Stage 2.

5.2.21 Isolated Findspot 83

IF #83 is composed of a single piece of lithic debitage of indeterminate age or cultural affiliation located on the new T12 access road. The single artifact does not meet minimum criteria for a Stage 3 archaeological assessment and, therefore, the cultural heritage value or interest of this site is considered sufficiently documented and assessed at Stage 2.

6 RECOMMENDATIONS

The Stage 2 AA completed by Stantec in 2011 resulted in the identification and recording of 30 archaeological sites consisting of several hundred discrete pre-contact period artifacts, including 12 formal or expedient tools (11 projectile points, or “arrowheads” and one core). One other archaeological site was discovered where the density of lithic flakes was too high to record individually. For 21 of these (Table 6-1), represented by 8 artifact clusters and 13 isolated find spots, the cultural heritage value or interest has been sufficiently documented and assessed at Stage 2, therefore, no further archaeological assessment of these is required or recommended.

GREP Site #	Location	Borden #	# Tools	# Lithic Flakes	Total # Artifacts	Cultural Period	Dimensions (in m)	Figure #	Plate #
CL 51	T41	n/a	0	5	5	Indeterminate	25 X 5	4-1	n/a
CL 52	T58	n/a	0	4	4	Indeterminate	35 x 20	4-3	n/a
CL 53	C 3	n/a	0	3	3	Indeterminate	25 x 10	4-6	n/a
CL 54	T12	n/a	0	5	5	Indeterminate	15 x 10	4-8	n/a
CL 55	T12	n/a	0	5	5	Indeterminate	20 x 6	4-8	n/a
CL 56	C 3	AfGv-128	1	1	2	Early Woodland	5 x 5	4-6	1
CL 57	T23	AfGx-901	0	6	6	Indeterminate	10 x 10	4-9	n/a
CL 58	T23	AfGx-902	0	5	5	Indeterminate	10 x 10	4-9	n/a
IF 71	T41	n/a	0	1	1	Indeterminate	n/a	4-1	n/a
IF 72	T41	n/a	0	1	1	Indeterminate	n/a	4-1	n/a
IF 73	T41	AfGx-906	1	0	1	Middle Archaic	n/a	4-1	n/a
IF 74	T65	n/a	0	1	1	Indeterminate	n/a	4-2	n/a
IF 75	T30	n/a	0	1	1	Indeterminate	n/a	4-5	n/a
IF 76	T58	AfGx-903	1	0	1	Poss. Late Archaic	n/a	4-3	1
IF 77	T58	n/a	1	1	1	Indeterminate	n/a	4-3	1
IF 78	T58	n/a	1	0	1	Indeterminate	n/a	4-3	1

IF 79	T58	AfGx-904	1	0	1	Late Archaic	n/a	4-3	1
IF 80	T58	n/a	0	1	1	Indeterminate	n/a	4-3	n/a
IF 81	T58	AfGx-905	1	0	1	Late Archaic	n/a	4-3	1
IF 82	T12	n/a	0	1	1	Indeterminate	n/a	4-3	n/a
IF 83	T12	n/a	0	1	1	Indeterminate	n/a	3-3	n/a

Table 6-1 Archaeological Sites Not Requiring Stage 3 Assessment

A Stage 3 AA (the Archaeological Site Assessment) is recommended for the remaining nine (9) archaeological sites as they have further cultural heritage value and interest that needs to be documented beyond Stage 2AA: AfGx-768; AfGx-769; AfGx-770; AfGx-771; AfGx-772; AfGv-124; AfGv-125; AfGv-127; and AfGw-229. These will be conducted according to the 2011 *Standards and Guidelines for Consultant Archaeologists*. For each site that was located using pedestrian survey methodology the Stage 3 AA will be composed of three elements: historical documentation, a controlled surface pick-up (CSP) of artifacts on the surface of ploughed fields and test unit excavation.

A CSP is a detailed survey of the ground surface in open fields that allows for precise recording of artifact locations and the collection of a representative sample of artifacts, including non-diagnostic artifacts. Based on the Stage 2 AA use of a grid unit CSP may need to be conducted at AfGx-768 and -769 due to their size and artifact densities. No other sites should require grid unit CSP. Dependent upon when CSP occurs, fields where visibility has decreased since the Stage 2 AA may require reploughing and weathering prior to CSP.

Test unit excavation will be required at all identified archaeological sites. The purpose of the test unit excavation is to document the extent of buried artifacts, cultural features, soil stratigraphy and structures and to recover a representative sample of artifacts from across the archaeological site. As no sites identified during the Stage 2 AA will require the use of 3 mm mesh screens all soil will be screened though 6 mm mesh. Each site identified as requiring Stage 3 AA will need to have test units excavated at 5 m intervals and additional supplementary test units excavated as per Table 6.2 below.

Archaeological sites requiring Stage 3 AA have been identified on Project components at Turbine 41, Turbine 66, Turbine 51, Turbine 58, Turbine 65, Turbines 23 and 28 (from the 2010 Stage 2 AA) and Turbine 10 (from the 2010 Stage 2 AA). Project components at Complex 3 (Turbines 59-64), Turbine 12, and Turbines 15, 49 and 50 do not contain archaeological resources requiring Stage 3 AA. In the event that the extra area to the west of the current T23/28 access road is required for the Project it will need to be ploughed, allowed to weather and then surveyed using a pedestrian survey methodology.

At present no construction activities related to Project infrastructure are planned to occur prior to completion any required Stage 3 AA. No archaeological sites were found during the assessment of Turbines 15, 49 and 50 (Figure 4-7) and their associated access road, as such, it is recommended that this area requires no further archaeological assessment.

Table 6-2 Stage 3 Recommendations for Archaeological Sites Identified During the Stage 2 AA

GREP Identifier	Borden #	Site Type	Cultural Heritage Value Sufficiently Documented?	Stage 3 AA Required?	Stage 3 AA Strategy Recommended
Site 46	AfGx-768	Plough-disturbed, large single component lithic scatter; recommendation to proceed to Stage 4 likely	No	Yes	-documentary research of land use and occupation, where available -replough field as necessary; conduct CSP -place grids over areas of concentrations and excavate 1 m test units at 5 m interval across grids; excavate an additional 20% of grid unit total between areas of concentration; excavate an additional 10% of initial grid total on periphery of surface scatter
Site 47	AfGx-769	Plough-disturbed, large single component lithic scatter; recommendation to proceed to Stage 4 likely	No	Yes	-documentary research of land use and occupation, where available -replough field as necessary; conduct CSP -place grids over areas of concentrations and excavate 1 m test units at 5 m interval across grids; excavate an additional 20% of grid unit total between areas of concentration; excavate an additional 10% of initial grid total on periphery of surface scatter
Site 48	AfGv-124	Small precontact site: level of cultural heritage value or interest sufficient for recommendation to proceed to Stage 4 unclear	No	Yes	-documentary research of land use and occupation, where available -replough field as necessary; conduct CSP -excavate test units in 5 m grid across site; excavate an additional 20% of grid unit total in areas of interest within the site extent
Site 49	AfGv-125	Small precontact site: level of cultural heritage value or interest sufficient for recommendation to proceed to Stage 4 unclear	No	Yes	-documentary research of land use and occupation, where available -replough field as necessary; conduct CSP -excavate test units in 5 m grid across site; excavate an additional 20% of grid unit total in areas of interest within the site extent
Site 50	AfGw-229	Small precontact site: level of cultural heritage value or interest sufficient for recommendation to proceed to Stage 4 unclear	No	Yes	-documentary research of land use and occupation, where available -replough field as necessary; conduct CSP -excavate test units in 5 m grid across site; excavate an additional 20% of grid unit total in areas of interest within the site extent
Site 51	AfGx-770	Small precontact site: level of cultural heritage value or interest sufficient for recommendation to proceed to Stage 4 unclear	No	Yes	-documentary research of land use and occupation, where available -replough field as necessary; conduct CSP -excavate test units in 5 m grid across site; excavate an additional 20% of grid unit total in areas of interest within the site extent
Site 52	AfGx-771	Small precontact site: level of cultural heritage value or interest sufficient for recommendation to proceed to Stage 4 unclear	No	Yes	-documentary research of land use and occupation, where available -replough field as necessary; conduct CSP -excavate test units in 5 m grid across site; excavate an additional 20% of grid unit total in areas of interest within the site extent

Site 53	AfGx-772	Small precontact site: level of cultural heritage value or interest sufficient for recommendation to proceed to Stage 4 unclear	No	Yes	-documentary research of land use and occupation, where available -replough field as necessary; conduct CSP -excavate test units in 5 m grid across site; excavate an additional 20% of grid unit total in areas of interest within the site extent
Site 54	AfGv-127	Small precontact site: level of cultural heritage value or interest sufficient for recommendation to proceed to Stage 4 unclear	No	Yes	-documentary research of land use and occupation, where available -replough field as necessary; conduct CSP -excavate test units in 5 m grid across site; excavate an additional 20% of grid unit total in areas of interest within the site extent

With the large number of Aboriginal archaeological sites documented through the Stage 2 AA it is expected that the involvement of First Nations in subsequent Stage 3 and/or Stage 4 AA will increase beyond the current level of the Stage 2 AA. Ongoing Aboriginal consultation will be part of the overall Project development, for archaeological resources and for other environmental components, and is a requirement of the 2011 *Standards and Guideline for Consultant Archaeologists*. It is recommended that Aboriginal Engagement be carried out as required by the Standards and Guidelines and as outlined in the bulletin *Engaging Aboriginal Communities in Archaeology.*

7 ADVICE ON COMPLIANCE WITH LEGISLATION

This report is submitted to the Minister of Tourism and 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 it complies with the standards and guidelines that are issued by the Minister, and that the archaeological fieldwork and report recommendations ensure the conservation, protection and preservation of the cultural heritage of Ontario. When all matters relating to archaeological sites within the Project Area of a development proposal have been addressed to the satisfaction of the Ministry of Tourism and Culture, a letter will be issued by the ministry stating that there are no further concerns with regard to alterations to archaeological sites by the proposed development.

It is an offence under Sections 48 and 69 of the *Ontario Heritage Act* for any party other than a licensed archaeologist to make any alteration to a known archaeological site or to remove any artifact or other physical evidence of past human use or activity from the site, until such time as a licensed archaeologist has completed archaeological fieldwork on the site, submitted a report to the Minister stating that the site has no further cultural heritage value or interest , and the report has been filed in the Ontario Public Register of Archaeology Reports referred to in Section 65.1 of the *Ontario Heritage Act*.

Should previously undocumented archaeological resources be discovered, they may be a new archaeological site and therefore subject 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 Section 48 (1) of the *Ontario Heritage Act*.

The *Cemeteries Act*, R.S.O. 1990 c. C.4 and the *Funeral, Burial and Cremation Services Act*, 2002, S.O. 2002, c.33 (when proclaimed in force) require that any person discovering human remains must notify the police or coroner and the Registrar of Cemeteries at the Ministry of Consumer Services.

Archaeological sites recommended for further archaeological fieldwork or protection remain subject to Section 48(1) of the *Ontario Heritage Act* and may not be altered, or have artifacts removed from them, except by a person holding an archaeological licence.

8 CLOSURE

This report has been prepared for the sole benefit of SPK, and may not be used by any third party without the express written consent of Stantec Consulting Ltd. and SPK. Any use which a third party makes of this report is the responsibility of such third party.

We trust this report meets your current requirements. Please do not hesitate to contact us should you require further information or have additional questions about any facet of this report.

Yours truly,

Stantec Consulting Ltd.

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Fax: 613 738-0721
Christienne.Uchiyama@Stantec.com

Colin Varley, M.A., R.P.A.
Senior Archaeologist and Heritage Planning Consultant
Tel: 613 738-6087
Fax: 613 738-0721
Colin.Varley@Stantec.com

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---, 2010. **Stage 1 Archaeological Assessment, Grand Renewable Energy Park, Haldimand County, Ontario.** Report prepared for Samsung Renewable Energy Inc., Mississauga, Ontario. PIF# P002-208-2010.

9.2 Personal Communications

Collin, Frank, General Manager, Dunnville Airport, Dunnville, Ontario. June 16, 2011.

10 MAPS

590000 595000 600000

4755000 4750000 4745000

Townline
Reeds
Oneida
Charles Cullen
Echo
Mohawk
King
Talbot
Martin
Oliver
Seneca
Munsee
Thorburn
Cayuga
Joseph
Country
McFarlane
Windecker
Haldimand Road 32
Fosdow
Haldimand Road 17=Riverside
Haldimand Road 17
Dry Lake
Decewsville
Irish
Little
Gibson
Kohler
Link
River
Haldimand Road 12
Haldimand Road 20
Richert
Olivet
Meadows
Sutor
Yarmmy
Solar
Lands
Wilson
Erie
Main
Sweets Corners
Bains
Haldimand Road 50
Rainham
Haldimand Road 53
Haldimand Road 12
Recheld
Brookers
Lakeshore
Paradise
Featherstone

36 33 34 45 41 18 43 28 46 23 58 24 20 13 48 16 10 585684 56 25 22 29 42 35 38 37 68 44 27 53 52 17 12 55 21 5 9 51

0 1,000 2,000 m
1:50,000

N

Legend

- Completed by Golder
- Completed by Stantec 2010
- Completed by Stantec 2011
- Project Location
- Watercourse
- Wetland
- Waterbody
- Woodlot

Map Area

Notes

1. Coordinate System: UTM Zone 17 NAD 83.
2. Data Sources: Ontario Ministry of Natural Resources © Queens Printer Ontario, 2009; © GREP, 2010; © Samsung, 2010.
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August 2011
Project No. 161010624

Client/Project
SAMSUNG C & T
GRAND RENEWABLE ENERGY PARK

Figure No.
2-1A

Title
PROJECT AREA SHOWING LOCATIONS OF COMPLETED STAGE 2 ARCHAEOLOGICAL ASSESSMENT

Friday, August 26, 2011 11:08:19 AM
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600000 605000 610000 615000

4755000 4750000 4745000

Haldimand Road 2 Haldimand Road 32 Junction Hald Dunn Townline Haldimand Road 17 Jarden Burke Kentucky Hill Robinson Bird Diltz Mclaughlin Wines

River Hald Dunn Townline Dick Old Hires Aikens Grand River Cross George Brookfield Jarrett 1st Cleary Logan West Cayuga Park Pine Cedar Tamarack Ramsey Industrial Richeld Gillan Lock Henry Church Forest Cross Alder Broad Brant Smith Innan Queen Main Taylor Shore

Haldimand Road 20 Rainham Grant Secord Maitland Willow

Haldimand Road 50 Bains Cayuga Haldimand Road 49 Haldimand Haldimand Tract Marshall Johnson Ramsey Ramsey

Edgewater Shoreline Lakeshore Lakeview Myrnam Beach Baygrove Kings Queen View

Yaremy Evans Point Bird Sandy Bay Lighthouse Greens Stonehaven

L a k e E r i e

22 29 42 47 14 40 39 35 38 37 68 53 11 57 19 30 26 15 49 50 7 8 6 69 3 1 54 4 2 12 55 21 5 9 51 59 62 61 63 60 64 65 66 67

0 1,000 2,000 m

1:50,000

600000 605000 610000 615000

Friday, August 26, 2011 11:07:28 AM
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Legend

- Completed by Golder
- Completed by Stantec 2010
- Completed by Stantec 2011
- Project Location
- Watercourse
- Wetland
- Waterbody
- Woodlot

Map Area

Notes

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Project No. 161010624

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SAMSUNG C & T
GRAND RENEWABLE ENERGY PARK

Figure No.

2-1B

Title

PROJECT AREA SHOWING LOCATIONS OF COMPLETED STAGE 2 ARCHAEOLOGICAL ASSESSMENT

590000

590500

4754000

4754000

N

45

41

0 50 100 m

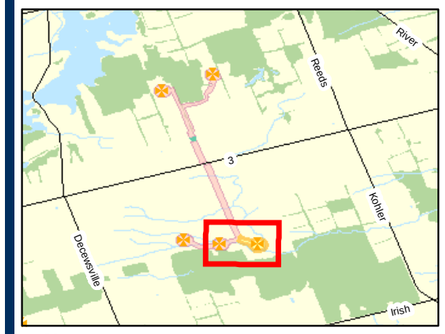
1:1,800

590000

590500

Legend

- Turbine Location & Number
- Photo Number & Direction
- Test Pit (5m) Completed 2011
- Pedestrian Survey (5 m) Completed 2011
- Pedestrian Survey (5 m) Completed 2010
- Not Assessed
- Previously Disturbed
- Completed by Golder
- Project Location
- Watercourse
- Access Road
- Road



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Project No. 161010624

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SAMSUNG C & T
GRAND RENEWABLE ENERGY PARK

Figure No.

4-1

Title

SURVEYED AREAS - TURBINE 41

Tuesday, September 20, 2011 3:02:10 PM
V:\01225\active\other_pc\161010624 - Samsung, Grand Renewable Energy Park\gis\mxds\september stage II revisions\map_fnl_rev2_fig_samsung_arch_stage2_report.mxd

611500

612000

4748000

4747500

Haldimand Tract

N

67

Photo 1

Photo 3

65

66

Photo 2

0 50 100 m

1:3,500

Legend

- Turbine Location & Number
- Photo Number & Direction
- Test Pit (5m) Completed 2011
- Pedestrian Survey (5 m) Completed 2011
- Pedestrian Survey (5 m) Completed 2010
- Not Assessed
- Previously Disturbed
- Completed by Golder
- Project Location
- Watercourse
- Access Road
- Road

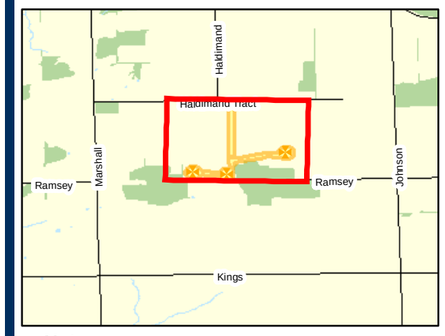

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Figure No.

4-2

Title

SURVEYED AREAS - TURBINES 65, 66 & 67

Tuesday, September 20, 2011 3:07:59 PM
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589500

590000

4750000

58

N

Photo 5

Photo 4

Photo 6

6

0 50 100 m

1:2,700

Legend

- Turbine Location & Number
- Photo Number & Direction
- Test Pit (5m) Completed 2011
- Pedestrian Survey (5 m) Completed 2011
- Pedestrian Survey (5 m) Completed 2010
- Not Assessed
- Previously Disturbed
- Completed by Golder
- Project Location
- Watercourse
- Access Road
- Road

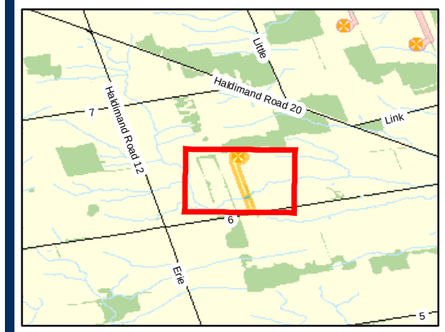

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Figure No.

4-3

Title

SURVEYED AREAS - TURBINE 58

Tuesday, September 20, 2011 3:09:48 PM
V:\01225\active\other_pc\161010624 - Samsung, Grand Renewable Energy Park\gis\mxds\september stage II revisions\map_fnl_rev2_fig_samsung_arch_stage2_report.mxd

601500

602000

4745000

4744500

51

Lakeshore

Parallel

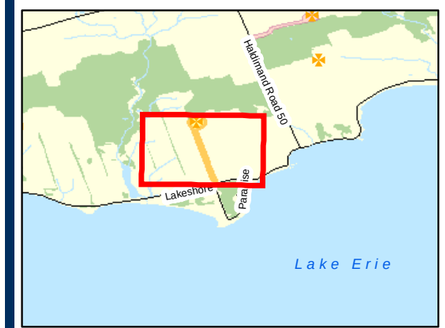
0 50 100 m

1:3,000

N

Legend

- Turbine Location & Number
- Photo Number & Direction
- Test Pit (5m) Completed 2011
- Pedestrian Survey (5 m) Completed 2011
- Pedestrian Survey (5 m) Completed 2010
- Not Assessed
- Previously Disturbed
- Completed by Golder
- Project Location
- Watercourse
- Access Road
- Road



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Project No. 161010624

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GRAND RENEWABLE ENERGY PARK

Figure No.

4-4

Title

SURVEYED AREAS - TURBINE 51

Tuesday, September 20, 2011 3:10:40 PM
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606500 607000 607500

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4750000

Haldimand Road 20

N

Photo 7

30

0 50 100 m

1:4,000

Legend

- Turbine Location & Number
- Photo Number & Direction
- Test Pit (5m) Completed 2011
- Pedestrian Survey (5 m) Completed 2011
- Pedestrian Survey (5 m) Completed 2010
- Not Assessed
- Previously Disturbed
- Completed by Golder
- Project Location
- Watercourse
- Access Road
- Road

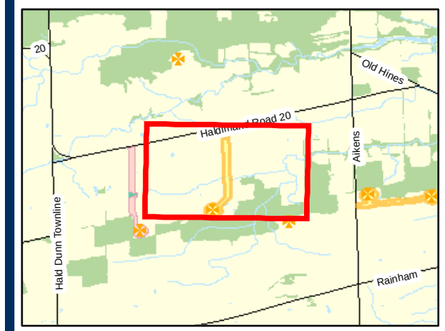

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Figure No.

4-5

Title

SURVEYED AREAS - TURBINE 30

Tuesday, September 20, 2011 3:13:00 PM
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614000 614500 615000 615500

4748500 4748000 4747500 4747000

Photo 9
Photo 10
Photo 11
Photo 12
Photo 13
Photo 8

59 60 61 62 63 64

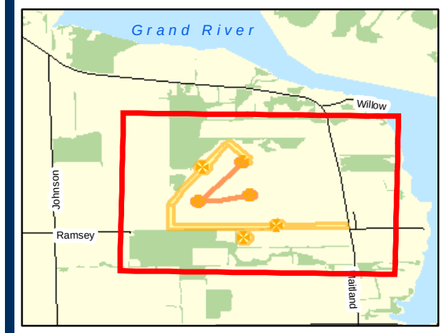
Maitland

N

0 50 100 m
1:6,800

Legend

- Turbine Location & Number
- Photo Number & Direction
- Test Pit (5m) Completed 2011
- Pedestrian Survey (5 m) Completed 2011
- Pedestrian Survey (5 m) Completed 2010
- Not Assessed
- Previously Disturbed
- Completed by Golder
- Project Location
- Watercourse
- Access Road
- Road



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Project No. 161010624

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GRAND RENEWABLE ENERGY PARK

Figure No.

4-6

Title

SURVEYED AREAS - TURBINES 59 - 64

Tuesday, September 20, 2011 3:16:11 PM
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608000
608500
609000
4750000
4749500

Aikens

Photo 14
Photo 15
Photo 16
Photo 17
Wet
15
49
50

N

0 50 100 m
1:4,000

Legend

- Turbine Location & Number
- Photo Number & Direction
- Test Pit (5m) Completed 2011
- Pedestrian Survey (5 m) Completed 2011
- Pedestrian Survey (5 m) Completed 2010
- Not Assessed
- Previously Disturbed
- Completed by Golder
- Project Location
- Watercourse
- Access Road
- Road

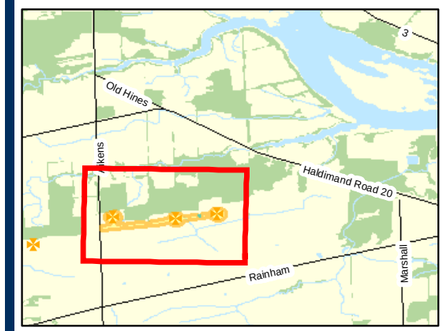

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Figure No.

4-7

Title

SURVEYED AREAS - TURBINES 15, 49 & 50

Tuesday, September 20, 2011 3:19:18 PM
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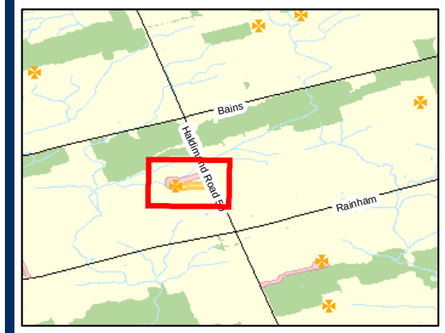
601500

4747000

601500

Legend

- Turbine Location & Number
- Photo Number & Direction
- Test Pit (5m) Completed 2011
- Pedestrian Survey (5 m) Completed 2011
- Pedestrian Survey (5 m) Completed 2010
- Not Assessed
- Previously Disturbed
- Completed by Golder
- Project Location
- Watercourse
- Access Road
- Road



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Project No. 161010624

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Figure No.

4-8

Title

SURVEYED AREAS - TURBINE 12

Tuesday, September 20, 2011 3:22:51 PM
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594000

4748500

4748000

10

4

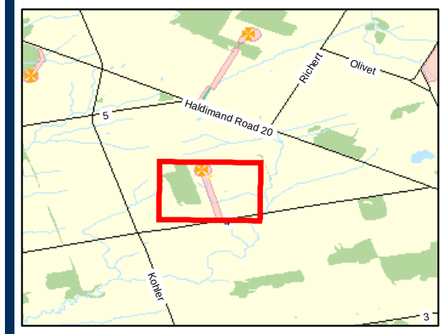
N

0 50 100 m

1:2,500

Legend

- Turbine Location & Number
- Photo Number & Direction
- Test Pit (5m) Completed 2011
- Pedestrian Survey (5 m) Completed 2011
- Pedestrian Survey (5 m) Completed 2010
- Not Assessed
- Previously Disturbed
- Completed by Golder
- Project Location
- Watercourse
- Access Road
- Road



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Project No. 161010624

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GRAND RENEWABLE ENERGY PARK

Figure No.

4-10

Title

SURVEYED AREAS - TURBINE 10

Tuesday, September 20, 2011 3:27:48 PM
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590500

591000

4753000

4753000

Irish

N

Photo 18

0 50 100 m

1:2,500

590500

591000

Tuesday, September 20, 2011 3:26:50 PM
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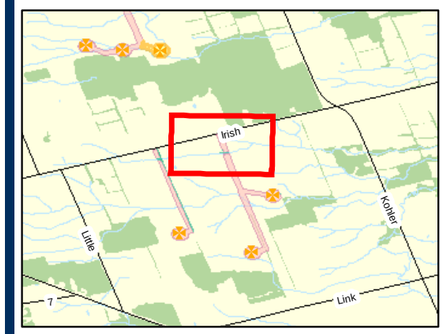
Legend

- Turbine Location & Number
- Photo Number & Direction
- Test Pit (5m) Completed 2011
- Pedestrian Survey (5 m) Completed 2011
- Pedestrian Survey (5 m) Completed 2010
- Not Assessed
- Previously Disturbed
- Completed by Golder
- Project Location
- Watercourse
- Access Road
- Road



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September 2011
Project No. 161010624

Client/Project

SAMSUNG C & T
GRAND RENEWABLE ENERGY PARK

Figure No.

4-9

Title

SURVEYED AREAS - TURBINES 23 & 28

11 IMAGES

Photo 1 - Unsurveyed Ditch Area Across Access Road to T65-67, Looking West

Photo 2 - Pedestrian Survey of T65-67 Access Road, Looking South

Photo 3 - Ditch West of T67, Looking North

Photo 4 - Watercourse Across Turbine Access Road 58, Looking West

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Photo 5 - Turbine 58 Access Road, Looking North From Watercourse

Photo 6 - Turbine 58 Access Road, Looking South From Watercourse to Road

Photo 7 - Looking Toward T30 From Access Road, Pond Outside of RoW to Left

Photo 8 - Looking East Along Ramsay Road RoW Between Turbine Complex 3 Access Road and T64

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Photo 9 - Looking South Across Airfield From North of Turbine 62

Photo 10 - Decaying Asphalt of Old Runway Under Weeds, South of Access Road for Turbine 61

Photo 11 - Concrete Under Weeds In Infield of Runways

Photo 12 - Field Conditions Around Cluster 56, September 1, 2011

Photo 13 - Point 3-11, As Found During Pedestrian Survey of Complex 3 Access Road

Photo 14 - Looking South From Aikens Road to Knoll

Photo 15 - Looking South-West From T49 to Knoll

Photo 16 - Looking East From T49 to T50

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Photo 17- Wet Area, T50 Pad, Looking West

Photo 18 - Excavating Test Pits Along West Side of T23 and T26 Access Road

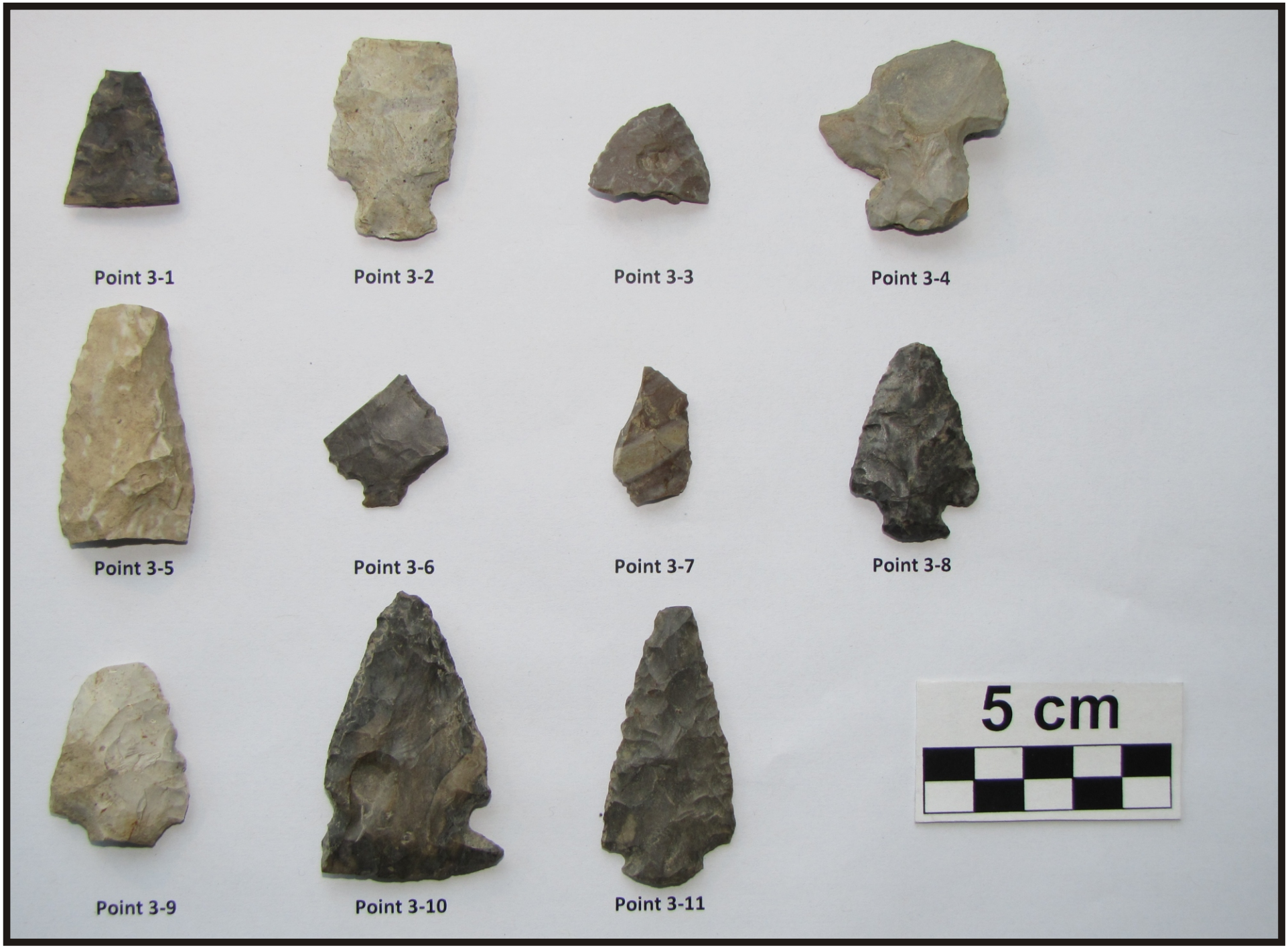

Plate 1 - Formal and Diagnostic Tools Collected During 2011 Stage 2 AA, GREP

APPENDIX A

Artifact Catalogues

AfGx-771 Artifact Catalogue ***Stantec Consulting Ltd***

Catalogue #	Survey ID	Survey Date	Survey Type	Location	# of Pieces	Description
AfGx-771.1	Point 3-3	14/04/2011	P	T58	1	Lithic, projectile point, point tip, indeterminate type or age, 18 x 23 x 7 mm, Bois Blanc formation chert

AfGx-772 Artifact Catalogue ***Stantec Consulting Ltd***

Catalogue #	Survey ID	Survey Date	Survey Type	Location	# of Pieces	Description
AfGx-772.1	Point 3-6	14/04/2011	P	T58	1	Lithic, projectile point, basal end of broken point, corner notched or possibly eared form, finely made, indeterminate type or age, 25 x 24 x 4 mm, Bois Blanc formation chert

AfGv-127 Artifact Catalogue ***Stantec Consulting Ltd***

Catalogue #	Survey ID	Survey Date	Survey Type	Location	# of Pieces	Description
AfGv-127.1	Point 3-1	14/04/2011	P	T58	1	Lithic, projectile point, distal end of broken point, probably Early Woodland Meadowood type point, 26 x 22 x 4 mm, Bois Blanc formation chert

AfGv -125 Artifact Catalogue ***Stantec Consulting Ltd***

Catalogue #	Survey ID	Survey Date	Survey Type	Location	# of Pieces	Description
AfGv-125.1	Point 3-2	14/04/2011	P	T66	1	Lithic, projectile point, Middle Woodland period Saugeen type point, 37 x 25 x 7 mm, Onondaga chert; stem width 13 mm

AfGv-128 Artifact Catalogue ***Stantec Consulting Ltd***

Catalogue #	Survey ID	Survey Date	Survey Type	Location	# of Pieces	Description
AfGv-128.1	Point 3-11	15/04/2011	P	Complex 3	1	Lithic, projectile point, Early Woodland Meadowood type point, nearly complete, 54 x 25 x 4 mm, Bois Blanc formation chert; stem width 16 mm

AfGx-903 Artifact Catalogue ***Stantec Consulting Ltd***

Catalogue #	Survey ID	Survey Date	Survey Type	Location	# of Pieces	Description
AfGx-903.1	Point 3-4	14/04/2011	P	T58	1	Lithic, projectile point, corner notched from, broken early in manufacture, indeterminate age, possibly Late Archaic Broad Point horizon, 38 x 38 x 10 mm, Bois Blanc formation chert

AfGx-906 Artifact Catalogue ***Stantec Consulting Ltd***

Catalogue #	Survey ID	Survey Date	Survey Type	Location	# of Pieces	Description
AfGx-906.1	Point 3-10	15/04/2011	P	T41	1	Lithic, projectile point, Middle Archaic Brewerton side notched point, small portion of one basal ear missing, otherwise complete, 55 x 35 x 8 mm, Bois Blanc formation chert; width at side notches 25 mm

AfGx-902 Artifact Catalogue ***Stantec Consulting Ltd***

Catalogue #	Survey ID	Survey Date	Survey Type	4	# of Pieces	Description
AfGx902.1	Cluster 58	15/06/2011	TP	T23&T28	1	Lithic, flake, thinning flake, Onondaga chert
AfGx902.2	Cluster 58	15/06/2011	TP	T23&T28	1	Lithic, flake, shatter, Onondaga chert
AfGx902.3	Cluster 58	28/08/2011	TU	T23&T28	1	Lithic, flake, thinning flake, Onondaga chert
AfGx902.4	Cluster 58	28/08/2011	TU	T23&T28	1	Lithic, flake, thinning flake, Onondaga chert
AfGx902.5	Cluster 58	28/08/2011	TU	T23&T28	1	Lithic, flake, thinning flake, Onondaga chert

AfGx-904 Artifact Catalogue ***Stantec Consulting Ltd***

Catalogue #	Survey ID	Survey Date	Survey Type	Location	# of Pieces	Description
AfGx-904.1	Point 3-8	14/04/2011	P	T58	1	Lithic, projectile point, complete, corner notched Late Archaic Small Point horizon, 38 x 25 x 7 mm, Bois Blanc formation chert; stem width 14 mm

AfGx-901 Artifact Catalogue ***Stantec Consulting Ltd***

Catalogue #	Survey ID	Survey Date	Survey Type	Location	# of Pieces	Description
AfGx-901.1	Cluster 57	15/06/2011	TP	T23&T28	1	Lithic, flake, thinning flake, Onondaga chert
AfGx-901.2	Cluster 57	15/06/2011	TP	T23&T28	1	Lithic, flake, thinning flake, Onondaga chert
AfGx-901.3	Cluster 57	15/06/2011	TP	T23&T28	1	Lithic, flake, thinning flake, Kettle Point chert
AfGx-901.4	Cluster 57	28/08/2011	TU	T23&T28	1	Lithic, flake, thinning flake, Onondaga chert
AfGx-901.5	Cluster 57	28/08/2011	TU	T23&T28	1	Lithic, flake, thinning flake, Onondaga chert
AfGx-901.6	Cluster 57	28/08/2011	TU	T23&T28	1	Lithic, flake, thinning flake, Onondaga chert

161010624 General Artifact Catalogue ***Stantec Consulting Ltd***

Catalogue #	Survey ID	Survey Date	Survey Type	Location	# of Pieces	Description
161010624.43	Point 3-5	14/04/2011	P	T58	1	Lithic, projectile point, medial section of narrow projectile point form, one side worked only, light Onondaga chert, 46 x 26 x 12 mm
161010624.44	Point 3-7	14/04/2011	P	T58	1	Lithic, projectile point, lateral edge of broken point, small point form on Selkirk chert, 27 x 19 x 6 mm

Catalogue #	Survey ID	Survey Date	Survey Type	Location	# of Pieces	Description
AfGx-905.1	Point 3-9	14/04/2011	P	T58	1	Lithic, projectile point, one side worked only, prob. corner notched Late Archaic Small Point horizon, 37 x 27 x 9 mm, Bois Blanc formation chert