REVISED REPORT

March 23, 2012

STAGE 2 ARCHAEOLOGICAL ASSESSMENT

NextEra Energy Canada, ULC
Bluewater Wind Energy Centre
Huron County, Ontario

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Executive Summary

This Stage 2 archaeological assessment was undertaken in order to meet the requirements for an application for a Renewable Energy Approval, as outlined in Ontario Regulation 359/09 section 22(3) of the Environmental Protection Act. It was conducted on behalf of AECOM Canada Ltd. for NextEra Energy Canada, ULC's (NEEC) proposed Bluewater Wind Energy Centre covering approximately 786.74 hectares. This area incorporates the proposed turbine locations, underground electric cable corridors, access roads, service roads, vehicle and crane turnarounds, substations, transmission lines, and equipment lay down and set-up locations for 37 wind turbines (although 41 potential locations will be permitted and are studied here) included in the NEEC Bluewater Wind Energy Centre.

The *Green Energy Act* (2009) enabled legislation governing project assessments and approvals to be altered to allow for a more streamlined Renewable Energy Approval (REA) process. Under Section 22 (1) of the REA, an archaeological assessment must be conducted if the proponent concludes that engaging in the project may have an impact on archaeological resources. Golder Associates Ltd. (Golder 2012) previously determined the potential for the recovery of pre-contact Aboriginal and historic Euro-Canadian archaeological resources within the study area. Currently, Ontario Regulation 359/09 of the Environmental Protection Act governs the REA process for renewable energy projects such as wind, anaerobic digestions, solar, and thermal treatment facilities.

The Stage 2 archaeological assessment, conducted between May 5, 2011 and March 22, 2012, resulted in the identification of 25 sites: 18 pre-contact Aboriginal and seven historic Euro-Canadian. **Stage 3 archaeological assessments are recommended to further evaluate the cultural heritage value or interest of four sites**.

The Ministry of Tourism, Culture and Sport is asked 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.

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 PROJECT CONTEXT

1.1 Development Context

A Stage 2 archaeological assessment was conducted by Golder Associates Ltd. (Golder) on behalf of AECOM Canada Ltd. (AECOM) for NextEra Energy Canada, ULC's (NEEC) proposed Bluewater Wind Energy Centre covering approximately 786.74 hectares. The study area is located on various lots and concessions in the Geographic Townships of Stanley, Hay and Tuckersmith, Huron County, Ontario (Figure 1). Table 1 lists the relevant lots located within the study area.

Table 1: Properties within the Bluewater Wind Energy Centre, Huron County

Geographic Township	Concession	Lot
Stanley	1 to 5	6 to 15
	6	3 to 15, part 16
	7	3 to 17
	8	3 to 19
	9	3 to 20
	10	3 to 22
	11 to 12	3 to 24
	13	3 to 15
	Bayfield Range F	9 to 11
	Bayfield Range G	6 to 8
	Bayfield Road South	6 to 25
	Lake Road East	part 1 to 9
	South Boundary	10 to 26, part 27
Hay	6 to 14	26 to 28
	North Boundary	10 to 27
Tuckersmith	1 to 4	21 to 30
	5	23 to 30
	6	26 to 30
	7	29
	1 Huron Road Survey	1 to 5, part 6
	2 Huron Road Survey	1 to 7, part 8 to 10
	3 Huron Road Survey	1 to 10, part 11 to 13
	4 Huron Road Survey	1 to 13, part 14
	5 to 8 Huron Road Survey	1 to 14

The *Green Energy Act* (2009) enabled legislation governing project assessments and approvals to be altered to allow for a more streamlined Renewable Energy Approval (REA) process. Under Section 22(1) of the REA, an

archaeological assessment must be conducted if the proponent concludes that engaging in the project may have an impact on archaeological resources. Golder previously determined that archaeological potential for the recovery of pre-contact Aboriginal and Euro-Canadian historic archaeological resources exists within the study area (Golder 2011). Currently, Ontario Regulation 359/09 of the Environmental Protection Act governs the REA process for renewable energy projects such as wind, anaerobic digestions, solar and thermal treatment facilities. This assessment was undertaken in order to meet the requirements for an application for a REA, as outlined in Ontario Regulation 359/09 section 22(3) of the *Environmental Protection Act*.

The Bluewater Wind Energy Centre will include 37 wind turbines (although 41 potential locations will be permitted) with a 60 megawatt capacity as well as associated infrastructure. This includes collector cable routes, access roads, construction roads, transmission lines, staging areas, and substations. Permission to enter the optioned lots within the study area and to remove archaeological resources was given by Mr. Thomas Bird of NEEC. For the purposes of this Stage 2 assessment, the Ministry of Tourism, Culture and Sport's (MTCS) 2011 *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011) were followed. The objectives of the Stage 2 assessment were to document archaeological resources present within the study area, to determine whether any of the resources might be artifacts or archaeological sites with cultural heritage value or interest requiring further assessment, and to provide specific Stage 3 direction for the protection, management and/or recovery of the identified archaeological resources (Government of Ontario 2011).

1.2 Archaeological Context

Golder previously conducted a Stage 1 archaeological assessment for the Bluewater study area (Golder 2011). Golder applied archaeological potential criteria commonly used by the Ontario Ministry of Tourism, Culture and Sport (2011) to determine areas of archaeological potential within the study area. The archaeological potential for Aboriginal and Euro-Canadian sites was deemed to be moderate to high on these properties. For pre-contact Aboriginal sites this assessment is based on the presence of nearby potable water sources, level topography, agriculturally suitable soils and known archaeological sites. For post-contact Aboriginal sites this assessment is based on the presence of nearby potable water sources, level topography and historic Euro-Canadian anecdotal evidence. The determination of historic Euro-Canadian archaeological potential is based on the documentation indicating occupation from the middle of the 19th century onwards as well as the presence of historic transportation routes. As a result, Stage 2 archaeological assessment was recommended for potential wind turbine sites and their associated infrastructure.

According to the Archaeological Sites Database (ASDB) (personal communication, Robert von Bitter, August 31, 2010), there are 12 registered archaeological sites located within the limits of the study area. Table 2 summarizes the nature of these sites. Ten of the registered sites are pre-contact Aboriginal and the other two are multi-component sites. Table 3 provides a general outline of the culture history for Huron County (based on Ellis and Ferris 1990).

Table 2: Archaeological Sites Located within the Limits of the Study Area

Borden Number	Site Name	Site Type	Culture	Year	Found
AjHi-5	Boren 1	Campsite	Pre-contact Aboriginal	1979	N/A
AjHi-6	Boren 2	Campsite	Woodland	1979	"Saugeen" point and stamped sherd
AjHi-7	Boren 3	Campsite	Pre-contact Aboriginal	N.D.	N/A
AjHi-8	Boren 4	Campsite	Pre-contact Aboriginal	N.D.	N/A
AjHi-9	Fidom	Campsite	Pre-contact Aboriginal	1979	N/A
AjHj-1	Deer Track	Campsite	Archaic/Historic Euro-Canadian	1977	30m x 70m site size
AjHj-2	Ferguson	Campsite/House	Pre-contact Aboriginal/ Historic Euro-Canadian	1979	a few scrapers and a historic site
AjHj-3	Kaastra	Campsite	Woodland	1979	N/A
AjHj-4	-	Findspot	Pre-contact Aboriginal	1987	Not significant
AjHj-5	-	Findspot	Pre-contact Aboriginal	1987	1 utilized flake
AjHj-6	-	Findspot	Pre-contact Aboriginal	1987	1 utilized flake
AjHi-1	Tighe	Campsite	Pre-contact Aboriginal	1972	54 artifacts

Table 3: Cultural Chronology for the Huron County Area

Period	Characteristics	Time	Comments
Early Paleo-Indian	Fluted Projectiles	9000 - 8400 B.C.	spruce parkland/caribou hunters
Late Paleo-Indian	Hi-Lo Projectiles	8400 - 8000B.C.	smaller but more numerous sites
Early Archaic	Kirk and Bifurcate Base Points	8000 - 6000 B.C.	slow population growth
Middle Archaic	Brewerton-like points	6000 - 2500 B.C.	environment similar to present
Late Archaic	Lamoka (narrow points)	2000 - 1800 B.C.	increasing site size
	Broadpoints	1800 - 1500 B.C.	large chipped lithic tools
	Small Points	1500 - 1100B.C.	introduction of bow hunting
Terminal Archaic	Hind Points	1100 - 950 B.C.	emergence of true cemeteries
Early Woodland	Meadowood Points	950 - 400 B.C.	introduction of pottery
Middle Woodland	Dentate/Pseudo-Scallop Pottery	400 B.C. - A.D.500	increased sedentism
	Princess Point	A.D. 550 - 900	introduction of corn
Late Woodland	Early Ontario Iroquoian	A.D. 900 - 1300	emergence of agricultural villages
	Middle Ontario Iroquoian	A.D. 1300 - 1400	long longhouses (100m +)
	Late Ontario Iroquoian	A.D. 1400 - 1650	tribal warfare and displacement

Period	Characteristics	Time	Comments
Contact Aboriginal	Various Algonkian Groups	A.D. 1700 - 1875	early written records and treaties
Historic	Euro-Canadian	A.D. 1796 - present	European settlement

The study area within Huron County was occupied by Algonkian-speaking groups who also exhibited cultural influence from Iroquoian-speaking groups, both before and after European contact. Generally, the pre-contact Aboriginal presence in much of southern Ontario reflects occupation by Northern Iroquoian speakers. During and following the Iroquois Wars of the mid-17th century and the dispersal of the Iroquoian-speaking Huron-Petun and Neutral, a considerable reduction in the extent of territory occupied by Iroquoian speakers occurred in southern Ontario. Beginning about 1690, Algonkian speakers from northern Ontario began to move southwards (Ferris 2009; Rogers 1978:761; Schmalz 1991). It has been presumed that occupation of Huron County before about 1690 would have been by Iroquoians, but the Middle Woodland Saugeen Complex, known best from locations just north of Huron County in the Saugeen River valley such as the Donaldson site, is most often interpreted as Algonkian (Fiedel 1999), arguing for an occupation of Huron County by Algonkian speakers for millennia. Dating somewhat later than the Donaldson site, Wright (1974:303; Fox 1990:461) believed that the isolated occurrence of a palisaded village in neighbouring Bruce County at the Middle Ontario Iroquoian-like (Middleport substage) Nodwell site established a case for immigration by the Iroquoian-speaking Huron. More recently, however, Rankin (2000) has argued that the Nodwell village represents a short-lived sedentary farming experiment by hunter-gatherers, probably indigenous Algonkian speakers, who may have been ancestral to the Odawa (see also Warrick 2008:159). French missionaries indicated relatively close ties between the Odawa and the Huron-Petun (Fox 1990; cf. Feest and Feest 1978:773).

Ferris (1999:119-120) has also pointed out the potential misuse in the literature of the designation “Huron” to describe sites in Huron and Bruce County. As Koenig (2005:61-61) indicates, there are some who argue that the ancestors of those Algonkian speaking First Nations now occupying the shores of Lake Huron and Bruce Peninsula only arrived in the mid-1800s, relating to known relocations from the U.S. and the establishment of reserves (Surtees 1971:48). In southwestern Ontario, however, members of the Three Fires Confederacy (Chippewa, Ottawa and Potawatomi) were immigrating from Ohio and Michigan in the late 1700s (Feest and Feest 1978:778-779). Still, archaeological sites in Huron County point to much earlier settlement, probably by at least some of their ancestors. So, during the Late Woodland period, there is evidence that the study area could have been inhabited by Algonkian- or Iroquoian-speaking groups, or a combination of groups.

Historical Euro-Canadian records also mention that while the Huron Tract was being surveyed, First Nations guides were often employed because of their knowledge of the land. These historical mentions claim that First Nations groups often travelled through Huron County for hunting and gathering but never stayed very long (Hay Township Book Committee (HTBC) 1996:3). They also were known to help settlers clear their land and open roads and aid in advising women on medicinal herbs and medicines for the sick (HTBC 1996:3). First Nations groups were also known to have lived at a temporary campsite north of Egmondville just outside of the study area as they traversed a seasonal route between the Lake Erie shoreline in the summer and the Saugeen Peninsula in the winter (Campbell 1968). Despite the presence of later Aboriginal groups within the study area, no archaeological sites have been registered with the ASDB for this area.

1.2.1 Existing Conditions

The Stage 2 field assessment for the NEEC Bluewater Wind Energy Centre was conducted from May 5, 2011 to March 22, 2012 under the PIFs P218-040-2011 issued to Scott Martin, Ph.D. and P319-017-2012 issued to Irena Jurakic, M.A., by the MTCS. During the Stage 2 field work, the weather ranged from overcast and warm to cloudy and cold. At no time were the field or weather conditions detrimental to the recovery of archaeological material and visibility was excellent. The study area encompasses approximately 786.74 hectares and mostly consists of ploughed, well-weathered agricultural fields.

1.3 Historical Context

1.3.1 Post-contact Aboriginal Archaeological Resources and Surveys

The study area within Huron County was most likely occupied by Algonkian-speaking groups who also exhibited cultural influence from Iroquoian-speaking groups, both before and after European contact. Generally, the pre-contact Aboriginal presence in much of southern Ontario reflects occupation by Northern Iroquoian speakers. During and following the Iroquois Wars of the mid-17th century and the dispersal of the Iroquoian-speaking Huron-Petun and Neutral, a considerable reduction in the extent of territory occupied by Iroquoian speakers occurred in southern Ontario. Beginning about 1690, Algonkian speakers from northern Ontario began to move southwards (Ferris 2009; Rogers 1978:761; Schmalz 1991). It has been presumed that occupation of Huron County before about 1690 would have been by Iroquoians, but the Middle Woodland Saugeen Complex, known best from locations just north of Huron County in the Saugeen River valley such as the Donaldson site, is most often interpreted as Algonkian (Fiedel 1999), arguing for an occupation of Huron County by Algonkian speakers for millennia. Dating somewhat later than the Donaldson site, Wright (1974:303; Fox 1990:461) believed that the isolated occurrence of a palisaded village in neighbouring Bruce County at the Middle Ontario Iroquoian-like (Middleport substage) Nodwell site established a case for immigration by the Iroquoian-speaking Huron. More recently, however, Rankin (2000) has argued that the Nodwell village represents a short-lived sedentary farming experiment by hunter-gatherers, probably indigenous Algonkian speakers, who may have been ancestral to the Odawa (see also Warrick 2008:159). French missionaries indicated relatively close ties between the Odawa and the Huron-Petun (Fox 1990; cf. Feest and Feest 1978:773).

Ferris (1999:119-120) has also pointed out the potential misuse in the literature of the designation “Huron” to describe sites in Huron and Bruce County. As Koenig (2005:61-61) indicates, there are some who argue that the ancestors of those Algonkian speaking First Nations now occupying the shores of Lake Huron and Bruce Peninsula only arrived in the mid-1800s, relating to known relocations from the U.S. and the establishment of reserves (Surtees 1971:48). In southwestern Ontario, however, members of the Three Fires Confederacy (Chippewa, Ottawa and Potawatomi) were immigrating from Ohio and Michigan in the late 1700s (Feest and Feest 1978:778-779). Still, archaeological sites in Huron County point to much earlier settlement, probably by at least some of their ancestors. So, during the Late Woodland period, there is evidence that the study area could have been inhabited by Algonkian- or Iroquoian-speaking groups, or a combination of groups.

While, it is difficult to trace ethnic affiliation during the period of initial contact between Aboriginal and European groups, Koenig states that “there is no doubt that some native groups regularly occupied sites on the [Bruce] peninsula at the end of [the early historic] period” (2005:62). Feest and Feest (1978:772-773) imply that the

Bruce Peninsula was Odawa territory from 1616 and early 17th century French glass trade beads at the Glen and Cripps sites on the northern tip of the Bruce Peninsula appear to attest to this (Fox 1990:465-466). Fox not only points to Odawa (or Ottawa) settlement on the Bruce Peninsula during the mid-1600s at Hunter's Point, but also to sites in the southern Bruce County littoral such as the Hunter site on the Saugeen Reserve, dating about 1600 (1990:462, 472), as well as the Inverhuron-Lucas site (1990:463). Abandonment of this area by the Odawa seems to have occurred, at least briefly, in the mid-1600s due to the Iroquois Wars (Fox 1990:472).

By 1690, Algonkian speakers from the north appear to have begun to repopulate Huron and Bruce County (Rogers 1978:761). This is the period in which the Mississaugas are known to have moved into southern Ontario and the Lower Great Lakes watersheds (Konrad 1981). Although noted as "MIS" (i.e. Mississauga), Tanner (1987:Plate 13) shows First Nation occupation at the mouth of the Saugeen River in the late 1700s. Villages, sometimes temporary, fishing camps and portage trails were documented by surveyors and other Euro-Canadian visitors and settlers (Koenig 2005:62).

The study area also first enters the historic record when the Ojibwa and Chippewa First Nations entered into Treaty 27½,

> *…being an agreement made at Amherstburg in the Western District of the Province of Upper Canada on the 26th of April, 1825, between James Givens, Esquire, Superintendent of Indian Affairs, on behalf of His Majesty King George the Fourth and the Chiefs and Principal Men of the part of the Chippewa Nation of Indians, inhabiting and claiming the tract of land …. Wawanosh Township in the County of Huron was named after Way-way-nosh the principal Chief of the Band making this Treaty.*
>
> (Morris 1943:26-27)

While it is difficult to exactly delineate treaty boundaries today, Figure 3 provides an approximate outline of the limits of Treaty Number 27½.

1.3.2 Historic Euro-Canadian Archaeological Resources and Surveys

1.3.2.1 Stanley Township

Stanley Township was surveyed by John McDonald (McDonald 1835) using the "2400 acre section" system. John McDonald created rectangular 200 acre lots in this township, with the fronts of the lots fronting onto road allowances (Figure 2). The settlers of the township were mostly English Protestants and Scottish Catholics with some Germans of different religious denominations (Scott 1966:158). There were often arguments as to where families would settle, ending up with each denomination getting their own concession (Scott 1966:158). This phenomenon has been preserved today in the names of the roads, such as Babylon Line where the Catholics resided and Goshen Line where the Protestants resided (Scott 1966: 158). Rev. Mr. Cooper was the first Euro-Canadian settler of the township in 1833 when he settled on the London Road (Scott 1966: 158-159).

A good resource for identifying potential historic Euro-Canadian archaeological sites is the 1879 *Illustrated Historical Atlas of the County of Huron* (Belden 1879). The Stanley Township map provides both the names of the landowners and the majority of structures as they were located on properties in the last half of the 19th century (Figure 3). In addition to houses, the structures noted include brickyards, cemeteries, churches, hotels, manufactories, mills and schools. Table 4 lists those lots that hold a structure other than a house, along with the

name of the owner. 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 and if they are to be impacted by a wind turbine placement the location would need to be archaeologically assessed to see if there are any archaeological remains. For a summary of historic villages and settlements within the study area see Golder (2011).

Table 4: Historic Properties with Potentially Significant Structures According to the Map of Stanley Township in the 1879 *Illustrated Historical Atlas of the County of Huron*

Structure	Lot	Concession	Status
School House	6	3	Still standing, now a home
Cheese Factory	13	6	No longer standing
School House	6 and 7	7	No longer standing
Saw Mill	14	7	No longer standing
Grist Mill	14	7	No longer standing
School House	13	8	No longer standing
Church	15	9	No longer standing
Church	14	10	No longer standing
Cemetery	12	11	No longer standing
Church	10	11	No longer standing
Saw Mill	7	13	No longer standing
School House	10	13	No longer standing
Church	11	South Boundary	No longer standing
School House	21 and 22	South Boundary	Still standing, now a home
Church	23	South Boundary	No longer standing

1.3.2.2 Hay Township

John McDonald (McDonald 1835) surveyed the majority of Hay Township in 100-acre lots (Figure 4), where the concession roads and side roads are one and one quarter miles apart (HTBC 1996:6). The only exception to the 100-acre lots survey is the Lake Range Concessions East and West (HTBC 1996:6). The Canada Company soon realized after their purchase of land in Hay Township that it was rather difficult to clear and settle on these properties. They then decided to lease the land for five or ten year periods, to immigrants who had little or no money (HTBC 1996:4).

The first wave of Euro-Canadian settlement began with the arrival of British families in 1833. The first two settlers were John C. Hillock (or Hullock) and Andrew McConnell (HTBC 1996:21). The second stage was the settlement of French-Canadians. This occurred in the 1840s after French-Canadian loggers who had temporarily come to Hay Township for work returned with their families to settle. This group was best known most for its settlement at St. Joseph, outside of the study area (Scott 1966:58). They were the first loggers to come to the township in 1830s who later settled permanently in the 1840s (Scott 1966:58). The third stage was

the arrival of German immigrants in the 1850s. They settled mostly along the eastern and western borders of the township (HTBC 1996:30).

A good resource for identifying potential historic Euro-Canadian archaeological sites is the 1879 *Illustrated Historical Atlas of the County of Huron* (Belden 1879). The Hay Township map provides both the names of the landowners and the majority of structures as they were located on properties in the last half of the 19th century (Figure 5). In addition to houses, the structures noted include brickyards, cemeteries, churches, hotels, manufactories, mills and schools. Table 5 lists those lots that hold a structure other than a house, along with the name of the owner. 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 and if they are to be impacted by a wind turbine placement the location would need to be archaeologically assessed to see if there are any archaeological remains. For a summary of historic villages and settlements within the study area see Golder (2011).

Table 5: Historic Properties with Potentially Significant Structures According to the Map of Hay Township in the 1879 *Illustrated Historical Atlas of the County of Huron*

Structure	Lot	Concession	Status
Church	28	7	No longer standing
Cemetery	28	7	No longer standing
Cemetery	28	12	No longer standing

1.3.2.3 Tuckersmith Township

John McDonald used the 1000 acre sectional system, which divided the lots into 100 acre parcels, when surveying the township (Figure 6). Tuckersmith got its name from one the original directors of the Canada Company, Mr. Martin Tucker Smith (Scott 1966:145). In 1830 it was apparent that there would be little or no settlement in the area if there was not a proper road going through the land. The Canada Company contracted Anthony Van Egmond and his son, Constant, to build the Huron Road (Scott 1966:50-51). The road was finished in 1832, but after a very short time it was noted that it was poorly drained and therefore the corduroy was torn up and replaced by turnpike (Scott 1966:52). Early Euro-Canadian settlement was slower than anticipated but did increase in the next few years. Over half of the initial settlers of the area were of Scottish origin and were Presbyterians, just over a third of the settlers were Methodist and Anglicans who were mostly of English origin and the remainder of the settlers were Roman Catholics of Irish origin (Scott 1966:145).

The Brantford Buffalo Railway came through Tuckersmith in 1858 (Andreae 1997:127). It later became known as the Buffalo and Lake Huron Railway (Scott 1966:232). It is still operating today but is now known as the Goderich-Exeter railway.

A good resource for identifying potential historic Euro-Canadian archaeological sites is the 1879 *Illustrated Historical Atlas of the County of Huron* (Belden 1879). The Tuckersmith Township map provides both the names of the landowners and the majority of structures as they were located on properties (Figure 7). In addition to houses, the structures noted include brickyards, cemeteries, churches, hotels, manufactories, mills and schools. Table 6 lists those lots that hold a structure other than a house, along with the name of the owner. 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 and if they are to be impacted by a wind turbine placement the location would need to be archaeologically assessed to see if there are any archaeological remains. For a summary of historic villages and settlements within the study area see Golder (2011).

Table 6: Historic Properties with Potentially Significant Structures According to the Map of Tuckersmith Township in the 1879 Illustrated Historical Atlas of the County of Huron

Structure	Lot	Concession	Status
School House	5	4 Huron Road Survey	No longer standing, modern building in its place
Cemetery	23	5	No longer standing
Cemetery	27	1	Still standing

1.3.3 Recent Reports

Other than the existing historic documentation, the Bluewater Wind Energy Centre has been documented in recent archaeological assessments, namely the Stage 1 archaeological assessment conducted by Golder, entitled *Stage 1 Archaeological Assessment: NextEra Energy Canada, ULC, Bluewater Wind Energy Centre, Huron County, Ontario* (Golder 2012) produced by Golder on February 13, 2012 under PIF P001-609-2010.

2.0 FIELD METHODS

Taking into account the area to be impacted by the wind farm development and its associated transmission line, approximately 91% of the project area was subject to pedestrian survey. Approximately 1% was subject to test pitting along the proposed transmission line route and in wood lots. Under 1% of the area was deemed wet due to the nearby watercourses and and also under 1% of the area was deemed steeply sloped leading down to the nearby watercourses. Finally, 7% was deemed disturbed by previous construction activities, the majority being in the municipal right-of way, especially along the transmission route. As per the *Standards and Guidelines for Consultant Archaeologists* (Section 7.8.6, Standard 1a), Plates 1 to 24 provide a representative sample of parts of the study area that confirm conditions allowed the standards for pedestrian survey to be met or to deem areas as not requiring assessment. Plate locations and photograph directions are provided in the Figure 8 tiles. During the Stage 2 pedestrian survey, the weather ranged from overcast and warm to cloudy and cold. At no time were the field or weather conditions detrimental to the recovery of archaeological material and visibility was excellent.

As the study area is characterized by ploughed and well-weathered agricultural fields (Plates 1 to 24), the Stage 2 assessment was conducted using pedestrian survey at five metre intervals. Numerous areas existed within the study area where pedestrian survey was possible, despite conditions visible on aerial photography. These included seasonal watercourses of widths less than one metre in width and treed windbreaks of less than five metres in width (in ploughed agricultural fields). Their presence did not impact pedestrian survey transects since they were accommodated between five metre transects, being less than five metres in width.

When archaeological resources were identified, the survey transect was decreased to a one metre interval and spanned a minimal 20 metre radius around the identified artifact. This approach established if the artifact was an isolated find or if it was part of a larger artifact scatter. If the artifact was part of a larger scatter, the one metre interval was continued until the full extent of the scatter was defined (Government of Ontario 2011).

The vast majority of the transmission line route consisted of raised road bed and ditch (Plate 30). Disturbance of these areas by previous road construction activities was confirmed by a visual inspection. Visual inspection resulted in the identification of two areas where previous disturbance was not readily apparent: the south side of Centennial Road between Kippen Road and Hannah Line, and the south side of Centennial Road between Division Line and Morrison Line. In accordance with Golder's Health and Safety best practices, buried utility locates were requested for these areas. Buried utility locates conducted by Tuckersmith Communications, Union Gas and Bell Canada between December 15 and 22, 2011 resulted in the determination that the study area between Kippen Road and Hannah Line had been previously disturbed by buried utilities and would not be subject to test pit survey. Test pit survey of the south side of Centennial Road between Division Line and Morrison Line (on a land parcel designated by NEEC as BLW1330) was completed on January 11, 2012. As per the *Standards and Guidelines for Consultant Archaeologists* (Section 7.8.6, Standard 1a), Plates 25 to 32 provide a representative sample of parts of the study area that confirm conditions allowed the standards for test pit survey to be met along the transmission line or to deem areas as not requiring assessment. Plate locations and photograph directions are provided in the Figure 8 tiles. During the Stage 2 test pit survey of the transmission line route, the weather was cloudy and cold and snow had fallen previously but the ground had not frozen. So, the light snow cover did not impede the visibility during screening nor hamper the excavation or screening of the soil matrix. As a result, at no time were the field or weather conditions detrimental to the recovery of archaeological material and visibility was excellent.

For the portion of the transmission line route subject to test pit survey the survey was conducted in five metre transects as well (Plates 29, 31 and 32). Each test pit was approximately 30 centimetres in diameter and excavated five centimetres into sterile subsoil, examining the pit for stratigraphy, cultural features, or evidence of fill. All soil matrix was screened through six millimetre mesh hardware cloth to facilitate the recovery of small artifacts and then used to backfill the pit. All artifacts were collected according to their associated test pit. In the event an artifact was encountered in a test pit, eight additional test pits were dug at less than 2.5 metre intervals within a radius of five metres around the initial positive test pit and then an additional one-by-one metre test unit was placed over the initial positive test pit.

The remainder of the transmission line route and various collector cables are located within the disturbed right of way along the road and are therefore located within disturbed corridors that were not assessed due to the modern construction disturbance (Plates 25 to 28).

Finally, some collector cables will be run underneath woodlots or stream crossings by directional drilling and were also assessed by the test pit survey method using the methods outlined above (Plates 33, 35, 37 and 40). During the test pit survey of the woodlots some areas were not assessed due to the wet conditions presented by the watercourses running through the area (Plates 34 and 36) or due to the steep slope leading down to the watercourses (Plates 34, 38 and 39). Plate locations and photograph directions are provided in the Figure 8 tiles. During the Stage 2 test pit survey of the woodlots, the weather was sunny and warm. At no time were the field or weather conditions detrimental to the recovery of archaeological material and visibility was excellent.

Otherwise, in order to address concerns about the impact of the wind turbine infrastructure, standalone collector cable corridors or transmission line corridors on private lands were surveyed as 20 metre wide corridors; transmission line corridors, limited to municipal right-of-ways, were surveyed from the road edge to the edge of the right-of way; and all roads or roads with collector cables alongside were surveyed as 60 metre wide corridors. All turbine pads with associated vehicle and crane turnarounds and equipment laydown were assessed as a 70 metre radius centred on the turbine. Finally, all substation and laydown areas were assessed with 20 metre buffers.

All formal and diagnostic artifact types were collected and a UTM reading was taken using either a Trimble Recon handheld GPS unit with a GPS Receiver Holux GR-271 CF, using the North American Datum (NAD) 83, with a minimal accuracy of two metres, or a Garmin eTrex Legend handheld GPS unit using the North American Datum (NAD) 83, with a minimal accuracy of five metres. UTM coordinates were recorded for a total of 36 archaeological sites. These are presented in the supplementary documentation (Supplement B,). Supplement A illustrates the Stage 2 field assessment methods and results for the study area in detail while the Figure 8 tiles illustrate the field assessment methods for the study area in detail.

Two First Nations monitors also participated in the Stage 2 archaeological assessment; their roles are summarized in Supplement C.

3.0 STAGE 2 RECORD OF FINDS

The Stage 2 archaeological assessment was conducted employing the methods described in Section 2.0. An inventory of the documentary record generated by fieldwork is provided in Table 7 below and the Stage 2 archaeological assessment results are discussed here. Golder's Stage 2 survey of the proposed NEEC Bluewater Wind Energy Centre properties identified a total of 25 locations: 18 pre-contact Aboriginal and 7 historic Euro-Canadian. A summary of the artifacts collected from each of these sites, their spatial extent, and a description of the artifacts left in the field are provided below. Supplement A, which illustrates the Stage 2 survey methods and results, and Supplement B, which lists the UTM coordinates for each of these locations, are included as supplementary documents to this report.

Table 7: Inventory of Documentary Record

Document Type	Current Location of Document Type	Additional Comments
Field Notes	Golder offices in London and Mississauga	In original field book and photocopied in project file
Hand Drawn Maps	Golder offices in London and Mississauga	In original field book and photocopied in project file
Maps Provided by Client	Golder offices in London and Mississauga	Hard and digital copies in project file
Digital Photographs	Golder office in Mississauga	Stored digitally in project file

All of the material culture collected during the NEEC Bluewater Wind Energy Centre Stage 2 survey is contained in one banker's box. It will be temporarily housed at Golder's Mississauga office until formal arrangements can be made for their transfer to an MTCS collections facility.

The 25 archaeological locations include 18 locations with a pre-contact Aboriginal lithic industry component. The chert types identified in the discussion below include:

- **Haldimand chert:** a relatively high quality raw material that outcrops along the Bois Blanc formation between Kohler and Hagersville, as well as in Cayuga, Ontario, occurring as nodules and lenses several centimetres in diameter in limestones and dolomites. It is also widely available from secondary deposits along the eastern Lake Huron shore in Bruce County (Golder 2009). Its colour is typically pale grey to white. The macroscopic structure is homogenous to mottled and sometimes banded and tiny fossils and cavities lined with quartz crystals are common (Luedtke 1992).
- **Kettle Point chert:** a relatively high quality 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.
- **Onondaga chert:** a high quality 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. The structure of the chert is usually mottled and streaked, with veins filled with chalcedony or quartz crystals and a shiny lustre (Luedtke 1992).

In addition, the 25 archaeological locations include 7 locations with a historic Euro-Canadian component. For historic Euro-Canadian artifacts, Appendix A provides a more comprehensive discussion of temporally diagnostic Euro-Canadian material culture to supplement the results below.

3.1 Location 1

Location 1, a pre-contact Aboriginal site, was identified on May 10, 2011. The weather conditions during the Stage 2 pedestrian survey (Plate 11) of property BLW1075, which adjoins the east side of Bronson Line north of Centennial Road (Figure 8-04; Supplement A: Figure 04), were cloudy and cool with light wind. The Stage 2 assessment of Location 1 resulted in the recovery of an isolated complete biface (Plate 41:1). This ovate biface was subject to refined flake removal and measures 65.6 millimetres in length, 38.8 millimetres in width and 9.8 millimetres in thickness. It was manufactured from a local variety of Haldimand chert.

Survey intervals were intensified to one metre for a twenty metre radius surrounding the find but no additional artifacts were identified.

3.1.1 Artifact Catalogue

Table 8 presents the Stage 2 artifact catalogue for Location 1.

Table 8: Location 1 Artifact Catalogue

Cat. #	Context	Depth	Artifact	Freq.	Comments
1	surface collection	0 cm	biface	1	Haldimand, slight tip damage, ovate

3.2 Location 2

Location 2, a pre-contact Aboriginal site, was identified on May 10, 2011. The weather conditions during the Stage 2 pedestrian survey (Plate 4) of the proposed access road and collector cable corridor on property BLW1029, which adjoins the east side of Goshen Line north of Blue Bluff Road (Figure 8-01; Supplement A: Figure 01), were cloudy and cool with light wind. The Stage 2 assessment of Location 2 resulted in the recovery of an isolated pre-contact Aboriginal piece of chipping detritus (Table 9). Chipping detritus, or flakes, are the waste product from the production of stone tools. This flake is a broken tertiary flake manufactured from Onondaga chert.

Survey intervals were intensified to one metre for a twenty metre radius surrounding the find but no additional artifacts were identified.

3.2.1 Artifact Catalogue

Table 9 presents the Stage 2 artifact catalogue for Location 2.

Table 9: Location 2 Artifact Catalogue

Cat. #	Context	Depth	Artifact	Freq.	Comments
1	surface collection	0 cm	chipping detritus	1	Onondaga, broken tertiary flake

3.3 Location 3

Location 3, a pre-contact Aboriginal site, was identified on May 10, 2011. The weather conditions during the Stage 2 pedestrian survey (Plate 4) of the proposed access road and collector cable corridor on property BLW1029, which adjoins the east side of Goshen Line north of Blue Bluff Road (Figure 8-01; Supplement A: Figure 01), were cloudy and cool with light wind. The Stage 2 assessment of Location 3 resulted in the recovery of an isolated pre-contact Aboriginal piece of chipping detritus (Table 10). Chipping detritus, or flakes, are the waste product from the production of stone tools. This flake is a broken tertiary flake manufactured from Kettle Point chert.

Despite the intensification of survey intervals to transects spaced one metre apart around the recovered artifact no additional artifacts were recovered.

3.3.1 Artifact Catalogue

Table 10 presents the Stage 2 artifact catalogue for Location 3.

Table 10: Location 3 Artifact Catalogue

Cat. #	Context	Depth	Artifact	Freq.	Comments
1	surface collection	0 cm	chipping detritus	1	Kettle Point, broken tertiary flake

3.4 Location 4 (AiHj-5)

Location 4 (AiHj-5), a pre-contact Aboriginal site, was identified on May 11, 2011. The weather conditions during the Stage 2 pedestrian survey (Plate 13) of the proposed collector cable corridor on property BLW1085, southwest of the intersection of Bronson Line and Centennial Road (Figure 8-06; Supplement A: Figure 06), were overcast and warm with light breeze. The Stage 2 assessment of Location 4 resulted in the recovery of an isolated complete projectile point (Plate 41:2). This projectile point is of the Meadowood type (Ellis *et al*. 1990; Justice 1987) dating to the Early Woodland Period (*circa* 1100 to 950 B.C.). It measures 58.9 millimetres in length, 23.2 millimetres in width at the shoulder, 18.3 millimetres at the inter-notch width, 24.3 millimetres in width at the base and is 5.1 millimetres in thickness. It is manufactured from Onondaga chert and displays slight impact damage at its tip as well as light basal grinding.

Survey intervals were intensified to one metre for a twenty metre radius surrounding the find but no additional artifacts were identified.

3.4.1 Artifact Catalogue

Table 11 presents the Stage 2 artifact catalogue for Location 4 (AiHj-5).

Table 11: Location 4 (AiHj-5) Artifact Catalogue

Cat. #	Context	Depth	Artifact	Freq.	Comments
1	surface collection	0 cm	projectile point	1	Onondaga, slight tip damage, Meadowood

3.5 Location 5

Location 5, a pre-contact Aboriginal site, was identified on May 11, 2011. The weather conditions during the Stage 2 pedestrian survey (Plate 8) of property BLW1049, which lies immediately to the southwest of the intersection of Pavilion Road and Babylon Line (Figure 8-03; Supplement A: Figure 03) were overcast and warm with light breeze. The Stage 2 assessment of Location 5 resulted in the recovery of an isolated biface base (Plate 41:3). This ovate biface was subject to refined flake removal on its lateral margins and terminates above its point of maximum width with a transverse snap fracture. It measures 37.5 millimetres in length, 36.9 millimetres in width and 8.1 millimetres in thickness. It is manufactured from Kettle Point chert.

Survey intervals were intensified to one metre for a twenty metre radius surrounding the find but no additional artifacts were identified.

3.5.1 Artifact Catalogue

Table 12 presents the Stage 2 artifact catalogue for Location 5.

Table 12: Location 5 Artifact Catalogue

Cat. #	Context	Depth	Artifact	Freq.	Comments
1	surface collection	0 cm	biface	1	Kettle Point, ovate, base

3.6 Location 6 (AjHj-12)

Location 6 (AjHj-12), a pre-contact Aboriginal site, was identified on May 11, 2011. The weather conditions during the Stage 2 pedestrian survey (Plate 8) of the proposed collector cable corridor on property BLW1049, which parallels the south side of Pavillion Road immediately west of Babylon Line (Figure 8-03; Supplement A: Figure 03), were overcast and warm with light breeze. The Stage 2 assessment of Location 6 resulted in the recovery of an isolated projectile point base (Plate 41:4). This projectile point is of the Crawford Knoll type (Ellis *et al*. 1990; Justice 1987) dating to the Late Archaic Period (*circa* 1500 to 1100 B.C.). It measures 24.5 millimetres in length, 19.1 millimetres in width at the shoulder, 10.9 millimetres at the inter-notch width, 17.2 millimetres in width at the base and 4.8 millimetres in thickness. It is manufactured from Onondaga chert and terminates at its approximate midpoint with a transverse snap fracture.

Survey intervals were intensified to one metre for a twenty metre radius surrounding the find but no additional artifacts were identified.

3.6.1 Artifact Catalogue

Table 13 presents the Stage 2 artifact catalogue for Location 6 (AjHj-12).

Table 13: Location 6 (AjHj-12) Artifact Catalogue

Cat. #	Context	Depth	Artifact	Freq.	Comments
1	surface collection	0 cm	projectile point	1	Onondaga, tip missing, transverse snap fracture

3.7 Location 7

Location 7, a pre-contact Aboriginal site, was identified on May 12, 2011. The weather conditions during the Stage 2 pedestrian survey of property BLW1058, which adjoins the east side of Babylon Line north of Pavillion Road (Figure 8-03; Supplement A: Figure 03), were overcast and warm with light breeze. The Stage 2 assessment of Location 7 resulted in the recovery of an isolated wedge (Plate 41:5). This tool displays typical crushing damage on both surfaces and has been reworked from a biface fragment. It measures 31.1 millimetres in length, 30.4 millimetres in width and 12.1 millimetres in thickness. It is manufactured from Kettle Point chert.

Survey intervals were intensified to one metre for a twenty metre radius surrounding the find but no additional artifacts were identified.

3.7.1 Artifact Catalogue

Table 14 presents the Stage 2 artifact catalogue for Location 7.

Table 14: Location 7 Artifact Catalogue

Cat. #	Context	Depth	Artifact	Freq.	Comments
1	surface collection	0 cm	wedge	1	Kettle Point, reworked biface fragment

3.8 Location 8 (AjHj-13)

Location 8 (AjHj-13), a pre-contact Aboriginal site, was identified on June 29, 2011. The weather conditions during the Stage 2 pedestrian survey (Plate 7) of property BLW1020, which adjoins the west side of Babylon Line north of Pavillion Road (Figure 8-03; Supplement A: Figure 03), were overcast and warm with light wind. The Stage 2 assessment of Location 8 resulted in the recovery of an isolated projectile point base (Plate 41:6). This projectile point is of the Meadowood type (Ellis *et al*. 1990; Justice 1987) dating to the Early Woodland Period (*circa* 950 to 400 B.C.). It measures 37.4 millimetres in length, 20.0 millimetres in width at the shoulder, 13.3 millimetres at the inter-notch width, 18.8 millimetres in width at the base and 5.9 millimetres in thickness. It

is manufactured from Onondaga chert. The point exhibits slight damage to one basal corner as well as light basal grinding. It has also been extensively resharpened along its lateral margins.

Survey intervals were intensified to one metre for a twenty metre radius surrounding the find but no additional artifacts were identified.

3.8.1 Artifact Catalogue

Table 15 presents the Stage 2 artifact catalogue for Location 8.

Table 15: Location 8 (AjHj-13) Artifact Catalogue

Cat. #	Context	Depth	Artifact	Freq.	Comments
1	surface collection	0 cm	projectile point	1	Onondaga, slight basal corner damage, extensively resharpened, basal grinding

3.9 Location 9

Location 9, a pre-contact Aboriginal site, was identified on June 29, 2011. The weather conditions during the Stage 2 pedestrian survey of property BLW1679, which lies immediately northwest of the intersection of Centennial Road and Babylon Line (Figure 8-05; Supplement A: Figure 05), were overcast and warm with light wind. The Stage 2 assessment of Location 9 resulted in the recovery of an isolated scraper (Plate 41:7). It is a side scraper made on a large secondary flake that displays steeply angled retouch along one distal margin but is otherwise devoid of modification. It measures 35.2 millimetres in length, 29.1 millimetres in width and 10.6 millimetres in thickness. It is manufactured from a local variety of Haldimand chert and exhibits heavy use-related polish along its working surface.

Survey intervals were intensified to one metre for a twenty metre radius surrounding the find but no additional artifacts were identified.

3.9.1 Artifact Catalogue

Table 16 presents the Stage 2 artifact catalogue for Location 9.

Table 16: Location 9 Artifact Catalogue

Cat. #	Context	Depth	Artifact	Freq.	Comments
1	surface	0 cm	scraper	1	Haldimand, side, made on a large secondary flake

3.10 Location 10

Location 10, a historic Euro-Canadian site, was identified on June 29, 2011. The weather conditions during the Stage 2 pedestrian survey (Plate 6) of property BLW1002, which adjoins the west side of Babylon Line north of

Pavillion Road (Figure 8-02; Supplement A: Figure 02), were overcast and cool. The Stage 2 assessment of Location 10 resulted in the identification of a 63 metre (along on the north-south axis) by 44 metre scatter (along the west-east axis) of 23 Euro-Canadian historic artifacts. A total of 16 artifacts were recovered including 14 domestic and two structural. Each artifact class is discussed in greater detail below. Table 17 provides a summary of the artifacts recovered during the Stage 2 archaeological assessment.

Table 17: Location 10 Stage 2 Artifact Summary

Artifact	Freq.	%
domestic	14	87.50
structural	2	12.50
Total Stage 2 Artifacts	**16**	**100.00**

3.10.1 Domestic Artifacts

A total of 14 domestic artifacts were recovered from Location 10 including nine ceramic artifacts, three glass artifacts, and two faunal remains.

3.10.1.1 Ceramic Artifacts

A total of nine pieces of hollowwares and flatwares were recovered during the Stage 2 assessment of Location 10. This total includes eight pieces of ironstone and one utilitarian fragment. Table 18 provides a breakdown by decorative type.

Table 18: Location 10 Stage 2 Ceramic Assemblage by Decorative Type

Artifact	Freq.	%
ironstone, plain	9	88.90
stoneware, salt glazed	1	11.10
Total Ceramic Artifacts	**9**	**100.00**

Ironstone

Ironstone or graniteware is a variety of refined white earthenware introduced in the 1830s that became extremely popular in Upper Canada by the 1860s (Kenyon 1985). A total of nine pieces of ironstone were recovered from Location 10, all of which were undecorated (Plate 42:1).

Utilitarian

One piece of salt glazed stoneware (grey-bodied, clear exterior salt glaze, Albany slip interior) was recovered from Location 10. Durable stoneware vessels largely replaced utilitarian earthenwares in the late 19th century (Adams 1994:99).

3.10.1.2 Glass Artifacts

Three glass artifacts were recovered from Location 10, including two pieces of bottle glass and one piece of white glass. The colours of bottle glass fragments represented in this assemblage include one olive and one brown. The white bottle glass or "milk glass" was likely manufactured after 1870. Milk glass was most commonly used for cosmetic containers, toiletry bottles or cream jars. The opaque white glass was very commonly used for such products dating from about 1870 through to the 20th century (Lindsey 2012).

3.10.1.3 Faunal Remains

Two cut fragments of cortical bone from a large mammal were collected from Location 10.

3.10.2 Structural Artifacts

A single machine cut nail was collected from Location 10 (Plate 42:2). Machine cut nails were machine cut and have a flat head. They were produced as early as 1790, but did not become prevalent in Ontario until about 1830. They were replaced by wire drawn nails in the 1890s (Adams 1994:92).

3.10.3 Recent Material

A single fragment of 7.0 millimetre thick glass was also collected during Stage 2 assessment of Location 10.

3.10.4 Artifact Catalogue

Table 19 presents the Stage 2 artifact catalogue for Location 10.

Table 19: Location 10 Artifact Catalogue

Cat. #	Context	Depth	Artifact	Freq.	Comments
1	surface collection	0 cm	faunal remains	2	cut fragments of cortical bone from large mammal
2	surface collection	0 cm	nail, cut	1	
3	surface collection	0 cm	stoneware, salt glazed	1	grey-bodied, clear exterior salt glaze, Albany slip interior
4	surface collection	0 cm	ironstone	1	
5	surface collection	0 cm	glass, bottle	2	1 brown, 1 olive
6	surface collection	0 cm	recent material	1	7mm
7	surface collection	0 cm	glass, white	1	case-moulded base
8	surface collection	0 cm	ironstone	1	
9	surface collection	0 cm	ironstone	1	rim

Cat. #	Context	Depth	Artifact	Freq.	Comments
10	surface collection	0 cm	ironstone	1	
11	surface collection	0 cm	ironstone	1	
12	surface collection	0 cm	ironstone	1	base
13	surface collection	0 cm	ironstone	1	rim
14	surface collection	0 cm	ironstone	1	

3.11 Location 11

Location 11, a pre-contact Aboriginal site, was identified on November 7, 2011. The weather conditions during the Stage 2 pedestrian survey of the proposed access road and collector cable corridor on property BLW1656, which adjoins the east side of Babylon Line north of Centennial Road (Figure 8-05; Supplement A: Figure 05), were overcast and windy. The Stage 2 assessment of Location 11 resulted in the recovery of two pre-contact Aboriginal pieces of chipping detritus located approximately one metre apart northwest to southeast (Plate 43:1). Chipping detritus, or flakes, are the waste product from the production of stone tools. Both are broken secondary flakes manufactured from Kettle Point chert, one of which has been burnt.

Survey intervals were intensified to one metre for a twenty metre radius surrounding each of the recovered artifacts but no additional artifacts were identified.

3.11.1 Artifact Catalogue

Table 20 presents the Stage 2 artifact catalogue for Location 11.

Table 20: Location 11 Artifact Catalogue

Cat. #	Context	Depth	Artifact	Freq.	Comments
1	surface collection	0 cm	chipping detritus	2	Kettle Point, 1 burnt, broken secondary

3.12 Location 12

Location 12, a pre-contact Aboriginal site, was identified on November 7, 2011. The weather conditions during the Stage 2 pedestrian survey (Plate 20) of the proposed Turbine 27 pad on property BLW1453 ,which lies immediately southwest of the intersection of Staffa Road and Tower Line (Figure 8-12; Supplement A: Figure 12), were overcast and windy. The Stage 2 assessment of Location 12 resulted in the recovery of an isolated biface tip (Plate 43:2). This biface fragment was subject to refined flake removal and terminates above its point of maximum width with a transverse snap fracture. It measures 31.9 millimetres in length, 21.9 millimetres in width and 5.2 millimetres in thickness. It is manufactured from Kettle Point chert.

Survey intervals were intensified to one metre for a twenty metre radius surrounding the find but no additional artifacts were identified.

3.12.1 Artifact Catalogue

Table 21 presents the Stage 2 artifact catalogue for Location 12.

Table 21: Location 12 Artifact Catalogue

Cat. #	Context	Depth	Artifact	Freq.	Comments
1	surface collection	0 cm	biface	1	Kettle Point, tip

3.13 Location 13 (AjHj-6)

Location 13 (AjHj-6), a historic Euro-Canadian site, was identified on November 7, 2011. The weather conditions during the Stage 2 pedestrian survey of the proposed collector cable corridor on property BLW1044, which parallels the south side of Centennial Road immediately west of Goshen Line (Figure 8-06; Supplement A: Figure 06), were overcast and windy. The Stage 2 assessment of Location 13 resulted in the identification of a 34 metre (along the north-south axis) by 25 metre (along the west-east axis) scatter of historic Euro-Canadian material. A total of 99 artifacts were observed on the surface, of which 55 were collected. This included 48 domestic artifacts, five personal and two structural. Each artifact class is discussed in greater detail below. Table 22 provides a summary of the Stage 2 recovered artifacts.

Table 22: Location 13 (AjHj-13) Stage 2 Artifact Summary

Artifact	Freq.	%
domestic	48	87.04
personal	5	9.26
structural	2	3.70
Total Stage 2 Artifacts	**55**	**100.00**

3.13.1 Domestic Artifacts

A total of 47 domestic related artifacts were recovered during the Stage 2 assessment of Location 13 including 43 ceramic artifacts, 4 glass artifacts, and one faunal remain.

3.13.1.1 Ceramic Artifacts

A total of 43 pieces of hollowwares and flatwares were recovered during the Stage 2 assessment of Location 13. This total includes 22 pieces of ironstone, 16 pieces of whiteware and three utilitarian fragments. Table 23 provides a breakdown of the ceramic assemblage by ware type and Table 24 provides a breakdown by decorative type.

Table 23: Location 13 (AjHj-13) Stage 2 Ceramic Assemblage by Ware Type

Artifact	Freq.	%
ironstone	24	55.81
whiteware	16	37.21
utilitarian	3	6.98
Total	**43**	**100.00**

Table 24: Location 13 (AjHj-13) Stage 2 Ceramic Assemblage by Decorative Type

Artifact	Freq.	%
ironstone, flow transfer printed	14	32.56
whiteware, transfer printed	13	30.23
ironstone	5	11.63
ironstone, transfer printed	3	6.97
whiteware, stamped	3	6.97
ironstone, painted	2	4.65
earthenware, yellow	1	2.33
earthenware, red	1	2.33
stoneware	1	2.33
Total Ceramic Artifacts	43	100.00

Ironstone

Ironstone, or graniteware, is a variety of refined white earthenware introduced in the 1830s that became extremely popular in Upper Canada by the 1860s (Kenyon 1985). A total of 24 fragments of ironstone are in the ceramic assemblage including 14 flow transfer printed (Plate 44:1), five plain (Plate 44:2), three transfer printed (Plate 44:3) and two hand painted (Plate 44:4). The flow transfer assemblage includes 13 blue fragments and one black. The transfer printed ironstone in the assemblage includes two fragments of brown and one fragment of blue and violet. The hand painted ironstone in the assemblage are hollowware fragments with red pinstriping as well as red and green banding with black floral stamping. Flow transfer printed ironstone, in which the pigment flows into the glaze due to the introduction of volatile chlorides during firing, became popular in the 1840s and 1850s, with a later revival in the 1890s (Collard 1967:118).

Whiteware

Whiteware is a variety of earthenware with a near colorless glaze that replaced earlier near-white ceramics such as pearlware and creamware by the early 1830s. Early whiteware tends to have a porous paste, with more vitrified, harder, ceramics becoming increasingly common later in the 19th century (Kenyon 1985).

A total of 16 pieces of whiteware were recovered from Location 13 including 13 transfer printed fragments (Plate 44:5) and three fragments of blue stamped ware (Plate 44:6).

Thirteen pieces of transfer printed whiteware were recovered from Location 13. Transfer printed whiteware became popular quite early in the 19th century and involved the transfer of an intricate pattern from a sheet of treated paper to the underglaze surface of the clay. Before 1830, almost all transfer printed wares were blue. After 1830, colours such as light blue, black, brown, green, purple and red became more common (Adams 1994:100). The pieces recovered from Location 13 include 11 blue and two black. Two of the pieces of blue transfer printed whiteware bear partial maker's marks, one being printed with a "J" and the other with a "T". Both are too fragmentary for positive identification.

Stamped and sponge decorated whiteware ceramics were a form of inexpensive tableware in which a sponge was used to apply an underglaze pigment. All-over sponging became popular by the 1840s and remained common until the 1870s. Both stamped and spongewares were usually produced in hollowware form and were among the cheapest wares available.

Utilitarian

Three pieces of utilitarian wares were recovered from Location 13 including one piece of stoneware with a dark brown salt glaze, one piece of red earthenware and one piece of yellow earthenware. Red and yellow earthenware vessels were manufactured throughout the late 18th and 19th centuries and were the most common utilitarian ware in the first half of the 19th century, eventually being replaced by more durable stoneware vessels (Adams 1994:99).

3.13.1.2 Glass Artifacts

A total of four glass bottle fragments were recovered from Location 13. This includes two aqua and two clear or colourless fragments – one bearing the moulded letters "...IS'". A single fragment of the aqua glass is from a Crown glass jar. Generally, aqua coloured glass fragments originate from medical and pharmaceutical products including patent medicine bottles of the 19th and 20th century (Kendrick 1971).

3.13.1.3 Faunal Remains

One faunal remain was recovered, a domestic pig (*Sus scrofa)* incisor fragment.

3.13.2 Personal Artifacts

Five personal artifacts were recovered from Location 13, three white clay pipe stem fragments (Plate 44:7) and two white clay pipe bowl fragments (Plate 44:8). White clay pipes were very popular throughout the 19th century, with a decline in use by 1880 when they were replaced by briar pipes and cigarettes (Adams 1994:93).

3.13.3 Structural Artifacts

Two structural artifacts were recovered from Location 13 including one machine cut nail (Plate 44:9) and one red brick fragment. Invented about 1790, cut nails were in common use from the 1830s until the 1890s (Adams 1994:92) while the red brick is temporally non-diagnostic.

3.13.4 Artifact Catalogue

Table 25 presents the Stage 2 artifact catalogue for Location 13.

Table 25: Location 13 (AjHj-13) Artifact Catalogue

Cat. #	Context	Depth	Artifact	Freq.	Comments
1	surface collection	0 cm	earthenware, yellow	1	clear glaze
2	surface collection	0 cm	brick	1	red
3	surface collection	0 cm	earthenware, red	1	plain
4	surface collection	0 cm	nail, cut	1	
5	surface collection	0 cm	whiteware, transfer printed	1	blue
6	surface collection	0 cm	ironstone, transfer printed	3	2 brown, 1 violet and blue
7	surface collection	0 cm	ironstone	2	bases
8	surface collection	0 cm	ironstone, painted	2	1 red stripe, 1 red and green band with black floral stamp
9	surface collection	0 cm	stoneware	1	dark brown salt glaze
10	surface collection	0 cm	faunal remains	1	pig incisor fragment
11	surface collection	0 cm	white clay pipe bowl	1	1 plain, 1 palm
12	surface collection	0 cm	white clay pipe stem	3	
13	surface collection	0 cm	glass, bottle	3	1 aqua, 2 clear (including 1 stamped "IS' ")
14	surface collection	0 cm	ironstone, flow transfer printed	1	1 black
15	surface collection	0 cm	glass, jar	1	aqua Crown jar fragment
16	surface collection	0 cm	whiteware, stamped	3	blue
17	surface collection	0 cm	whiteware, transfer printed	2	blue, partial maker's marks, "J" and "T"
18	surface collection	0 cm	whiteware, transfer printed	1	black
19	surface collection	0 cm	whiteware, transfer printed	1	blue
20	surface collection	0 cm	whiteware, transfer printed	1	blue
21	surface collection	0 cm	whiteware, transfer printed	1	blue
22	surface collection	0 cm	whiteware, transfer printed	1	blue
23	surface collection	0 cm	whiteware, transfer printed	1	blue
24	surface collection	0 cm	whiteware, transfer printed	1	blue
25	surface collection	0 cm	whiteware, transfer printed	1	blue

Cat. #	Context	Depth	Artifact	Freq.	Comments
26	surface collection	0 cm	whiteware, transfer printed	1	black
27	surface collection	0 cm	whiteware, transfer printed	1	blue
28	surface collection	0 cm	ironstone	1	
29	surface collection	0 cm	ironstone	1	
30	surface collection	0 cm	ironstone	1	
31	surface collection	0 cm	ironstone, flow transfer printed	1	blue
32	surface collection	0 cm	ironstone, flow transfer printed	1	blue
33	surface collection	0 cm	ironstone, flow transfer printed	1	blue
34	surface collection	0 cm	ironstone, flow transfer printed	1	blue
35	surface collection	0 cm	ironstone, flow transfer printed	1	blue
36	surface collection	0 cm	ironstone, flow transfer printed	1	blue
37	surface collection	0 cm	ironstone, flow transfer printed	1	blue
38	surface collection	0 cm	ironstone, flow transfer printed	1	blue
39	surface collection	0 cm	ironstone, flow transfer printed	1	blue
40	surface collection	0 cm	ironstone, flow transfer printed	1	blue
41	surface collection	0 cm	ironstone, flow transfer printed	1	blue
42	surface collection	0 cm	ironstone, flow transfer printed	1	blue

3.14 Location 14 (AiHk-1)

Location 14 (AiHk-1), a historic Euro-Canadian site, was identified on November 8, 2011. The weather conditions during the Stage 2 pedestrian survey of the proposed collector cable corridor on property BLW1084, which adjoins the east side of Babylon Line south of Centennial Road (Figure 8-07; Supplement A: Figure 07), were overcast and windy. The Stage 2 assessment of Location 14 resulted in the identification of a 70 metre (along the north-south axis) by 25 metre (along the west-east axis) scatter of Euro-Canadian historic artifacts which was observed to extend farther to the north and south of the study area. There were 205 artifacts observed on the surface, of which 74 were collected. These included 62 domestic, five personal, four structural, two metal and one horse tack. Each artifact class is discussed in greater detail below. Table 26 provides a summary of the artifacts recovered during the Stage 2 archaeological assessment.

Table 26: Location 14 (AiHk-1) Stage 2 Artifact Summary

Artifact	Freq.	%
domestic	62	83.78
personal	5	6.76
structural	4	5.41
metal	2	2.70
horse tack	1	1.35
Total Stage 2 Artifacts	**74**	**100.00**

3.14.1 Domestic Artifacts

A total of 62 domestic artifacts were recovered from Location 14 (AiHk-1) including 40 ceramic artifacts, 19 glass artifacts and three faunal remains.

3.14.1.1 Ceramic Artifacts

A total of 40 pieces of hollowwares and flatwares were recovered during the Stage 2 assessment of Location 14 (AiHk-1). This total includes 19 whiteware, 13 ironstone, six utilitarian and two porcelain. Table 27 provides a breakdown of the ceramic assemblage by ware type and Table 28 provides a breakdown by decorative type.

Table 27: Location 14 (AiHk-1) Stage 2 Ceramic Assemblage by Ware Type

Artifact	Freq.	%
whiteware	19	47.50
ironstone	13	32.50
utilitarian	6	15.00
porcelain	2	5.00
Total Ceramic Artifacts	**40**	**100.00**

Table 28: Location 14 (AiHk-1) Stage 2 Ceramic Assemblage by Decorative Type

Artifact	Freq.	%
whiteware, transfer print	11	27.50
earthenware, yellow	5	12.50
whiteware, painted	5	12.50
ironstone, banded	4	10.00
ironstone, plain	3	7.50
ironstone, moulded	3	7.50
ironstone, transfer print	3	7.50

Artifact	Freq.	%
whiteware, stamped	3	7.50
porcelain, transfer printed	2	5.00
earthenware, red	1	2.50
Total Ceramic Artifacts	**40**	**100.00**

Whiteware

Whiteware is a variety of earthenware with a near colorless glaze that replaced earlier near-white ceramics such as pearlware and creamware by the early 1830s. Early whiteware tends to have a porous paste, with more vitrified, harder, ceramics becoming increasingly common later in the 19th century (Kenyon 1985). A total of 13 pieces of whiteware were recovered from Location 14 (AiHk-1).

Eleven pieces of transfer printed whiteware was recovered from Location 14 (AiHk-1) (Plate 45:1), of which eight are blue and three are red. Transfer printed whiteware became popular quite early in the 19th century and involved the transfer of an intricate pattern from a sheet of treated paper to the underglaze surface of the clay. Before 1830, almost all transfer printed wares were blue. After 1830, colours such as light blue, black, brown, green, purple and red became more common (Adams 1994:100).

Five pieces of hand painted whiteware were recovered during the Stage 2 assessment of Location 14 (AiHk-1) (Plate 45:2). Three hand painted whiteware from this location are exclusively polychrome, floral pattern tea ware. Two fragments are painted with light and dark green. Painted wares of this type were popular from as early as 1830 through to the 1870s (Noël Hume 1969).

Three pieces of stamped whiteware were recovered from Location 14 (AiHk-1) (Plate 45:3). Stamping involved the transfer of paint to the bisque surface through the use of a stamp most frequently made of sponge. Both stamped and spongewares was usually produced in hollowware form and were among the cheapest wares available. Two of the pieces recovered from Location 14 are blue and one is purple.

Ironstone

Ironstone, or graniteware, is a variety of refined white earthenware introduced in the 1830s that became extremely popular in Upper Canada by the 1860s (Kenyon 1985). Thirteen fragments of ironstone were recovered including four blue edged fragments from 1850 to 1897 (Plate 45:4) , three pieces of plain ironstone (Plate 45:5), three pieces of moulded ironstone including two teacup handle fragments (Plate 45:6) and three pieces of transfer printed ironstone (Plate 45:7). The three transfer printed ironstone pieces recovered from this location include two black and one red. Partial maker's marks in the ironstone assemblage include two bearing fragmentary Royal Coat of Arms (Plate 45:5, centre) and one fragment of Wood, Son and Co., Cobridge, operational from 1928 to 1989 (Plate 45:5, right) (Birks 2012).

Utilitarian

Six pieces of utilitarian wares were recovered from Location 14 (AiHk-1) including five pieces of yellow earthenware (four lead glazed, one plain) and one piece of lead glazed red earthenware. Red and yellow earthenware vessels were manufactured throughout the late 18th and 19th centuries and were the most common utilitarian ware in the first half of the 19th century, eventually being replaced by more durable stoneware vessels (Adams 1994:99).

Porcelain

Porcelain is a type of earthenware fired at such a high temperature that the clay has begun to vitrify; consequently the ceramic is translucent when held up to light. The Canadian pioneer generally preferred utilitarian earthenwares, but by mid-19th century, English potteries such as Copeland and Minton were producing porcelains for the Canadian marketplace. Porcelain was not required as much as utilitarian ceramics, but it was always in steady demand (Collard 1967:163,175). By the turn of the century, porcelain becomes relatively common as production techniques were developed in Europe which greatly reduced costs. The two pieces of porcelain recovered from Location 14 (AiHk-1) are decorated with a gilt polychrome transfer print (Plate 45:8).

3.14.1.2 Glass Artifacts

Nineteen fragments of bottle glass were recovered from Location 14 (AiHk-1). The colours of bottle glass represented in this assemblage include: seven aqua (including a base stamped "D'S" and one rectangular base), five sun coloured amethyst (including one moulded with moulded "COMSUM…CO"), three olive, two green, one blue and one clear or colourless with a moulded fragmentary "…ONT…". Diagnostic finishes in the assemblage include one olive glass hand-applied oil finish *circa* 1890-1920 (Plate 45:9) and one sun coloured amethyst patent finish post-1850 (Plate 45:10) (Lindsey 2012).

3.14.1.3 Faunal Remains

Three faunal remains were recovered, including one mammalian rib fragment, 1 avian diaphysis fragment and one rodent incisor fragment.

3.14.2 Personal Artifacts

Five personal artifacts were recovered from Location 14 (AiHk-1) including three white clay pipe stem fragments (Plate 46:1), one "TD" moulded white clay pipe bowl fragment (Plate 46:2), and one white agate, four-hole button (Plate 46:3). White clay pipes were very popular throughout the 19th century, with a decline in use by 1880 when they were replaced by briar pipes and cigarettes (Adams 1994:93). The TD tobacco pipe originates with Thomas Dormer; a prominent London merchant and exporter *circa* 1748-1768. Thomas Dormer and Sons appear as prominent exporters in the Hudson's Bay Company records of the mid-18th century (Alexander 1983:198). The popularity of this variety of tobacco pipe is proven through a list of countries known to have manufactured replica TD pipes: England, Ireland, Scotland, the Netherlands, Germany, France and later Japan and the United States. There are over a dozen identified variations of TD pipes on 18th to 19th century

archaeological sites and Alexander (1983) has devised a typology of nine known-context TD pipes. According to Walker (1983: 38-39), TD initialled pipes were manufactured by many Glasgow and Bristol firms as well as by Hendersons and Bannerman in Montreal.

One pipe stem fragment in the assemblage is manufactured by Bannerman of Montreal (operational from 1858 to 1907), while another is manufactured by McDougal of Glasgow (operational from 1846 to 1891) (Adams 1994:86-99).

3.14.3 Structural Artifacts

Four structural artifacts were recovered from Location 14 including two cut nails (Plate 46:4) and two pieces of window glass. Machine cut nails were machine cut and have a flat head. They were produced as early as 1790, but did not become prevalent in Ontario until about 1830. They were replaced by wire drawn nails in the 1890s.

Both window glass shards measured greater than 1.6 millimetres in thickness. Ian Kenyon (1980) provides a pre-1850 date for window panes that have an average thickness of less than 1.6 millimetres. Window pane thickness increased throughout the 19th century as the trend shifted towards using larger windows when building homes (Adams 1994:92,93; Kenyon 1980). But the small size of the window glass assemblage precludes its use as a potential diagnostic tool.

3.14.4 Metal Artifacts

Two miscellaneous artifacts were recovered from Location 14, both of which are heavily corroded electrical components consisting of copper wire coils within iron housings.

3.14.5 Horse Hardware

A single open mouth bell was collected during Stage 2 assessment of Location 14. Bells with an aperture of 1.5 to 3.0 inches in diameter are often used on neck and body straps to decorate horse tack (Kelly and Weed 2012). (Plate 46:5).

3.14.6 Artifact Catalogue

Table 29 presents the Stage 2 artifact catalogue for Location 14 (AiHk-1).

Table 29: Location 14 (AiHk-1) Artifact Catalogue

Cat. #	Context	Depth	Artifact	Freq.	Comments
1	surface collection	0 cm	earthenware, red	1	lead glazed
2	surface collection	0 cm	porcelain, transfer printed	2	gilt polychrome floral transfer-printed
3	surface collection	0 cm	ironstone	1	partial maker's mark: "WOOD, SON&

Cat. #	Context	Depth	Artifact	Freq.	Comments
					CO.COBRIDGE" 1928-1989
4	surface collection	0 cm	ironstone, moulded	1	floral motif
5	surface collection	0 cm	faunal remains	3	1 rib fragment, 1 avian diaphysis fragment, 1 rodent incisor
6	surface collection	0 cm	white clay pipe bowl	1	moulded "T.D."; 19th century
7	surface collection	0 cm	white clay pipe stem	2	1x Bannerman Montreal *circa* 1858 to 1907
8	surface collection	0 cm	bell	1	brass, "plain" harness bell; 1845-1920
9	surface collection	0 cm	metal, miscellaneous hardware	2	electrical components
10	surface collection	0 cm	earthenware, yellow	5	4 yellow glaze, 1 plain
11	surface collection	0 cm	button, agate	1	white, 4 hole
12	surface collection	0 cm	whiteware, painted	1	light and dark green
13	surface collection	0 cm	whiteware, painted	3	2 red stripe,1 red stripe with blue and green floral motif
14	surface collection	0 cm	whiteware, transfer print	1	red
15	surface collection	0 cm	ironstone, transfer print	2	black
16	surface collection	0 cm	whiteware, stamped	2	blue floral
17	surface collection	0 cm	glass, window	2	1x 1.8mm; 1x 2mm
18	surface collection	0 cm	nail, cut	2	
19	surface collection	0 cm	ironstone, edged	1	blue - plain edge, not moulded or incised 1850 to 1897
20	surface collection	0 cm	glass, bottle	18	7 aqua (1x base stamped "D'S", 1x rectangular base), 5 sun-coloured amethyst (1x hand-applied finish, 1x moulded "COMSUM…CO"), 2 olive, 2 green, 1 blue, 1 clear with moulded "ONT"
21	surface collection	0 cm	ironstone	2	partial maker's marks: 2x fragmentary English post 1837
22	surface collection	0 cm	ironstone, moulded	2	2 handles
23	surface collection	0 cm	white clay pipe stem	1	McDougall, Glasgow 1846-1891
24	surface collection	0 cm	whiteware, painted	1	light and dark green
25	surface collection	0 cm	whiteware, transfer print	1	blue
26	surface collection	0 cm	whiteware, transfer print	1	blue
27	surface collection	0 cm	whiteware, transfer print	1	red
28	surface collection	0 cm	whiteware, transfer print	1	blue

Cat. #	Context	Depth	Artifact	Freq.	Comments
29	surface collection	0 cm	whiteware, transfer print	1	blue
30	surface collection	0 cm	whiteware, transfer print	1	blue
31	surface collection	0 cm	whiteware, transfer print	1	blue
32	surface collection	0 cm	glass, bottle	1	sun-coloured amethyst, patent finish post 1850
33	surface collection	0 cm	whiteware, transfer print	2	blue
34	surface collection	0 cm	whiteware, transfer print	1	red
35	surface collection	0 cm	ironstone, transfer print	1	red
36	surface collection	0 cm	whiteware, stamped	1	violet geometric motif
37	surface collection	0 cm	ironstone, edged	2	blue - plain edge, not moulded or incised 1850 to 1897
38	surface collection	0 cm	ironstone, edged	1	ironstone, edged
39	surface collection	0 cm	glass, bottle	1	olive, hand-applied oil finish *circa* 1870-1920

3.15 Location 15 (AiHj-7)

Location 15 (AiHj-7), a pre-contact Aboriginal site, was identified on November 22, 2011. The weather conditions during the Stage 2 pedestrian survey of the proposed collector cable corridor on property BLW1670, which is on the east side of Tower Line, north of Kippen Road (Figure 8-10; Supplement A: Figure 10), were cloudy and cold.

The Stage 2 assessment of Location 15 resulted in the recovery of an isolated projectile point base (Plate 47:1). This projectile point is of the Turkey Tail Fulton (fkrs) type (Justice 1987:173-179) dating to the Terminal Archaic Period (*circa* 1500 to 500 B.C.). It measures 67.1 millimetres in length, 39.4 millimetres in width at the shoulder, has a stem width of 19.2 millimetres, a basal width of 23.1 millimetres and is 7.2 millimetres in thickness. It is manufactured from Kettle Point chert, and exhibits plough strike damage to its tip, base and lateral margins. Plough strike damage can be distinguished from use wear and reworking in this case by the random nature of scarring on the tip, base and lateral margins, pronounced points of percussion visible on these scars and absence of patina on the exposed surfaces (Whittaker 1994:43). All surfaces exhibiting the highly patterned scars indicative of intentional flake removal are coated with a pronounced grey/brown patina.

Survey intervals were intensified to one metre for a twenty metre radius surrounding the find but no additional artifacts were identified.

3.15.1 Artifact Catalogue

Table 30 presents the Stage 2 artifact catalogue for Location 15 (AiHj-7).

Table 30: Location 15 (AiHj-7) Artifact Catalogue

Cat. #	Context	Depth	Artifact	Freq.	Comments
1	surface collection	0 cm	projectile point	1	Kettle Point, plough damage to tip, base and lateral margins

3.16 Location 16 (AiHk-2)

Location 16 (AiHk-2), a historic Euro-Canadian site, was identified on November 28, 2011. The weather conditions during the Stage 2 pedestrian survey of the proposed access road and collector cable corridor on property BLW1066, which adjoins the north side of Kippen Road west of Bronson Line (Figure 8-11; Supplement A: Figure 11), were overcast and cool. The Stage 2 assessment of Location 16 resulted in the identification of a 51 metre by 22 metre scatter of Euro-Canadian historic artifacts which was observed to extend farther to the west of the study area. Fifty-two artifacts were observed on the surface, of which 20 were collected. All of the artifacts observed and collected were domestic.

3.16.1 Domestic Artifacts

A total of 20 domestic artifacts were recovered from Location 16 including 14 pieces of ceramic and six glass artifacts.

3.16.1.1 Ceramic Artifacts

A total of 14 pieces of hollowwares and flatwares were recovered during the Stage 2 assessment of Location 16. This total includes 11 ironstone, two porcelain, and one utilitarian. Table 31 provides a breakdown of the ceramic assemblage by ware type and Table 32 provides a breakdown by decorative type.

Table 31: Location 16 (AiHk-2) Stage 2 Ceramic Assemblage by Ware Type

Artifact	Freq.	%
ironstone	11	78.60
porcelain	2	14.30
utilitarian	1	7.10
Total Ceramic Artifacts	**14**	**100.00**

Table 32: Location 16 (AiHk-2) Stage 2 Ceramic Assemblage by Decorative Type

Artifact	Freq.	%
ironstone, plain	7	50.00

Artifact	Freq.	%
ironstone, moulded	3	21.60
ironstone, transfer print	1	7.10
porcelain, moulded	1	7.10
porcelain	1	7.10
stoneware, salt glazed	1	7.10
Total Ceramic Artifacts	**14**	**100.00**

Ironstone

Ironstone, or graniteware, is a variety of refined white earthenware introduced in the 1830s that became extremely popular in Upper Canada by the 1860s (Kenyon 1985). A total of seven pieces of plain ironstone (Plate 48:1), three pieces of moulded ironstone (Plate 48:2) and one piece of blue transfer printed ironstone (Plate 48:3) were recovered from Location 16. Two of the recovered pieces with moulded designs were decorated with the wheat pattern. One of the recovered plain pieces exhibited a partial maker's mark, stamped with the letters "…NSTONE" (Plate 48:1, right). It is too fragmentary for positive identification.

Utilitarian

One piece of grey-bodied, brown salt glazed stoneware was recovered from Location 16. Durable stoneware vessels largely replaced utilitarian earthenwares in the late 19th century (Adams 1994:99).

Porcelain

The Canadian pioneer generally preferred utilitarian earthenwares, but by the mid-19th century, English potteries such as Copeland and Minton, were producing porcelains for the Canadian marketplace. Porcelain was not acquired as much as utilitarian ceramics, but it was always in steady demand (Collard 1967:163,175). Two fragments of low grade white porcelain are part of the ceramic assemblage from Location 16 including one moulded hollowware fragment (Plate 48:4) and one plain hollowware fragment (Plate 48:5).

3.16.1.2 Glass Artifacts

Six glass artifacts were recovered from Location 16, including four pieces of bottle glass, one piece of glass dish and one piece of white glass. The colours of bottle glass represented in this assemblage include two clear, one sun-coloured amethyst and one aqua. The glass dish fragment is a light opaque green moulded with vertical lines around the rim and is temporally non-diagnostic.

The white bottle glass or "milk glass" was likely manufactured after 1870. Milk glass was most commonly used for cosmetic containers, toiletry bottles or cream jars. The opaque white glass was very commonly used for such products dating from about 1870 through to the 20th century (Lindsey 2012).

3.16.2 Artifact Catalogue

Table 33 presents the Stage 2 artifact catalogue for Location 16 (AiHk-2).

Table 33: Location 16 (AiHk-2) Artifact Catalogue

Cat. #	Context	Depth	Artifact	Freq.	Comments
1	surface collection	0 cm	ironstone	1	partial maker's mark "NSTONE"
2	surface collection	0 cm	ironstone, moulded	2	wheat pattern
3	surface collection	0 cm	ironstone, transfer print	1	blue
4	surface collection	0 cm	glass, bottle	4	2 clear, 1 aqua, 1 sun-coloured amethyst
5	surface collection	0 cm	stoneware	1	brown salt glaze
6	surface collection	0 cm	glass, dish	1	green, vertical moulded lines on rim
7	surface collection	0 cm	glass, white	1	
8	surface collection	0 cm	porcelain	1	hollowware fragment
9	surface collection	0 cm	porcelain, moulded	1	moulded spiral motif hollowware
10	surface collection	0 cm	ironstone	1	
11	surface collection	0 cm	ironstone	1	
12	surface collection	0 cm	ironstone	1	
13	surface collection	0 cm	ironstone	1	
14	surface collection	0 cm	ironstone	1	
15	surface collection	0 cm	ironstone	1	
16	surface collection	0 cm	ironstone, moulded	1	scalloped edge

3.17 Location 17

Location 17, a pre-contact Aboriginal site, was identified on November 28, 2011. The weather conditions during the Stage 2 pedestrian survey of the proposed T4 turbine pad on property BLW1066, which adjoins the north side of Kippen Road west of Bronson Line (Figure 8-09; Supplement A: Figure 09), were overcast and cool. The Stage 2 assessment of Location 17 resulted in the recovery of an isolated pre-contact Aboriginal piece of chipping detritus (Table 34). Chipping detritus, or flakes, are the waste product from the production of stone tools. This flake is a secondary flake manufactured from Kettle Point chert.

Survey intervals were intensified to one metre for a twenty metre radius surrounding the find but no additional artifacts were identified.

3.17.1 Artifact Catalogue

Table 34 presents the Stage 2 artifact catalogue for Location 17.

Table 34: Location 17 Artifact Catalogue

Cat. #	Context	Depth	Artifact	Freq.	Comments
1	surface collection	0 cm	chipping detritus	1	Kettle Point, secondary flake

3.18 Location 18

Location 18, a pre-contact Aboriginal site, was identified on November 28, 2011. The weather conditions during the Stage 2 pedestrian survey of the proposed collector cable corridor on property BLW1067, which parallels the east side Bronson Line north of Kippen Road (Figure 8-11; Supplement A: Figure 11), were overcast and cool. The Stage 2 assessment of Location 18 resulted in the recovery of an isolated pre-contact Aboriginal piece of chipping detritus (Table 35). Chipping detritus, or flakes, are the waste product from the production of stone tools. This flake is a tertiary flake manufactured from Kettle Point chert.

Survey intervals were intensified to one metre for a twenty metre radius surrounding the find but no additional artifacts were identified.

3.18.1 Artifact Catalogue

Table 35 presents the Stage 2 artifact catalogue for Location 18.

Table 35: Location 18 Artifact Catalogue

Cat. #	Context	Depth	Artifact	Freq.	Comments
1	surface collection	0 cm	chipping detritus	1	Kettle Point, tertiary flake

3.19 Location 19

Location 19, a pre-contact Aboriginal site, was identified on November 28, 2011. The weather conditions during the Stage 2 pedestrian survey of the proposed collector cable corridor on property BLW1067, which parallels the east side Bronson Line north of Kippen Road (Figure 8-11; Supplement A: Figure 11), were overcast and cool. The Stage 2 assessment of Location 19 resulted in the recovery of an isolated pre-contact Aboriginal piece of chipping detritus (Table 36). Chipping detritus, or flakes, are the waste product from the production of stone tools. This flake is a tertiary flake manufactured from Kettle Point chert.

Survey intervals were intensified to one metre for a twenty metre radius surrounding the find but no additional artifacts were identified.

3.19.1 Artifact Catalogue

Table 36 presents the Stage 2 artifact catalogue for Location 19.

Table 36: Location 19 Artifact Catalogue

Cat. #	Context	Depth	Artifact	Freq.	Comments
1	surface collection	0 cm	chipping detritus	1	Kettle Point, tertiary flake

3.20 Location 20 (AiHj-8)

Location 20 (AiHj-8), a historic Euro-Canadian site, was identified on December 8, 2011. The weather conditions during the Stage 2 pedestrian survey (Plate 15) of the proposed access road and collector cable corridor on property BLW1011, which adjoins the east side of Bronson Line north of Staffa Road (Figure 8-06; Supplement A: Figure 06), were overcast and cold. The Stage 2 assessment of Location 20 resulted in the identification of a 40 metre by 24 metre scatter Euro-Canadian historic artifacts. A total of 106 artifacts were observed on the surface, of which 39 were collected: 27 were domestic, seven recent material, three metal and two structural. Each artifact class is discussed in greater detail below. Table 37 provides a summary of the artifacts recovered during the Stage 2 archaeological assessment.

Table 37: Location 20 (AiHj-8) Stage 2 Artifact Summary

Artifact	Freq.	%
domestic	27	69.23
recent material	7	17.95
miscellaneous, metal	3	7.70
structural	2	5.12
Total Stage 2 Artifacts	**39**	**100.00**

3.20.1 Domestic Artifacts

A total of 27 domestic artifacts were recovered from Location 20 including 17 ceramic artifacts and 10 glass artifacts.

3.20.1.1 Ceramic Artifacts

A total of 17 pieces of hollowwares and flatwares were recovered during the Stage 2 assessment of Location 20. This total includes 16 pieces of ironstone and one utilitarian ceramic sherd. Table 38 provides a breakdown of the ceramic assemblage by ware type and Table 39 provides a breakdown by decorative type.

Table 38: Location 20 (AiHj-8) Stage 2 Ceramic Assemblage by Ware Type

Artifact	Freq.	%
ironstone	16	94.12
utilitarian	1	5.88
Total Ceramic Artifacts	**17**	**100.00**

Table 39: Location 20 (AiHj-8) Stage 2 Ceramic Assemblage by Decorative Type

Artifact	Freq.	%
ironstone, plain	8	47.06
ironstone, transfer print	6	35.29
ironstone, moulded	2	11.77
stoneware, salt glazed	1	5.88
Total	**17**	**100.00**

Ironstone

Ironstone, or graniteware, is a variety of refined white earthenware introduced in the 1830s that became extremely popular in Upper Canada by the 1860s (Kenyon 1985).A total of eight pieces of plain ironstone (Plate 49:1), six pieces of transfer printed ironstone (Plate 49:2) and two pieces of moulded ironstone (Plate 49:3) were recovered from Location 20. Five of the transfer printed ironstone pieces are polychrome and one is red.

Utilitarian

One piece of stoneware with a brown salt glaze was recovered from Location 20. Durable stoneware vessels largely replaced utilitarian earthenwares in the late 19th century (Adams 1994:99).

3.20.1.2 Glass Artifacts

Ten glass artifacts were recovered from Location 20 including three pieces of clear or colourless bottle glass, three pieces of glass dish, two pieces of glass jar, one piece of drinking glass and one piece of white glass. The drinking glass fragment recovered is from a clear tumbler and is temporally non-diagnostic. Pressed glass dishes and dishwares can also be temporally diagnostic - non-leaded pressed glass in a variety of patterns becomes common on Canadian sites post 1860s (Jones and Sullivan 1989:35). Two pieces of glass jar were recovered, including one sun-coloured amethyst with beaded lip, and one clear with threaded collar.

The burnt white bottle glass or “milk glass” was likely manufactured after 1870. Milk glass was most commonly used for cosmetic containers, toiletry bottles or cream jars. The opaque white glass was very commonly used for such products dating from about 1870 through to the 20th century (Lindsey 2012).

3.20.2 Recent Material

Seven fragments of bottle glass are categorized as recent material in the Location 20 Stage 2 artifact assemblage.

3.20.3 Metal Artifacts

Three miscellaneous metal artifacts were recovered from Location 20, all of which are pieces of fence wire.

3.20.4 Structural Artifacts

Two structural artifacts were recovered from Location 20, both of which are machine cut nails (Plate 49:4). Cut nails were machine cut and have a flat head. They were present as early as 1790, but did not become prevalent in Ontario until 1830. They were replaced by wire drawn nails in the 1890s.

3.20.5 Artifact Catalogue

Table 40 presents the Stage 2 artifact catalogue for Location 20.

Table 40: Location 20 (AiHj-8) Artifact Catalogue

Cat. #	Context	Depth	Artifact	Freq.	Comments
1	surface collection	0 cm	stoneware	1	brown salt glaze
2	surface collection	0 cm	ironstone, moulded	2	1 scalloped edge, 1 floral
3	surface collection	0 cm	ironstone	1	
4	surface collection	0 cm	glass, white	1	burnt
5	surface collection	0 cm	ironstone, transfer print	1	red floral
6	surface collection	0 cm	glass, dish	2	sun-coloured amethyst
7	surface collection	0 cm	glass, jar	2	1 sun-coloured amethyst with beaded lip, 1 clear with threaded collar
8	surface collection	0 cm	metal, miscellaneous hardware	3	fence wire
9	surface collection	0 cm	nail, cut	2	
10	surface collection	0 cm	ironstone, transfer print	2	polychrome
11	surface collection	0 cm	glass, dish	1	clear, sunburst pattern
12	surface collection	0 cm	glass, drinking	1	clear, tumbler base
13	surface collection	0 cm	glass, bottle	2	clear (1x moulded "h's", 1x moulded "igo"),
14	surface collection	0 cm	recent material	7	2 fragments of green bottle glass, 1 Lepages mucilage glue bottle, 1 blue Noxema jar base post-1914, 3 fragments amber bottle - moulded post 1920)
15	surface collection	0 cm	ironstone	1	
16	surface collection	0 cm	ironstone	1	
17	surface collection	0 cm	ironstone, transfer print	2	polychrome
18	surface collection	0 cm	ironstone	1	

Cat. #	Context	Depth	Artifact	Freq.	Comments
19	surface collection	0 cm	ironstone	1	
20	surface collection	0 cm	ironstone	1	
21	surface collection	0 cm	ironstone	1	
22	surface collection	0 cm	ironstone	1	
23	surface collection	0 cm	ironstone, transfer print	1	polychrome
24	surface collection	0 cm	glass, bottle	1	clear machine-applied finish post-1920

3.21 Location 21

Location 21, a pre-contact Aboriginal site, was identified on January 11, 2012. The weather conditions during the Stage 2 pedestrian survey of the proposed access road and collector cable corridor on property BLW1543, which adjoins the west side of Bronson Line north of Centennial Road (Figure 8-04; Supplement A: Figure 04), were cloudy and cold. The Stage 2 assessment of Location 21 resulted in the recovery of an isolated biface (Plate 50:1). This ovate biface was subject to refined flake removal and has been narrowed by bipolar reduction of its lateral margins. It measures 51.1 millimetres in length, 22.9 millimetres in width and 8.4 millimetres in thickness. It is manufactured from Onondaga chert.

Survey intervals were intensified to one metre for a twenty metre radius surrounding the find but no additional artifacts were identified.

3.21.1 Artifact Catalogue

Table 41 presents the Stage 2 artifact catalogue for Location 21.

Table 41: Location 21 Artifact Catalogue

Cat. #	Context	Depth	Artifact	Freq.	Comments
1	surface collection	0 cm	biface	1	Onondaga, ovate, one basal corner missing, has been narrowed by bipolar reduction of lateral edges

3.22 Location 22

Location 22, a pre-contact Aboriginal site, was identified on January 11, 2012. The weather conditions during the Stage 2 pedestrian survey of the proposed access road and collector cable corridor on property BLW1001, which adjoins the east side of Goshen Line north of Blue Bluff Road (Figure 8-01; Supplement A: Figure 01), were cloudy and cold. The Stage 2 assessment of Location 22 resulted in the recovery of an isolated pre-contact Aboriginal piece of chipping detritus (Table 42). Chipping detritus, or flakes, are the waste product from the production of stone tools. This flake is a broken secondary flake manufactured from Haldimand chert.

Survey intervals were intensified to one metre for a twenty metre radius surrounding the find but no additional artifacts were identified.

3.22.1 Artifact Catalogue

Table 42 presents the Stage 2 artifact catalogue for Location 22.

Table 42: Location 22 Artifact Catalogue

Cat. #	Context	Depth	Artifact	Freq.	Comments
1	surface collection	0 cm	chipping detritus	1	Haldimand; broken secondary flake

3.23 Location 23

Location 23, a pre-contact Aboriginal site, was identified on January 11, 2012. The weather conditions during the Stage 2 pedestrian survey (Plate 18) of the proposed access road and collector cable corridor on property BLW1557, which adjoins the south side of Staffa Road west of Bronson Line (Figure 8-09; Supplement A: Figure 09), were cloudy and cold. The Stage 2 assessment of Location 23 resulted in the recovery of an isolated biface tip (Plate 50:2). This biface fragment was subject to refined flake removal and terminates with a transverse snap fracture. It measures 17.5 millimetres in length, 13.1 millimetres in width and 4.2 millimetres in thickness. It is manufactured from a local variety of Onondaga chert.

Survey intervals were intensified to one metre for a twenty metre radius surrounding the find but no additional artifacts were identified.

3.23.1 Artifact Catalogue

Table 43 presents the Stage 2 artifact catalogue for Location 23.

Table 43: Location 23 Artifact Catalogue

Cat. #	Context	Depth	Artifact	Freq.	Comments
1	surface collection	0 cm	biface	1	Onondaga, tip

3.24 Location 24 (AiHj-9)

Location 24 (AiHj-9), a historic Euro-Canadian site, was identified on January 25, 2012. The weather conditions during the Stage 2 pedestrian survey of the proposed collector cable corridor on property BLW1090, which parallels the west side Bronson Line north of Kippen Road (Figure 8-11; Supplement A: Figure 11), were overcast and cold. The Stage 2 assessment of Location 24 resulted in the identification of a 56 metre (along the west-east axis) by 38 metre (along the north-south axis) scatter of Euro-Canadian historic artifacts which was observed to extend farther to the west of the study area. Approximately 400 artifacts were observed on the surface, of which 63 artifacts were collected. These included 54 domestic, six structural, two personal and one recent. Each artifact class is discussed in greater detail below. Table 44 provides a summary of the artifacts recovered during the Stage 2 archaeological assessment.

Table 44: Location 24 (AiHj-9) Stage 2 Artifact Summary

Artifact	Freq.	%
domestic	54	85.71
structural	6	9.52
personal	2	3.17
recent	1	1.60
Total Stage 2 Artifacts	**63**	**100.00**

3.24.1 Domestic Artifacts

A total of 54 domestic artifacts were recovered from Location 24 including 43 ceramic artifacts and 11 glass artifacts.

3.24.1.1 Ceramic Artifacts

A total of 43 pieces of hollowwares and flatwares were recovered during the Stage 2 assessment of Location 24. This total includes 28 pieces of ironstone, nine utilitarian fragments, four pieces of whiteware and two pieces of porcelain. Table 45 provides a breakdown of the ceramic assemblage by ware type and Table 46 provides a breakdown by decorative type.

Table 45: Location 24 (AiHj-9) Stage 2 Ceramic Assemblage by Ware Type

Artifact	Freq.	%
ironstone	28	65.12
utilitarian	9	20.93
whiteware	4	9.30
porcelain	2	4.65
Total Ceramic Artifacts	**43**	**100.00**

Table 46: Location 24 (AiHj-9) Stage 2 Ceramic Assemblage by Decorative Type

Artifact	Freq.	%
ironstone	18	41.87
ironstone, transfer print	6	13.95
earthenware, yellow	4	9.30
ironstone, moulded	4	9.30
stoneware, salt glazed	3	6.97
whiteware, painted	2	4.65

Artifact	Freq.	%
whiteware, transfer print	2	4.65
porcelain	2	4.65
Rockingham ware	1	2.33
earthenware, red	1	2.33
Total Ceramic Artifacts	**43**	**100.00**

Ironstone

Ironstone, or graniteware, is a variety of refined white earthenware introduced in the 1830s that became extremely popular in Upper Canada by the 1860s (Kenyon 1985). It is usually much thicker than other whiteware, and often decorated with raised moulded designs of wheat or fruit. A total of 18 pieces of plain ironstone (Plate 51:1), six pieces of transfer printed ironstone (Plate 51:2) and four pieces of moulded ironstone (Plate 51:3) were recovered from Location 24. The six transfer printed ironstone pieces recovered from this location include four green, one brown and one polychrome.

Utilitarian

Nine pieces of utilitarian wares were recovered from Location 24 including four pieces of yellow earthenware, three pieces of stoneware, one piece of red earthenware and one piece of Rockingham ware (Plate 51:7).

Red and yellow earthenware vessels were manufactured throughout the late 18th and 19th centuries and were the most common utilitarian ware in the first half of the 19th century, eventually being replaced by more durable stoneware vessels (Adams 1994:99). Rockingham ware is similar to yellowware with a yellow paste, but the addition of a second brown coloured manganese glaze results in the body of the ceramic having a mottled appearance. Rockingham wares were used as utilitarian vessels often in the form of crocks, jars, pitchers and tea pots (Adams 1994:100).

Whiteware

Whiteware is a variety of earthenware with a near colorless glaze that replaced earlier near-white ceramics such as pearlware and creamware by the early 1830s. Early whiteware tends to have a porous paste, with more vitrified, harder, ceramics becoming increasingly common later in the 19th century (Kenyon 1985). A total of four pieces of whiteware were recovered from Location 24.

Two pieces of blue transfer printed whiteware was recovered from Location 24 (Plate 51:4). After 1830, colours such as light blue, black, brown, green, purple and red became more common (Adams 1994:99). Two pieces of hand painted whiteware were recovered from this location (Plate 51:5). Both are painted brown on their exterior surface.

Porcelain

Porcelain is a type of earthenware fired at such a high temperature that the clay has begun to vitrify; consequently the ceramic is translucent when held up to light. The Canadian pioneer generally preferred utilitarian earthenwares, but by mid-19th century, English potteries such as Copeland and Minton were producing porcelains for the Canadian marketplace. Porcelain was not required as much as utilitarian ceramics, but it was always in steady demand (Collard 1967:163,175). Two pieces of porcelain were recovered from Location 24, both of which are undecorated rim fragments (Plate 51:6).

3.24.1.2 Glass Artifacts

Eleven glass artifacts were recovered from Location 24, including six pieces of bottle glass, four pieces of glass dish and one piece of glass jar. The colours of bottle glass represented in this assemblage include five aqua, three olive, one green and one blue. Bottle glass colours are very limited with regards to providing a temporal sequence for a site (Lindsey 2012). Diagnostic finishes in the assemblage include one double ring finish *circa* 1840 to 1920 (Plate 51:8) (Lindsey 2012). Four sun-coloured amethyst pieces of glass dish were recovered, including one press-moulded Greek Key patterned piece dating from 1850 to 1910. Non-leaded pressed glass in a variety of patterns becomes common on Canadian sites after 1860 (Jones and Sullivan 1989:35). The one glass jar piece recovered consists of a machine applied lip fragment which dates post-1920 (Lindsey 2012).

3.24.2 Structural Artifacts

Six structural artifacts were recovered from Location 24 including three cut nails (Plate 51:9) and three wire drawn nails (Plate 51:10). Cut nails were machine cut and have a flat head. They were present as early as 1790, but did not become prevalent in Ontario until 1830. They were replaced by wire drawn nails in the 1890s (Adams 1994:92).

3.24.3 Personal Artifacts

Two personal artifacts were recovered from Location 24, including a small shell button (Plate 51:11) and a porcelain doll fragment (Plate 51:12). The button is manufactured from shell and drilled with two holes. Shell or “pearl” buttons, fashioned from discs of freshwater or sometimes even exotic tropical shells, were often used as shirt buttons, especially before the development of the much less expensive “agate” button in the 1840s (Adams 1994:96).

3.24.4 Recent Material

One piece of turquoise plastic is categorized as recent material in the Location 24 Stage 2 artifact assemblage.

3.24.5 Artifact Catalogue

Table 47 presents the Stage 2 artifact catalogue for Location 24 (AiHj-9).

Table 47: Location 24 (AiHj-9) Artifact Catalogue

Cat. #	Context	Depth	Artifact	Freq.	Comments
1	surface collection	0 cm	stoneware, salt glazed	3	buff paste - 1 clear exterior salt glaze, Albany slip interior; 1 brown exterior glaze, 1 clear exterior salt glaze with blue motif, Albany slip interior
2	surface collection	0 cm	earthenware, yellow	4	yellow glaze
3	surface collection	0 cm	earthenware, red	1	yellow glaze
4	surface collection	0 cm	whiteware, painted	2	brown
5	surface collection	0 cm	whiteware, transfer print	2	blue
6	surface collection	0 cm	ironstone, transfer print	1	polychrome
7	surface collection	0 cm	glass, jar	1	aqua, machine applied lip
8	surface collection	0 cm	glass, bottle	5	4 aqua, 3 olive, 1 green, 1 blue
9	surface collection	0 cm	ironstone, moulded	2	1 handles, 1 basketweave motif
10	surface collection	0 cm	ironstone	2	2 partial makers marks: "STONE CHINA", "...INA"
11	surface collection	0 cm	porcelain	2	2 rims
12	surface collection	0 cm	nail, wire	1	
13	surface collection	0 cm	nail, cut	1	
14	surface collection	0 cm	recent material	1	turquoise plastic
15	surface collection	0 cm	button, shell	1	2 holes, shell
16	surface collection	0 cm	glass, dish	4	sun-coloured amethyst, 1x beaded lip, 1x press-moulded Greek Key pattern 1850-1910
17	surface collection	0 cm	porcelain, figurine	1	glazed bisque porcelain doll head fragment
18	surface collection	0 cm	Rockingham ware	1	green
19	surface collection	0 cm	ironstone, transfer print	1	brown
20	surface collection	0 cm	ironstone, moulded	1	handle
21	surface collection	0 cm	ironstone, transfer print	1	green
22	surface collection	0 cm	ironstone, transfer print	1	green
23	surface collection	0 cm	ironstone, transfer print	1	green
24	surface collection	0 cm	glass, bottle	1	aqua, (double ring finish *circa* 1840 to 1920)
25	surface collection	0 cm	ironstone, moulded	1	handle
26	surface collection	0 cm	ironstone, transfer print	1	green
27	surface collection	0 cm	ironstone	2	
28	surface collection	0 cm	ironstone	1	

Cat. #	Context	Depth	Artifact	Freq.	Comments
29	surface collection	0 cm	ironstone	2	2 partial maker's marks, fragmentary and unidentifiable
30	surface collection	0 cm	nail, wire	2	
31	surface collection	0 cm	nail, cut	1	
32	surface collection	0 cm	nail, cut	1	
33	surface collection	0 cm	ironstone	2	
34	surface collection	0 cm	ironstone	3	
35	surface collection	0 cm	ironstone	1	
36	surface collection	0 cm	ironstone	1	
37	surface collection	0 cm	ironstone	1	
38	surface collection	0 cm	ironstone	2	
39	surface collection	0 cm	ironstone	1	

3.25 Location 25 (AjHj-14)

Location 25 (AjHj-14), a historic Euro-Canadian site, was identified on November 22, 2011. The weather conditions during the Stage 2 pedestrian survey (Plate 6) of the proposed collector cable corridor on property BLW1002, which adjoins the west side Babylon Line north of Pavillion Road (Figure 8-03; Supplement A: Figure 03), were cloudy and cold. The Stage 2 assessment of Location 25 resulted in the identification of a 67 metre (along the north-south axis) by 37 metre (along the west-east axis) scatter Euro-Canadian historic artifacts. Approximately 370 artifacts were observed on the surface, 86 of which were collected. These included 81 domestic, four personal and one recent. Each artifact class is discussed in greater detail below. Table 48 provides a summary of the artifacts recovered during the Stage 2 archaeological assessment.

Table 48: Location 25 (AjHj-14) Stage 2 Artifact Summary

Artifact	Freq.	%
domestic	81	94.19
personal	4	4.65
recent	1	1.16
Total Stage 2 Artifacts	**86**	**100.00**

3.25.1 Domestic Artifacts

A total of 81 domestic artifacts were recovered from Location 24 including 69 ceramic artifacts and 12 glass artifacts.

3.25.1.1 Ceramic Artifacts

A total of 69 pieces of hollowwares and flatwares were recovered during the Stage 2 assessment of Location 25. This total includes 52 pieces of ironstone, eight pieces of whiteware, four utilitarian fragments, three pieces of porcelain one piece of semi-porcelain and one piece of dyed earthenware. Table 49 provides a breakdown of the ceramic assemblage by ware type and Table 50 provides a breakdown by decorative type.

Table 49: Location 25 (AjHj-14) Stage 2 Ceramic Assemblage by Ware Type

Artifact	Freq.	%
ironstone	52	75.36
whiteware	8	11.59
utilitarian	4	5.80
porcelain	3	4.35
semi-porcelain	1	1.45
dyed earthenware	1	1.45
Total Ceramic Artifacts	**69**	**100.00**

Table 50: Location 25 (AjHj-14) Stage 2 Ceramic Assemblage by Decorative Type

Artifact	Freq.	%
ironstone	31	44.92
ironstone, moulded	16	23.18
whiteware	4	5.80
whiteware, stamped	3	4.35
porcelain	3	4.35
ironstone, edged	3	4.35
earthenware, red	3	4.35
whiteware, transfer print	1	1.45
stoneware, salt glazed	1	1.45
semi porcelain	1	1.45
ironstone, transfer print	1	1.45
ironstone, painted	1	1.45
dyed earthenware	1	1.45
Total Ceramic Artifacts	**69**	**100.00**

Ironstone

Ironstone, or graniteware, is a variety of refined white earthenware introduced in the 1830s that became extremely popular in Upper Canada by the 1860s (Kenyon 1985). A total of 34 pieces of plain ironstone (Plate

52:1), six pieces of moulded ironstone (Plate 52:2), four pieces of painted ironstone (Plate 52:3), three pieces of edged ironstone (Plate 52:4) and one piece of transfer printed ironstone (Plate 52:5) were recovered from Location 25. The edged ironstone pieces all exhibit plain edges, are neither moulded nor incised and date from 1850 to 1897 (Miller 1987). The transfer printed ironstone piece recovered from this location is grey. One piece bears the maker's mark ""Meakin B…" of Meakin Brothers and Company, who operated in Burslem from 1865 to 1873 (Birks 2012).

Whiteware

Whiteware is a variety of earthenware with a near colorless glaze that replaced earlier near-white ceramics such as pearlware and creamware by the early 1830s. Early whiteware tends to have a porous paste, with more vitrified, harder, ceramics becoming increasingly common later in the 19th century (Kenyon 1985). A total of eight pieces of whiteware were recovered from Location 25 including four plain (Plate 52:6), three stamped (Plate 52:7) and one transfer printed (Plate 52:8).

Three pieces of stamped whiteware were recovered from Location 25. Stamped and sponge decorated whiteware ceramics were a form of inexpensive tableware in which a sponge was used to apply an underglaze pigment. All-over sponging became popular by the 1840s and remained common until the 1870s. All three of the pieces recovered from Location 25 were decorated with a blue floral stamp.

One piece of blue transfer printed whiteware was recovered from this location. Transfer printed whiteware became popular quite early in the 19th century and involved the transfer of an intricate pattern from a sheet of treated paper to the underglaze surface of the clay. Before 1830, almost all transfer printed wares were blue. After 1830, colours such as light blue, black, brown, green, purple and red became more common (Adams 1994:100).

Utilitarian

Four pieces of utilitarian wares were recovered from Location 25 including three pieces of red earthenware and one piece of stoneware. Red earthenware vessels were manufactured throughout the late 18th and 19th centuries and were the most common utilitarian ware in the first half of the 19th century, eventually being replaced by more durable stoneware vessels (Adams 1994:99).

Porcelain

The Canadian pioneer generally preferred utilitarian earthenwares, but by mid-19th century, English potteries such as Copeland and Minton were producing porcelains for the Canadian marketplace. Porcelain was not required as much as utilitarian ceramics, but it was always in steady demand (Collard 1967:163,175). Three pieces of porcelain were recovered from Location 25, one of which exhibits faint traces of overglaze polychrome floral transfer print (Plate 52:9).

Dyed Earthenware

One piece of yellow dyed earthenware was recovered from Location 25. Dyed earthenware is refined white earthenware dyed with metallic oxides. Common vessel forms include tablewares and pitchers. The ware was produced from 1878 to 1893 in Canada, and the late 19th century to present elsewhere (St. Mary's University 2011). One scalloped moulded lid fragment of dyed yellow earthenware is part of the ceramic assemblage (Plate 52:10).

Semi-Porcelain

During the first half of the 19th century, the English improved pottery techniques resulting in the production of durable and decorative wares with trade names such as semi-porcelain. This hard earthenware sought to emulate imported porcelains but lacked true translucency. In 1850, semi-porcelains were reintroduced and this vitreous, hard-glazed white earthenware resembling bone china soon dominated the marketplace (Hughes 1961). One fragment of plain semi porcelain marked with "Imperial Semi Porcelain" is part of the ceramic assemblage (Plate 52:11). This was manufactured by Myott, Sons and Co. from 1898 to 1977 in Stoke-on-Trent, England (Birks 2012).

3.25.1.2 Glass Artifacts

Twelve glass artifacts were recovered from Location 25 including nine pieces of bottle glass and three pieces of glass dish. The colours of bottle glass represented in this assemblage include six aqua, one olive, one clear and one black. The addition of iron when making glass was common practice up until 1860 and produced dark olive or dark amber glass that became known as "black glass" (Kendrick 1971). Otherwise, bottle glass colours are very limited with regards to providing a temporal sequence for a site (Lindsey 2012). Diagnostic shards in the assemblage include one cup moulded base *circa* 1880 to 1920 (Lindsey 2012). Four sun-coloured amethyst pieces of glass dish were recovered. Non-leaded pressed glass dish in a variety of patterns becomes common on Canadian sites after 1860 (Jones and Sullivan 1989:35).

3.25.2 Personal Artifact

Four personal artifacts were recovered from Location 25 including two white clay pipe stem fragments (Plate 53:1), one white clay pipe bowl fragment decorated with a rib and spot pattern (Plate 53:2) and one porcelain figurine fragment (Plate 53:3). White clay pipes were very popular throughout the 19th century, with a decline in use by 1880 when they were replaced by briar pipes and cigarettes (Adams 1994:93). The figurine fragment consists of the head of a Staffordshire Dog, which were manufactured throughout the 19th and 20th centuries (Birks 2012).

3.25.3 Recent Material

One piece of recent material was recovered from Location 25, a piece of modern window glass.

3.25.4 Artifact Catalogue

Table 51 presents the Stage 2 artifact catalogue for Location 25.

Table 51: Location 25 (AjHj-14) Artifact Catalogue

Cat. #	Context	Depth	Artifact	Freq.	Comments
1	surface collection	0 cm	ironstone	2	
2	surface collection	0 cm	ironstone, moulded	3	black and blue stripe, moulded leaf
3	surface collection	0 cm	ironstone, moulded	1	handle
4	surface collection	0 cm	whiteware	1	
5	surface collection	0 cm	earthenware, red	3	2 brown lead glaze, 1 lead glaze
6	surface collection	0 cm	stoneware, salt glazed	1	grey bodied; clear exterior salt glazed, Albany slip interior
7	surface collection	0 cm	glass, bottle	3	sun-coloured amethyst including 1 external threaded finish
8	surface collection	0 cm	ironstone, transfer print	1	grey
9	surface collection	0 cm	porcelain	1	
10	surface collection	0 cm	whiteware, stamped	2	blue floral
11	surface collection	0 cm	white clay pipe stem	2	
12	surface collection	0 cm	dyed earthenware	1	yellow, floral applique handle
13	surface collection	0 cm	recent material	1	modern glass
14	surface collection	0 cm	glass, bottle	7	6 aqua (2x bases, 1x moulded "I OZ"), 1 olive, 1 clear
15	surface collection	0 cm	semi porcelain	1	maker's mark: "IMPERIAL SEMI-PORCELAIN", Myott, Sons and Co. 1898 to 1977
16	surface collection	0 cm	ironstone, moulded	1	wheat pattern
17	surface collection	0 cm	ironstone, painted	1	black and blue stripe, blue leaf
18	surface collection	0 cm	ironstone	1	
19	surface collection	0 cm	ironstone	1	marker's mark: "Meakin B…", Meakin Brothers and Co. *circa* 1865 to 1873
20	surface collection	0 cm	ironstone, edged	1	blue, burnt, plain edge, not moulded or incised 1850 to 1897
21	surface collection	0 cm	ironstone, edged	1	blue, burnt, plain edge, not moulded or incised 1850 to 1897
22	surface collection	0 cm	whiteware, transfer print	1	blue
23	surface collection	0 cm	ironstone, moulded	1	scalloped hollowware
24	surface collection	0 cm	whiteware, stamped	1	blue floral
25	surface collection	0 cm	ironstone, edged	1	blue, plain edge, not moulded or incised 1850 to 1897
26	surface collection	0 cm	ironstone	1	partial makers mark: "…EY ENGLN…"

Cat. #	Context	Depth	Artifact	Freq.	Comments
27	surface collection	0 cm	white clay pipe bowl	1	ribbed with dots
28	surface collection	0 cm	porcelain figurine	1	Staffordshire dog, head, painted red
29	surface collection	0 cm	ironstone, moulded	1	scalloped hollowware
30	surface collection	0 cm	porcelain	2	low grade white - 1 fragment with faint traces of overglaze floral transfer print
31	surface collection	0 cm	ironstone	2	
32	surface collection	0 cm	ironstone	1	
33	surface collection	0 cm	ironstone	1	
34	surface collection	0 cm	ironstone	1	
35	surface collection	0 cm	ironstone	2	
36	surface collection	0 cm	ironstone	3	
37	surface collection	0 cm	ironstone	2	
38	surface collection	0 cm	ironstone	2	
39	surface collection	0 cm	ironstone	2	
40	surface collection	0 cm	whiteware	1	
41	surface collection	0 cm	ironstone	1	
42	surface collection	0 cm	ironstone	2	
43	surface collection	0 cm	ironstone	1	
44	surface collection	0 cm	ironstone	1	
45	surface collection	0 cm	ironstone	2	
46	surface collection	0 cm	glass, bottle	1	black with pontil mark
47	surface collection	0 cm	ironstone	1	
48	surface collection	0 cm	ironstone, moulded	1	
49	surface collection	0 cm	ironstone, moulded	1	handle
50	surface collection	0 cm	ironstone, moulded	1	circular boss
51	surface collection	0 cm	ironstone, moulded	1	scalloped hollowware
52	surface collection	0 cm	ironstone, moulded	1	
53	surface collection	0 cm	ironstone, moulded	1	zigzag
54	surface collection	0 cm	ironstone, moulded	1	hexagonal
55	surface collection	0 cm	ironstone, moulded	1	
56	surface collection	0 cm	ironstone, moulded	1	scalloped hollowware
57	surface collection	0 cm	ironstone	1	
58	surface collection	0 cm	whiteware	1	
59	surface collection	0 cm	whiteware	1	
60	surface collection	0 cm	glass, bottle	1	cup-moulded bottom *circa* 880 to 1920,
61	surface collection	0 cm	ironstone	1	

4.0 ANALYSIS AND CONCLUSIONS

The Stage 2 assessment of the Bluewater Wind Energy Centre resulted in the identification of 25 archaeological sites, including 18 pre-contact Aboriginal and 7 Euro-Canadian historic. Analyses of each location are provided below.

4.1 Location 1

The Stage 2 assessment of Location 1 resulted in the recovery of an isolated complete biface. Bifacially worked lithic tools were common tool kit accessories over an extended period of time in southwestern Ontario, from the first post-glacial occupations until they were eventually phased out by European manufactured goods. For this reason tools such as these cannot help place the archaeological site within a specific time period or cultural group. Given the isolated nature of the find, the cultural heritage value or interest of the site is considered to be sufficiently documented and the artifact identified does not fulfill any of the criteria for a Stage 3 archaeological investigation as per Section 2.2 of the *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011).

4.2 Location 2

The Stage 2 assessment of Location 2 resulted in the recovery of one pre-contact Aboriginal artifact, a piece of chipping detritus. Chipping detritus is temporally non-diagnostic except for the fact that it was produced by a pre-contact Aboriginal people. Given the limited size of the artifact collection, the cultural heritage value or interest of the site is considered to be sufficiently documented and the artifact identified does not fulfill any of the criteria for a Stage 3 archaeological investigation as per Section 2.2 of the *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011).

4.3 Location 3

The Stage 2 assessment of Location 3 resulted in the recovery of one pre-contact Aboriginal artifact, a piece of chipping detritus. Chipping detritus is temporally non-diagnostic except for the fact that it was produced by a pre-contact Aboriginal people. Given the limited size of the artifact collection, the cultural heritage value or interest of the site is considered to be sufficiently documented and the artifacts identified do not fulfill any of the criteria for a Stage 3 archaeological investigation as per Section 2.2 of the *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011).

4.4 Location 4 (AiHj-5)

The Stage 2 assessment of Location 4 (AiHj-5) resulted in the recovery of one pre-contact Aboriginal artifact, a complete projectile point. It is most similar to an Early Woodland Meadowood projectile point. The Meadowood horizon of the Early Woodland in Ontario has been dated to *circa* 1100 to 950 B.C. (Ellis *et al*. 1990:125). Given the isolated nature of the find, the cultural heritage value or interest of the site is considered to be sufficiently

documented and the artifact identified does not fulfill any of the criteria for a Stage 3 archaeological investigation as per Section 2.2 of the *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011).

4.5 Location 5

The Stage 2 assessment of Location 5 resulted in the recovery of an isolated biface base. Bifacially worked lithic tools were common tool kit accessories over an extended period of time in southwestern Ontario, from the first post-glacial occupations until they were eventually phased out by European manufactured goods. For this reason tools such as these cannot help place the archaeological site within a specific time period or cultural group. Given the isolated nature of the find, the cultural heritage value or interest of the site is considered to be sufficiently documented and the artifact identified does not fulfill any of the criteria for a Stage 3 archaeological investigation as per Section 2.2 of the *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011).

4.6 Location 6 (AjHj-12)

The Stage 2 assessment of Location 6 (AjHj-12) resulted in the recovery of one pre-contact Aboriginal artifact, a projectile point base. It is most similar to a Late Archaic Crawford Knoll projectile point. The Crawford Knoll horizon of the Late Archaic in Ontario has been dated to *circa* 1500-1100 B.C. (Ellis *et al*. 1990:107). Given the isolated nature of the find, the cultural heritage value or interest of the site is considered to be sufficiently documented and the artifact identified does not fulfill any of the criteria for a Stage 3 archaeological investigation as per Section 2.2 of the *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011).

4.7 Location 7

The Stage 2 assessment of Location 7 produced one pre-contact Aboriginal artifact, a wedge. This tool has been reworked from a biface fragment and is temporally non-diagnostic except for the fact that it was produced by a pre-contact Aboriginal people. Given the isolated nature of the find, the cultural heritage value or interest of the site is considered to be sufficiently documented and the artifact identified does not fulfill any of the criteria for a Stage 3 archaeological investigation as per Section 2.2 of the *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011).

4.8 Location 8 (AjHj-13)

The Stage 2 assessment of Location 8 (AjHj-13) resulted in the recovery of one pre-contact Aboriginal artifact, a complete projectile point. It is most similar to an Early Woodland Meadowood projectile point. The Meadowood horizon of the Early Woodland in Ontario has been dated to *circa* 950 to 400 B.C. (Ellis *et al*. 1990:125). Given the isolated nature of the find, the cultural heritage value or interest of the site is considered to be sufficiently documented and the artifact identified does not fulfill any of the criteria for a Stage 3 archaeological investigation as per Section 2.2 of the *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011).

4.9 Location 9

The Stage 2 assessment of Location 9 produced one pre-contact Aboriginal artifact, a side scraper. Manufactured from a large secondary flake, it is temporally non-diagnostic except for the fact that it was produced by a pre-contact Aboriginal people. Given the isolated nature of the find, the cultural heritage value or interest of the site is considered to be sufficiently documented and the artifact identified does not fulfill any of the criteria for a Stage 3 archaeological investigation as per Section 2.2 of the *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011).

4.10 Location 10

The Stage 2 assessment of Location 10 resulted in the recovery of a sparse scatter of 23 artifacts observed and 16 artifacts collected, all late 19th to early 20th century Euro-Canadian historic artifacts. Ironstone ceramics comprised 82.1% (n=9) of the entire ceramic assemblage, with utilitarian stoneware making up the remaining 17.9% (n=1). Ironstone and stoneware ceramics became popular in Upper Canada in the late 19th century and were manufactured well into the 20th century (Collard 1967; Kenyon 1985). Spatially Location 10 is located on the north half of Lot 17, Concession 9, Geographic Township of Stanley, Huron County, Ontario. The 1879 map of the Township of Stanley (Figure 3) lists the owner of this lot as Charles Shaw. The location is situated in the western portion of the lot, far from any structures indicated on this map. Given that the ceramics date the period of use to the late 19th and early 20th century and the low frequency of temporally diagnostic artifacts, the cultural heritage value or interest of the site is considered to be sufficiently documented and the artifacts identified do not fulfill any of the criteria for a Stage 3 archaeological investigation as per Section 2.2 of the *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011).

4.11 Location 11

The Stage 2 assessment of Location 11 determined that the site consisted of two pre-contact Aboriginal pieces of chipping detritus one metre apart. Both artifacts are temporally non-diagnostic except for the fact that they were produced by a pre-contact Aboriginal people. The archaeological survey conducted has resulted in the documentation of a spatially discrete pre-contact Aboriginal location and adds to the body of knowledge concerning land use by pre-contact Aboriginal peoples in Ontario. However, given the limited size of the artifact collection, the cultural heritage value or interest of the site is considered to be sufficiently documented and the artifacts identified do not fulfill any of the criteria for a Stage 3 archaeological investigation as per Section 2.2 of the *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011).

4.12 Location 12

The Stage 2 assessment of Location 12 resulted in the recovery of an isolated biface tip. Bifacially worked lithic tools were common tool kit accessories over an extended period of time in southwestern Ontario, from the first post-glacial occupations until they were eventually phased out by European manufactured goods. For this reason tools such as these cannot help place the archaeological site within a specific time period or cultural group. Given the isolated nature of the find, the cultural heritage value or interest of the site is considered to be

sufficiently documented and the artifact identified does not fulfill any of the criteria for a Stage 3 archaeological investigation as per Section 2.2 of the *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011).

4.13 Location 13 (AiHj-6)

The Stage 2 assessment of Location 13 (AiHj-6) resulted in the recovery of 55 mid-to-late 19th century Euro-Canadian historic artifacts. Ironstone ceramics clearly dominate the recovered artifacts, comprising 55.81% (n=24) of the recovered ceramic assemblage. Whiteware ceramics were the second most recovered ceramic class (n=16 or 37.21%). Whiteware ceramics replaced earlier near white ceramics such as pearlware and creamware by the late 1820s to early 1830s (Kenyon 1985). Ironstone or graniteware is a variety of refined white earthenware, introduced in Canada by the 1820s, widely available in the 1840s, and extremely popular in Upper Canada by the 1860s (Collard 1967; Kenyon 1985). Spatially Location 13 is located on Lot 17, Concession 9, Geographic Township of Stanley, Huron County, Ontario. The 1879 map of the Township of Stanley lists the owner of this lot as William Graham (Figure 3). The location is situated in the western portion of the lot, far from any structures indicated on this map, however, the presence of more than 20 artifacts dating the period of use prior to 1900 lends cultural heritage value or interest to the site. Based on these considerations, the artifacts identified fulfill the criteria for a Stage 3 archaeological investigation as per Section 2.2 Standard 1c of the *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011). The site has been registered with the Ministry of Tourism, Culture and Sport and has been assigned Borden number AiHj-6.

4.14 Location 14 (AiHk-1)

The Stage 2 assessment of Location 14 (AiHk-1) resulted in the recovery of 74 mid-to-late 19th century Euro-Canadian historic artifacts. Whiteware ceramics dominate the recovered artifacts, comprising 47.50% (n=19) of the recovered ceramic assemblage. Ironstone ceramics were the second most recovered ceramic class (n=13 or 32.50%). Whiteware ceramics replaced earlier near white ceramics such as pearlware and creamware by the late 1820s to early 1830s (Kenyon 1985). Ironstone or graniteware is a variety of refined white earthenware, introduced in Canada by the 1820s, widely available in the 1840s, and extremely popular in Upper Canada by the 1860s (Collard 1967; Kenyon 1985). Spatially Location 14 is located on Lot 9, Concession 8, Geographic Township of Stanley, Huron County, Ontario. The 1879 map of the Township of Stanley lists the owner of this lot as Thomas Keys and shows a structure located in the vicinity of Location 14 (Figure 3). The presence of more than 20 artifacts dating the period of use prior to 1900 lends cultural heritage value or interest to the site. Based on these considerations, the artifacts identified fulfill the criteria for a Stage 3 archaeological investigation as per Section 2.2 Standard 1c of the *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011). The site has been registered with the Ministry of Tourism, Culture and Sport and has been assigned Borden number AiHk-1.

4.15 Location 15 (AiHj-7)

The Stage 2 assessment of Location 6 (AiHj-7) resulted in the recovery of one pre-contact Aboriginal artifact, a projectile point exhibiting extensive plough damage. It is most similar to a Terminal Archaic Turkey Tail Fulton

(fkrs) projectile point. Turkey Tail Fulton (fkrs) projectile points are diagnostic of the Red Ochre Complex of the Terminal Archaic in the Northeast and have been dated to *circa* 1500 to 500 B.C. (Justice 1987:178). Given the isolated nature of the find, the cultural heritage value or interest of the site is considered to be sufficiently documented and the artifact identified does not fulfill any of the criteria for a Stage 3 archaeological investigation as per Section 2.2 of the *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011).

4.16 Location 16 (AiHk-2)

The Stage 2 assessment of Location 16 (AiHk-2) resulted in the recovery of a sparse scatter of late 19th century and early 20th century historic Euro-Canadian artifacts. Ironstone ceramics comprised 78.6% of the ceramic assemblage. Ironstone ceramics were manufactured well into the 20th century. In total, 20 artifacts were collected from an observed scatter of 52 artifacts found within a 51 metre by 22 metre area. Spatially Location 16 is located on the range butting on the south boundary of Lot 26, Geographic Township of Stanley, Huron County, Ontario. The 1879 map of the Township of Stanley lists the owner of this lot as Joseph Johnston and shows a structure located on the centre south edge of the property far from Location 16, which is located in the southeast corner (Figure 3). Given that less than 20 ceramics date the period of use to before 1900, the cultural heritage value or interest of the site is considered to be sufficiently documented and the artifacts identified do not fulfill any of the criteria for a Stage 3 archaeological investigation as per Section 2.2 of the *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011).

4.17 Location 17

The Stage 2 assessment of Location 17 resulted in the recovery of one pre-contact Aboriginal artifact, a piece of chipping detritus. Chipping detritus is temporally non-diagnostic except for the fact that it was produced by a pre-contact Aboriginal people. Given the limited size of the artifact collection, the cultural heritage value or interest of the site is considered to be sufficiently documented and the artifact identified does not fulfill any of the criteria for a Stage 3 archaeological investigation as per Section 2.2 of the *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011).

4.18 Location 18

The Stage 2 assessment of Location 18 resulted in the recovery of one pre-contact Aboriginal artifact, a piece of chipping detritus. Chipping detritus is temporally non-diagnostic except for the fact that it was produced by a pre-contact Aboriginal people. Given the limited size of the artifact collection, the cultural heritage value or interest of the site is considered to be sufficiently documented and the artifact identified does not fulfill any of the criteria for a Stage 3 archaeological investigation as per Section 2.2 of the *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011).

4.19 Location 19

The Stage 2 assessment of Location 19 resulted in the recovery of one pre-contact Aboriginal artifact, a piece of chipping detritus. Chipping detritus is temporally non-diagnostic except for the fact that it was produced by a pre-contact Aboriginal people. Given the limited size of the artifact collection, the cultural heritage value or interest of the site is considered to be sufficiently documented and the artifact identified does not fulfill any of the criteria for a Stage 3 archaeological investigation as per Section 2.2 of the *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011).

4.20 Location 20 (AiHj-8)

The Stage 2 assessment of Location 20 (AiHj-8) resulted in the recovery of a sparse scatter of late 19th century and early 20th century historic Euro-Canadian artifacts. In total, 39 artifacts from an observed scatter of 106 artifacts were recovered from a 40 metre by 24 metre area. Ironstone ceramics comprised 94.12% (n=16) of the entire ceramic assemblage, with stoneware making up the remaining 5.88% (n=1). Ironstone and stoneware ceramics became popular in Upper Canada in the late 19th century and were manufactured well into the 20th century (Collard 1967; Kenyon 1985). Spatially Location 20 is located on Lot 8, Concession 12, Geographic Township of Stanley, Huron County, Ontario. The 1879 map of the Township of Stanley lists the owner of this lot as John Dunn and shows a structure located in the vicinity of Location 20 (Figure 3). Given that less than 20 ceramics might date the period of use to before 1900, the cultural heritage value or interest of the site is considered to be sufficiently documented and the artifacts identified do not fulfill any of the criteria for a Stage 3 archaeological investigation as per Section 2.2 of the *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011).

4.21 Location 21

The Stage 2 assessment of Location 21 resulted in the recovery of an isolated biface missing one basal corner. Bifacially worked lithic tools were common tool kit accessories over an extended period of time in southwestern Ontario, from the first post-glacial occupations until they were eventually phased out by European manufactured goods. For this reason tools such as these cannot help place the archaeological site within a specific time period or cultural group. Given the isolated nature of the find, the cultural heritage value or interest of the site is considered to be sufficiently documented and the artifact identified does not fulfill any of the criteria for a Stage 3 archaeological investigation as per Section 2.2 of the *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011).

4.22 Location 22

The Stage 2 assessment of Location 22 resulted in the recovery of one pre-contact Aboriginal artifact, a piece of chipping detritus. Chipping detritus is temporally non-diagnostic except for the fact that it was produced by a pre-contact Aboriginal people. Given the limited size of the artifact collection, the cultural heritage value or interest of the site is considered to be sufficiently documented and the artifact identified does not fulfill any of the

criteria for a Stage 3 archaeological investigation as per Section 2.2 of the *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011).

4.23 Location 23

The Stage 2 assessment of Location 23 resulted in the recovery of an isolated biface tip. Bifacially worked lithic tools were common tool kit accessories over an extended period of time in southwestern Ontario, from the first post-glacial occupations until they were eventually phased out by European manufactured goods. For this reason tools such as these cannot help place the archaeological site within a specific time period or cultural group. Given the isolated nature of the find, the cultural heritage value or interest of the site is considered to be sufficiently documented and the artifact identified does not fulfill any of the criteria for a Stage 3 archaeological investigation as per Section 2.2 of the *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011).

4.24 Location 24 (AiHj-9)

The Stage 2 assessment of Location 24 (AiHj-9) resulted in the recovery of mid-to-late 19th century Euro-Canadian historic artifacts. Only the eastern edge of the site protruded onto the study area and yielded a surface collection of 63 artifacts; a higher concentration of artifacts was observed to the west of the study area but only artifacts located on the proposed access corridor were recovered. Mid-to-late 19th century whiteware and ironstone ceramics comprised 75.42% of the recovered ceramic assemblage. Whiteware ceramics replaced earlier near white ceramics such as pearlware and creamware by the late 1820s to early 1830s (Kenyon 1985). Ironstone was introduced in the 1840s that became extremely popular in Upper Canada by the 1860s (Kenyon 1985). Spatially Location 24 is located on Lot 24 of the Bayfield Range South, Geographic Township of Stanley, Huron, Ontario. The 1879 map of the Township of Stanley lists the owner of this lot as Daniel Brenneman and shows a structure located approximately 100 metres to the west of Location 20 (Figure 3). The presence of more than 20 artifacts dating the period of use prior to 1900 lends cultural heritage interest or value to the site. Based on this consideration, the artifacts identified fulfill the criteria for a Stage 3 archaeological investigation as per Section 2.2 Standard 1c of the *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011). The site has been registered with the Ministry of Tourism, Culture and Sport and has been assigned Borden number AiHj-9.

4.25 Location 25 (AjHj-14)

The Stage 2 assessment of Location 25 (AjHj-14) resulted in the recovery of mid-to-late 19th century Euro-Canadian historic artifacts. Only the eastern edge of the site protruded onto the study area and yielded a surface collection of 86 artifacts; a higher concentration of artifacts was observed to the west of the study area but only artifacts located on the proposed access corridor were recovered. Mid-to-late 19th century whiteware and ironstone ceramics comprised 89.0% of the recovered ceramic assemblage. Whiteware ceramics replaced earlier near white ceramics such as pearlware and creamware by the late 1820s to early 1830s (Kenyon 1985). Ironstone was introduced in the 1840s that became extremely popular in Upper Canada by the 1860s (Kenyon 1985). Spatially Location 24 is located on Lot 17, Concession 9, Geographic Township of Stanley, Huron

County, Ontario. The 1879 map of the Township of Huron (Figure 3) lists the owner of this lot as Charles Shaw. The location is situated in the northeastern corner of the lot, approximately 60 metres north of the structure indicated on this map. The presence of more than 20 artifacts dating the period of use prior to 1900 lends cultural heritage interest or value to the site. Based on this consideration, the artifacts identified fulfill the criteria for a Stage 3 archaeological investigation as per Section 2.2 Standard 1c of the *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011). The site has been registered with the Ministry of Tourism, Culture and Sport and has been assigned Borden number AjHj-14.

4.26 Preliminary Indication of Sites Possibly Requiring Stage 4 Archaeological Assessment

This preliminary indication of whether any site could be eventually recommended for Stage 4 archaeological assessment is required under the *Standards and Guidelines for Consultant Archaeologists* Section 7.8.3 Standard 2c. No firm recommendation for, or against, Stage 4 archaeological assessment will be made until the forthcoming Stage 3 archaeological assessment has been conducted. In addition, any sites recommended for Stage 3 archaeological assessment but not listed here could still require Stage 4 archaeological assessment pending the outcome of the Stage 3 field work. In any case, it is anticipated that no sites will be subject to Stage 4 archaeological assessment. However, this judgement could change once the Stage 3 field work has been conducted.

5.0 RECOMMENDATIONS

The Stage 2 assessment of the Bluewater Wind Energy Project resulted in the identification of 25 archaeological sites, including seven historic Euro-Canadian and 18 pre-contact Aboriginal. Recommendations for each location are found below.

5.1 Location 1

The Stage 2 assessment of Location 1 resulted in the recovery of an isolated pre-contact Aboriginal biface. Despite the intensification of survey intervals no additional artifacts were recovered. Given that the cultural heritage value or interest of the site has been sufficiently documented, **no further archaeological assessment is recommended for Location 1**.

5.2 Location 2

The Stage 2 assessment of Location 2 resulted in the recovery of an isolated pre-contact piece of chipping detritus. Despite the intensification of survey intervals no additional artifacts were recovered. Given that the cultural heritage value or interest of the site has been sufficiently documented, **no further archaeological assessment is recommended for Location 2**.

5.3 Location 3

The Stage 2 assessment of Location 3 resulted in the recovery of an isolated pre-contact piece of chipping detritus. Despite the intensification of survey intervals no additional artifacts were recovered. Given that the cultural heritage value or interest of the site has been sufficiently documented, **no further archaeological assessment is recommended for Location 3**.

5.4 Location 4 (AjHj-5)

The Stage 2 assessment of Location 4 (AjHj-5) resulted in the recovery of an isolated pre-contact Aboriginal projectile point. Despite the intensification of survey intervals no additional artifacts were recovered. Given that the cultural heritage value or interest of the site has been sufficiently documented, **no further archaeological assessment is recommended for Location 4**.

5.5 Location 5

The Stage 2 assessment of Location 5 resulted in the recovery of an isolated pre-contact Aboriginal biface. Despite the intensification of survey intervals no additional artifacts were recovered. Given that the cultural heritage value or interest of the site has been sufficiently documented, **no further archaeological assessment is recommended for Location 5**.

5.6 Location 6 (AjHj-12)

The Stage 2 assessment of Location 6 (AjHj-12) resulted in the recovery of an isolated pre-contact Aboriginal projectile point. Despite the intensification of survey intervals no additional artifacts were recovered. Given that the cultural heritage value or interest of the site has been sufficiently documented, **no further archaeological assessment is recommended for Location 6**.

5.7 Location 7

The Stage 2 assessment of Location 7 resulted in the recovery of an isolated pre-contact Aboriginal wedge. Despite the intensification of survey intervals no additional artifacts were recovered. Given that the cultural heritage value or interest of the site has been sufficiently documented, **no further archaeological assessment is recommended for Location 7**.

5.8 Location 8 (AjHj-13)

The Stage 2 assessment of Location 8 (AjHj-13) resulted in the recovery of an isolated pre-contact Aboriginal projectile point. Despite the intensification of survey intervals no additional artifacts were recovered. Given that the cultural heritage value or interest of the site has been sufficiently documented, **no further archaeological assessment is recommended for Location 8**.

5.9 Location 9

The Stage 2 assessment of Location 9 resulted in the recovery of an isolated pre-contact Aboriginal scraper. Despite the intensification of survey intervals no additional artifacts were recovered. Given that the cultural heritage value or interest of the site has been sufficiently documented, **no further archaeological assessment is recommended for Location 9**.

5.10 Location 10

The Stage 2 assessment of Location 10 resulted in the recovery of primarily late 19th century and early 20th century historic Euro-Canadian artifacts. Given that the cultural heritage value or interest of the site has been sufficiently documented, **no further archaeological assessment is recommended for Location 10.**

5.11 Location 11

The Stage 2 assessment of Location 11 resulted in the recovery of two pre-contact Aboriginal artifacts, pieces of chipping detritus. Despite the intensification of survey intervals no additional artifacts were recovered. Given that the cultural heritage value or interest of the site has been sufficiently documented, **no further archaeological assessment is recommended for Location 11**.

5.12 Location 12

The Stage 2 assessment of Location 12 resulted in the recovery of an isolated pre-contact Aboriginal biface. Despite the intensification of survey intervals no additional artifacts were recovered. Given that the cultural heritage value or interest of the site has been sufficiently documented, **no further archaeological assessment is recommended for Location 12**.

5.13 Location 13 (AiHj-6)

The Stage 2 assessment of Location 13 (AiHj-6) resulted in the recovery of mid-to-late 19th century Euro-Canadian historic artifacts. Ironstone ceramics clearly dominate the recovered artifacts, making up 55.81% of the entire artifact assemblage. However given that a significant number of mid-19th century whiteware artifacts were also recovered **it is recommended that Location 5 be subject to a Stage 3 assessment prior to any ground disturbance activities to further test the nature and density of the site**. The Stage 3 assessment should employ both the controlled surface pick-up and hand excavated test unit methodology as outlined in Table 3.1 of the Ministry of Tourism, Culture and Sport's *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011). Prior to conducting the field work the area should be re-ploughed and allowed to weather for the controlled surface pick-up. The test unit excavation should consist of one metre by one metre square test units laid out in a five metre grid and should be excavated by hand to a depth of five centimetres within the subsoil. Site specific land registry research should also be conducted as part of the Stage 3 assessment.

5.14 Location 14 (AiHk-1)

The Stage 2 assessment of Location 14 (AiHk-1) resulted in the recovery of mid-to-late 19th century Euro-Canadian historic artifacts. Only the central portion of the site was included in the study area and yielded a surface collection of 74 artifacts; a higher concentration of artifacts was observed to the north and south of the study area but only artifacts located on the proposed access corridor were recovered. Mid-to-late 19th century whiteware and ironstone ceramics comprised 90.00% of the recovered ceramic assemblage. Given that 47.50% of the ceramic assemblage consisted of mid 19th century whiteware ceramics, **it is recommended that Location 14 be subject to a Stage 3 assessment prior to any ground disturbance activities to further test the nature and density of the site.** The Stage 3 assessment should employ both the controlled surface pick-up and hand excavated test unit methodology as outlined in Table 3.1 of the Ministry of Tourism, Culture and Sport's *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011). Prior to conducting the field work the area should be re-ploughed and allowed to weather for the controlled surface pick-up. The test unit excavation should consist of one metre by one metre square test units laid out in a five metre grid and should be excavated by hand to a depth of five centimetres within the subsoil. Site specific land registry research should also be conducted as part of the Stage 3 assessment.

5.15 Location 15 (AiHj-7)

The Stage 2 assessment of Location 15 (AiHj-7) resulted in the recovery of an isolated pre-contact Aboriginal projectile point. Despite the intensification of survey intervals no additional artifacts were recovered. Given that the cultural heritage value or interest of the site has been sufficiently documented, **no further archaeological assessment is recommended for Location 6**.

5.16 Location 16 (AiHk-2)

The Stage 2 assessment of Location 16 (AiHk-2) resulted in the recovery of 20 primarily late 19th century and early 20th century historic Euro-Canadian artifacts. Given that the cultural heritage value or interest of the site has been sufficiently documented, **no further archaeological assessment is recommended for Location 16.**

5.17 Location 17

The Stage 2 assessment of Location 17 resulted in the recovery of an isolated pre-contact piece of chipping detritus. Despite the intensification of survey intervals no additional artifacts were recovered. Given that the cultural heritage value or interest of the site has been sufficiently documented, **no further archaeological assessment is recommended for Location 17**.

5.18 Location 18

The Stage 2 assessment of Location 18 resulted in the recovery of an isolated pre-contact piece of chipping detritus. Despite the intensification of survey intervals no additional artifacts were recovered. Given that the cultural heritage value or interest of the site has been sufficiently documented, **no further archaeological assessment is recommended for Location 18**.

5.19 Location 19

The Stage 2 assessment of Location 19 resulted in the recovery of an isolated pre-contact piece of chipping detritus. Despite the intensification of survey intervals no additional artifacts were recovered. Given that the cultural heritage value or interest of the site has been sufficiently documented, **no further archaeological assessment is recommended for Location 19**.

5.20 Location 20 (AiHj-8)

The Stage 2 assessment of Location 20 (AiHj-8) resulted in the recovery of 39 primarily late 19th century and early 20th century historic Euro-Canadian artifacts. Given that the cultural heritage value or interest of the site has been sufficiently documented, **no further archaeological assessment is recommended for Location 20.**

5.21 Location 21

The Stage 2 assessment of Location 21 resulted in the recovery of an isolated pre-contact Aboriginal biface. Despite the intensification of survey intervals no additional artifacts were recovered. Given that the cultural heritage value or interest of the site has been sufficiently documented, **no further archaeological assessment is recommended for Location 21**.

5.22 Location 22

The Stage 2 assessment of Location 22 resulted in the recovery of an isolated pre-contact piece of chipping detritus. Despite the intensification of survey intervals no additional artifacts were recovered. Given that the cultural heritage value or interest of the site has been sufficiently documented, **no further archaeological assessment is recommended for Location 22**.

5.23 Location 23

The Stage 2 assessment of Location 23 resulted in the recovery of an isolated pre-contact Aboriginal biface. Despite the intensification of survey intervals no additional artifacts were recovered. Given that the cultural heritage value or interest of the site has been sufficiently documented, **no further archaeological assessment is recommended for Location 23**.

5.24 Location 24 (AiHj-9)

The Stage 2 assessment of Location 24 (AiHj-9) resulted in the recovery of 63 mid-to-late 19th century Euro-Canadian historic artifacts. Only the eastern portion of the site was included in the study area and yielded a surface collection of 63 artifacts; a higher concentration of artifacts was observed to the west of the study area but only artifacts located on the proposed access corridor were recovered. Given that mid-to-late 19th century whiteware and ironstone ceramics comprised 74.42% of the recovered ceramic assemblage, **it is recommended that Location 14 be subject to a Stage 3 assessment prior to any ground disturbance activities to further test the nature and density of the site.** The Stage 3 assessment should employ both the controlled surface pick-up and hand excavated test unit methodology as outlined in Table 3.1 of the Ministry of Tourism, Culture and Sport's *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011). Prior to conducting the field work the area should be re-ploughed and allowed to weather for the controlled surface pick-up. The test unit excavation should consist of one metre by one metre square test units laid out in a five metre grid and should be excavated by hand to a depth of five centimetres within the subsoil. Site specific land registry research should also be conducted as part of the Stage 3 assessment.

5.25 Location 25 (AjHj-14)

The Stage 2 assessment of Location 25 (AjHj-14) resulted in the recovery of 86 mid-to-late 19th century Euro-Canadian historic artifacts. Only the eastern portion of the site was included in the study area and yielded a surface collection of 63 artifacts; a higher concentration of artifacts was observed to the west of the study area

but only artifacts located on the proposed access corridor were recovered. Given that mid-to-late 19th century whiteware and ironstone ceramics comprised 86.95% of the recovered ceramic assemblage, **it is recommended that Location 14 be subject to a Stage 3 assessment prior to any ground disturbance activities to further test the nature and density of the site.** The Stage 3 assessment should employ both the controlled surface pick-up and hand excavated test unit methodology as outlined in Table 3.1 of the Ministry of Tourism, Culture and Sport's *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011). Prior to conducting the field work the area should be re-ploughed and allowed to weather for the controlled surface pick-up. The test unit excavation should consist of one metre by one metre square test units laid out in a five metre grid and should be excavated by hand to a depth of five centimetres within the subsoil. Site specific land registry research should also be conducted as part of the Stage 3 assessment.

5.26 Summary

The above recommendations determine that four sites require further Stage 3 assessment. In addition to the four recommended sites, 21 sites would not be recommended for further archaeological work. Table 52 provides a breakdown of Golder's recommendations:

Table 52: Recommendations for Further Stage 3 Assessment

Location	Borden Number	Affiliation	Stage 3 Recommended?
1		Pre-contact Aboriginal	No
2		Pre-contact Aboriginal	No
3		Pre-contact Aboriginal	No
4	AjHj-5	Pre-contact Aboriginal	No
5		Pre-contact Aboriginal	No
6	AjHj-12	Pre-contact Aboriginal	No
7		Pre-contact Aboriginal	No
8	AjHj-13	Pre-contact Aboriginal	No
9		Pre-contact Aboriginal	No
10		Historic Euro-Canadian	No
11		Pre-contact Aboriginal	No
12		Pre-contact Aboriginal	No
13	AiHj-6	Historic Euro-Canadian	Yes
14	AiHk-1	Historic Euro-Canadian	Yes
15	AiHj-7	Pre-contact Aboriginal	No
16		Historic Euro-Canadian	No
17		Pre-contact Aboriginal	No
18		Pre-contact Aboriginal	No
19		Pre-contact Aboriginal	No

Location	Borden Number	Affiliation	Stage 3 Recommended?
20		Historic Euro-Canadian	No
21		Pre-contact Aboriginal	No
22		Pre-contact Aboriginal	No
23		Pre-contact Aboriginal	No
24	AiHj-9	Historic Euro-Canadian	Yes
25	AjHj-14	Historic Euro-Canadian	Yes

While all of these sites were documented during the Stage 2 archaeological field work conducted within the NEEC Bluewater Wind Energy Centre study area, four require further Stage 3 assessment. The remaining 21 sites have been sufficiently documented.

The Ministry of Tourism, Culture and Sport is asked 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.

6.0 ADVICE ON COMPLIANCE WITH LEGISLATION

This report is submitted to the Ministry of Tourism, Culture and Sport 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, Culture and Sport, 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, R.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.

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8.0 IMAGES

Plate 1: Stage 2, pedestrian survey at 5 metre intervals, , facing east, BLW1065, January 11, 2012

Plate 2: Stage 2, soil conditions, facing south, BLW1508, January 25, 2012

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Plate 5: Stage 2, pedestrian survey at 5 metre intervals, facing southwest, BLW1046, June 29, 2011

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Plate 7: Stage 2, pedestrian survey at 5 metre intervals, facing west, BLW1020 (Location 8), June 29, 2011

Plate 8: Stage 2, pedestrian survey at 5 metre intervals, facing northwest, BLW1049 (Locations 5 and 6), May 11, 2011

Plate 9: Stage 2, pedestrian survey at 5 metre intervals, facing north, BLW1079, November 28, 2011

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Plate 13: Stage 2, pedestrian survey at 5 metre intervals, facing northwest, BLW1085 (Location 4), May 11, 2011

Plate 14: Stage 2, pedestrian survey at 5 metre intervals, facing east, BLW1043, May 11, 2011

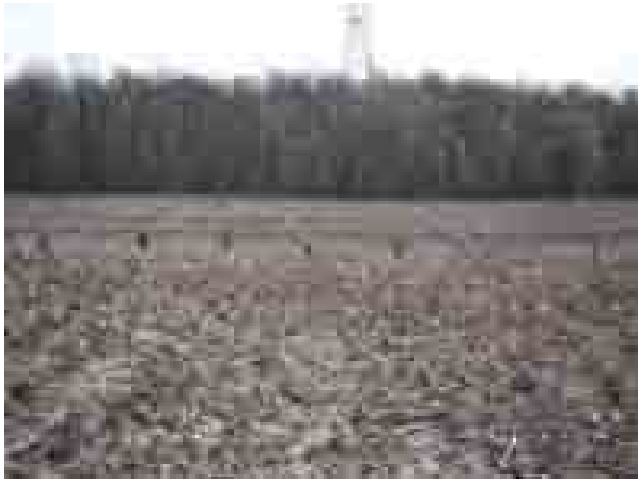

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Plate 28: Stage 2, test-pit survey, disturbed road edge, transmission line, facing northeast, BLW1207

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Plate 34: Stage 2, test-pit survey, steeply sloped and wet ravine, facing southwest, BLW1074, March 22, 2012

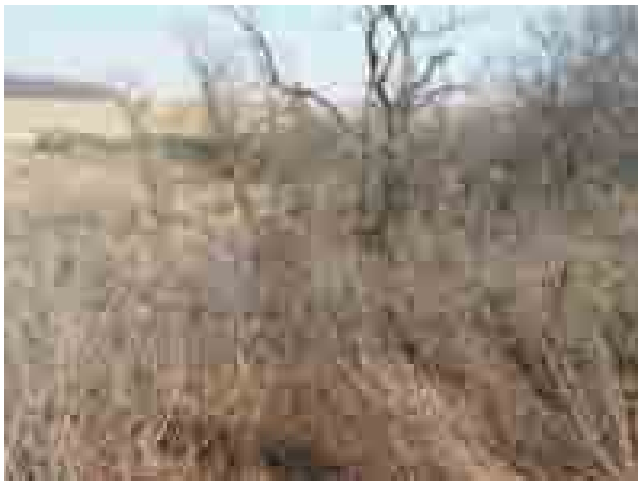

Plate 35: Stage 2, test-pit survey at 5 metre intervals, woodlot, facing west, BLW1079, March 22, 2012

Plate 36: Stage 2, test-pit survey, watercourse and wet area, facing west, BLW1079, March 22, 2012

Plate 37: Stage 2, test-pit survey at 5 metre intervals, woodlot and pond in background, facing northeast, BLW1086, March 22, 2012

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Plate 42: Location 10 Historic Euro-Canadian Artifacts, actual size

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Plate 44: Location 13 (AjHj-6) Historic Euro-Canadian Artifacts, actual size

Plate 45: Location 14 (AiHk-1) Historic Euro-Canadian Artifacts, actual size

Plate 46: Location 14 (AiHk-1) Historic Euro-Canadian Artifacts, actual size

Plate 47: Location 15 (AiHj-7) Pre-contact Aboriginal Artifact, actual size

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Plate 52: Location 25 (AjHj-14) Historic Euro-Canadian Ceramics, actual size

Plate 53: Location 25 Historic Euro-Canadian Artifacts, actual size

9.0 MAPS

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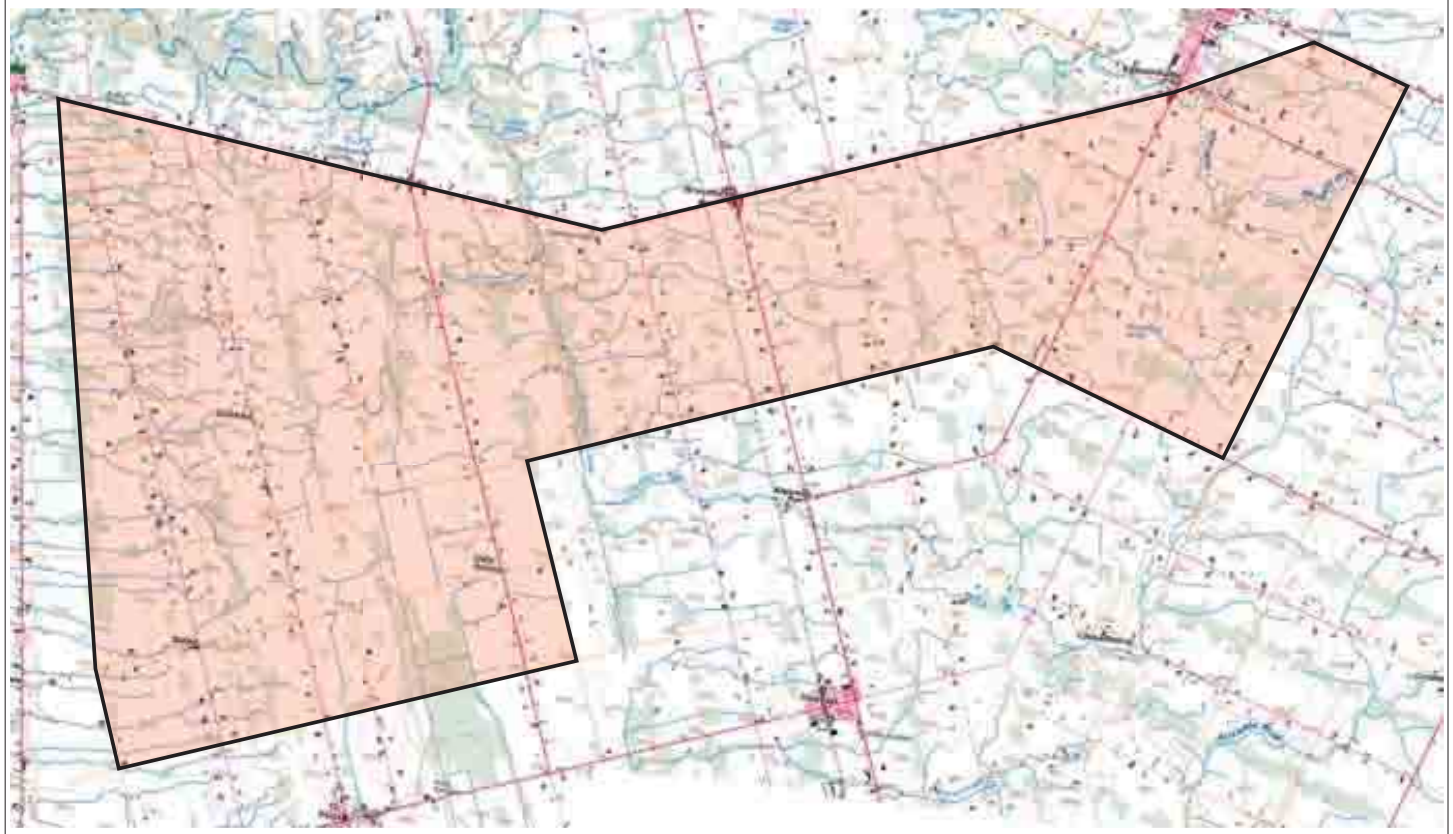

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STUDY AREA

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PROJECT
STAGE 2 ARCHAEOLOGICAL ASSESSMENT
BLUEWATER WIND ENERGY CENTRE
HURON COUNTY, ONTARIO

TITLE
LOCATION OF STUDY AREA

Golder Associates

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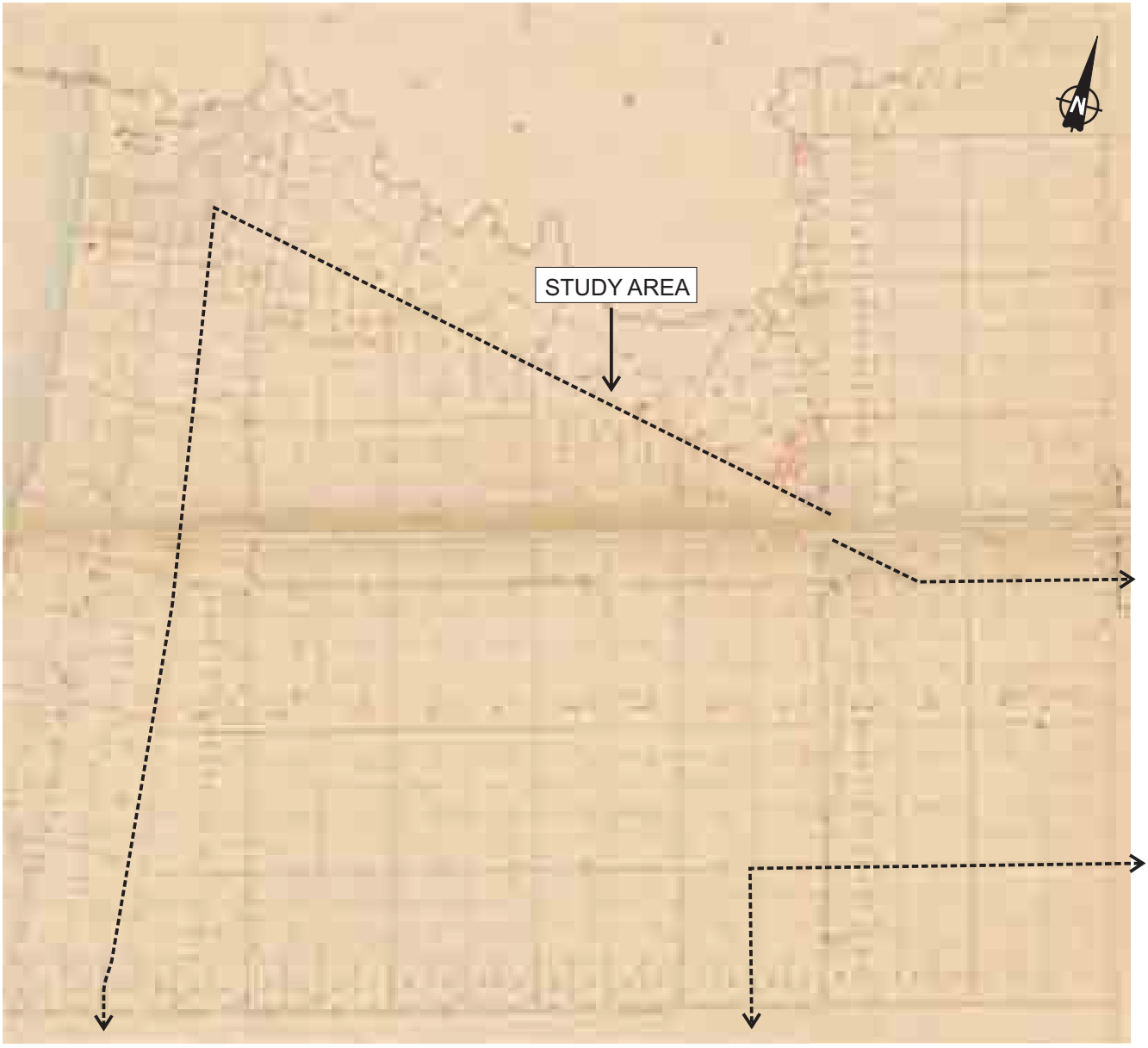

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TITLE **A PORTION OF THE 1835 MAP OF STANLEY TOWNSHIP**

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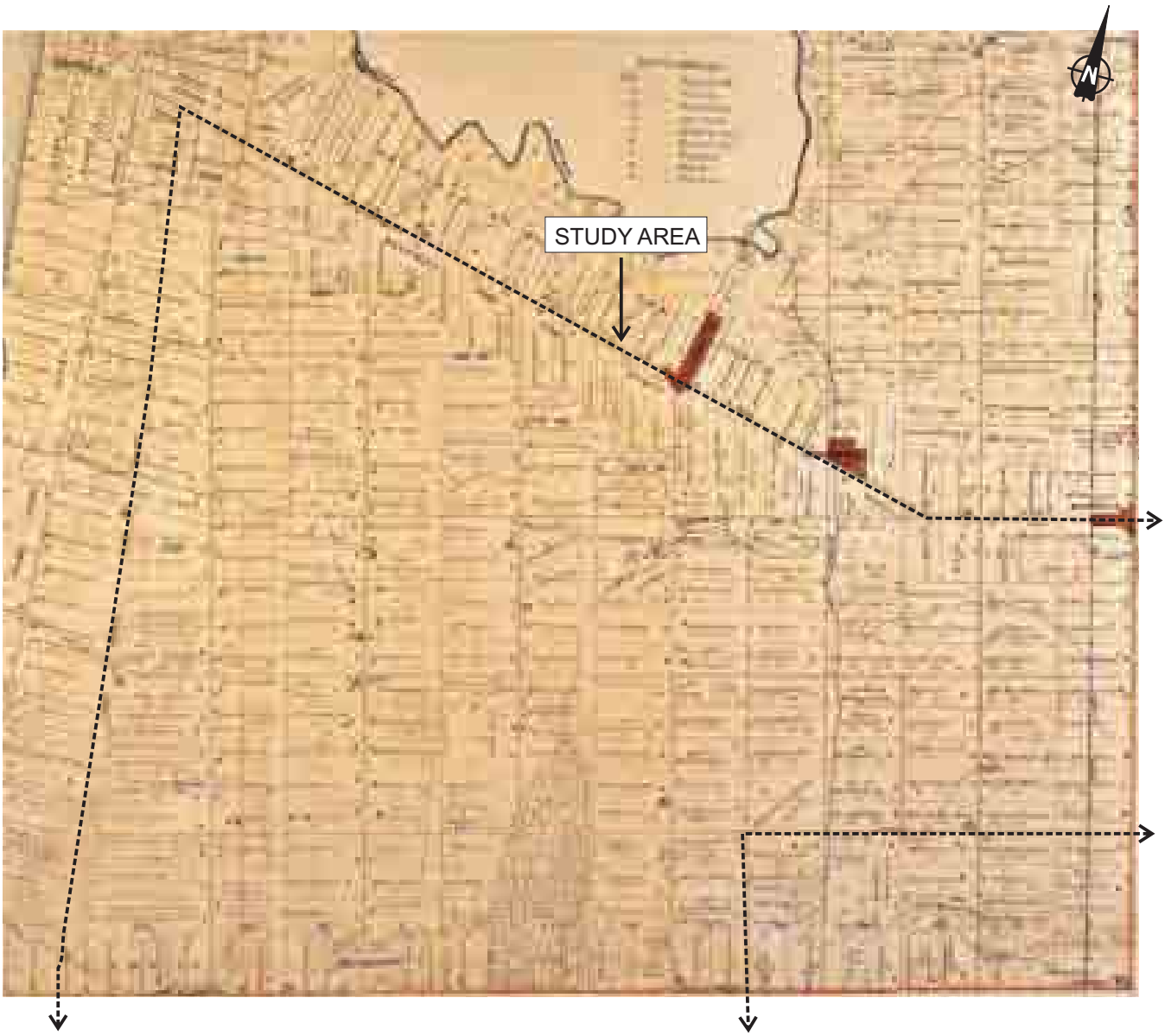

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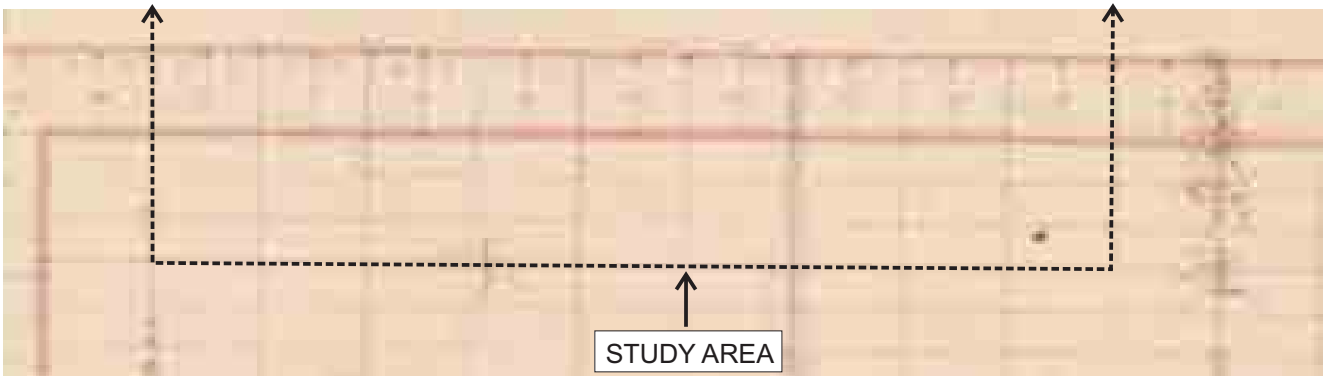

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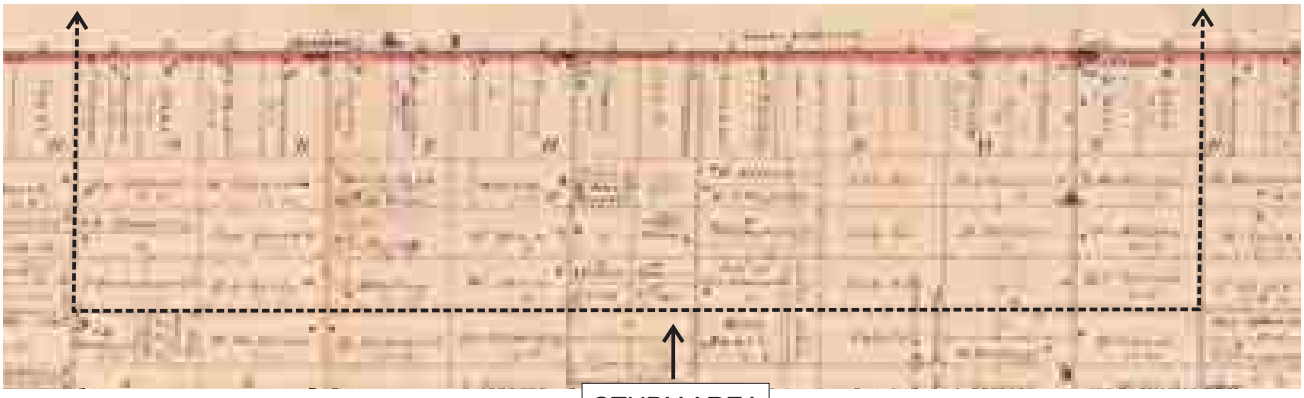

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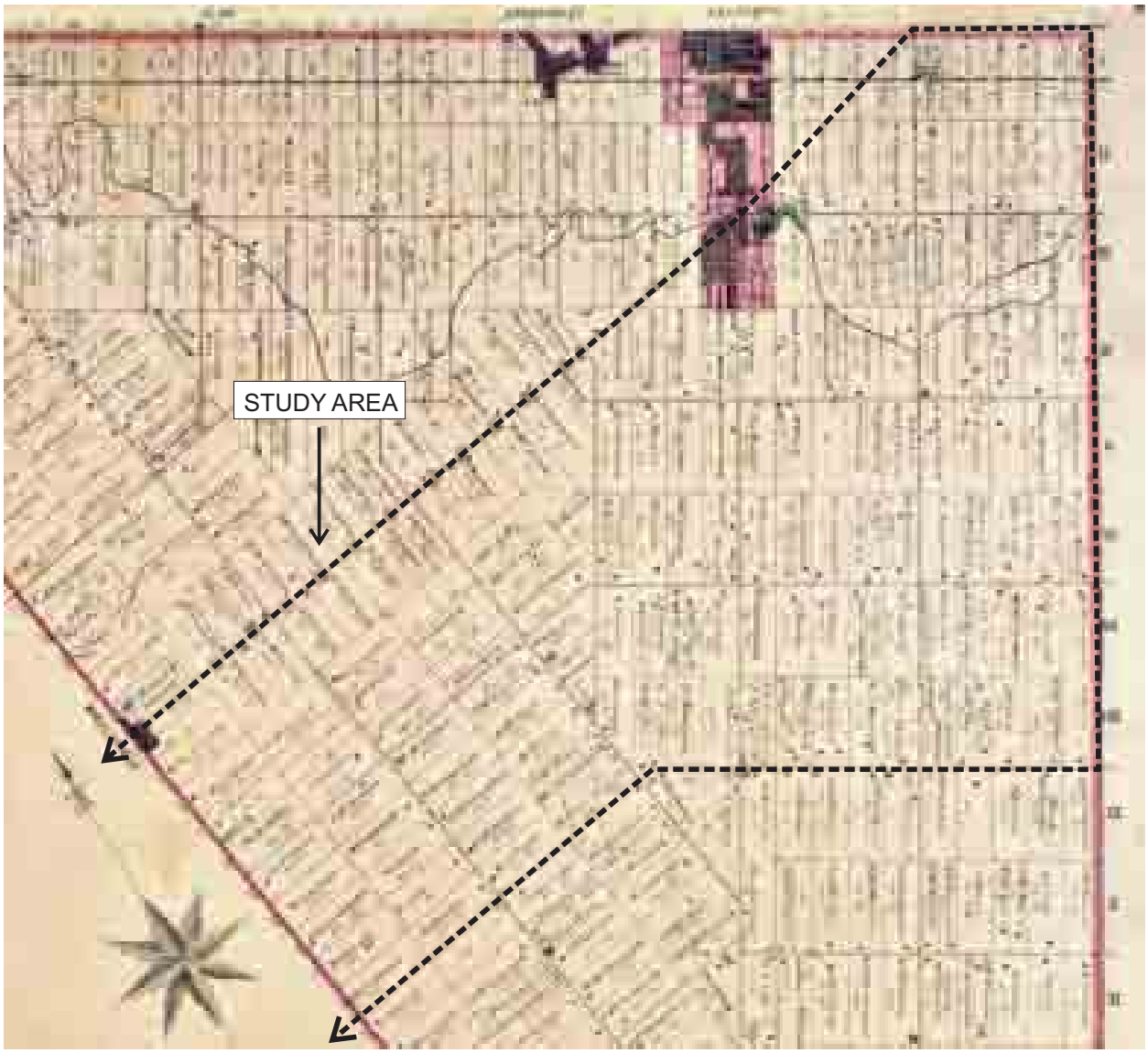

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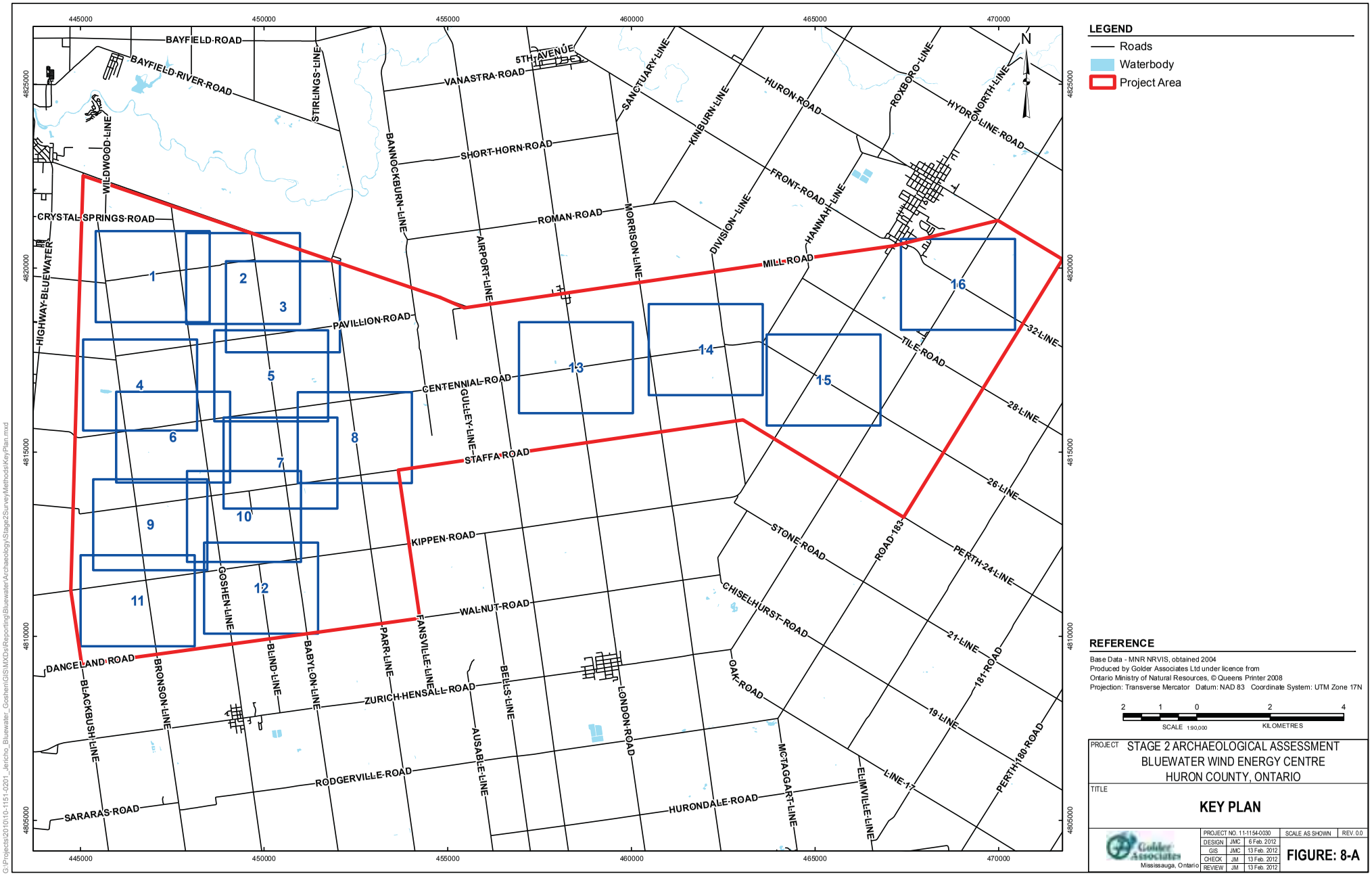
FIGURE 7



LEGEND

- Roads
- Waterbody
- Project Area

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PROJECT STAGE 2 ARCHAEOLOGICAL ASSESSMENT
BLUEWATER WIND ENERGY CENTRE
HURON COUNTY, ONTARIO

TITLE **KEY PLAN**

Golder Associates
Mississauga, Ontario

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REVIEW	JM	13 Feb. 2012	

FIGURE: 8-A

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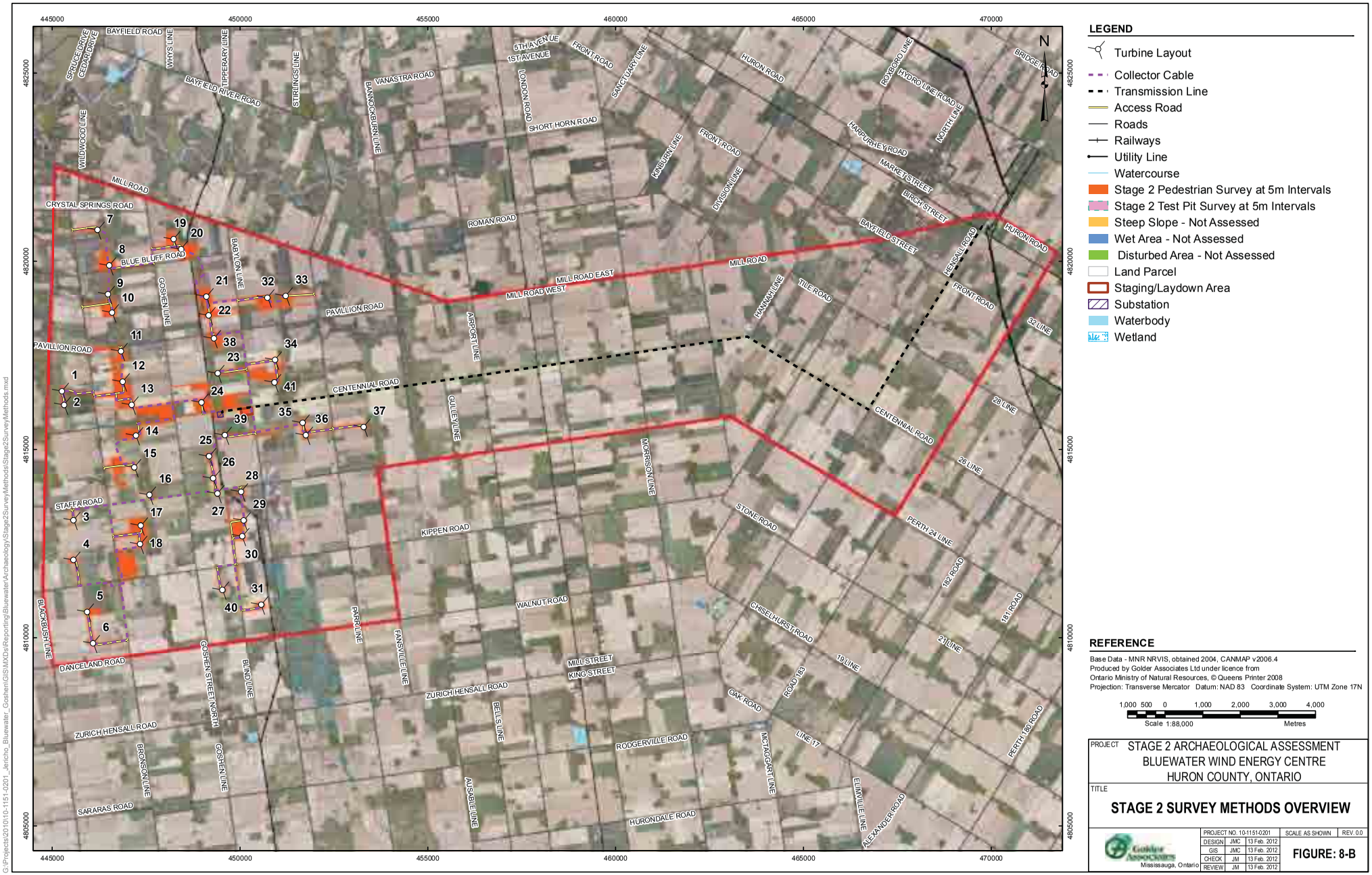

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- Turbine Layout
- Collector Cable
- Transmission Line
- Access Road
- Roads
- Railways
- Utility Line
- Watercourse
- Stage 2 Pedestrian Survey at 5m Intervals
- Stage 2 Test Pit Survey at 5m Intervals
- Steep Slope - Not Assessed
- Wet Area - Not Assessed
- Disturbed Area - Not Assessed
- Land Parcel
- Staging/Laydown Area
- Substation
- Waterbody
- Wetland

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BLUEWATER WIND ENERGY CENTRE
HURON COUNTY, ONTARIO

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Golder Associates
Mississauga, Ontario

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REVIEW	JM	13 Feb. 2012	

FIGURE: 8-B

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LEGEND

- Photographic Direction
- Turbine Layout
- Collector Cable
- Transmission Line
- Access Road
- Roads
- Railways
- Utility Line
- Watercourse
- Stage 2 Pedestrian Survey at 5m Intervals
- Stage 2 Test Pit Survey at 5m Intervals
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- Waterbody
- Wetland

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PROJECT STAGE 2 ARCHAEOLOGICAL ASSESSMENT
BLUEWATER WIND ENERGY CENTRE
HURON COUNTY, ONTARIO

TITLE
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LEGEND

- Photographic Direction
- Turbine Layout
- Collector Cable
- Transmission Line
- Access Road
- Roads
- Railways
- Utility Line
- Watercourse
- Stage 2 Pedestrian Survey at 5m Intervals
- Stage 2 Test Pit Survey at 5m Intervals
- Steep Slope - Not Assessed
- Wet Area - Not Assessed
- Disturbed Area - Not Assessed
- Land Parcel
- Staging/Laydown Area
- Substation
- Waterbody
- Wetland

REFERENCE

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TITLE
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DESIGN	JMC	16 May. 2011	FIGURE: 8-02	
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LEGEND

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- Turbine Layout
- Collector Cable
- Transmission Line
- Access Road
- Roads
- Railways
- Utility Line
- Watercourse
- Stage 2 Pedestrian Survey at 5m Intervals
- Stage 2 Test Pit Survey at 5m Intervals
- Steep Slope - Not Assessed
- Wet Area - Not Assessed
- Disturbed Area - Not Assessed
- Land Parcel
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- Substation
- Waterbody
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DESIGN	JMC	16 May. 2011	FIGURE: 8-03	
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LEGEND

- Photographic Direction
- Turbine Layout
- Collector Cable
- Transmission Line
- Access Road
- Roads
- Railways
- Utility Line
- Watercourse
- Stage 2 Pedestrian Survey at 5m Intervals
- Stage 2 Test Pit Survey at 5m Intervals
- Steep Slope - Not Assessed
- Wet Area - Not Assessed
- Disturbed Area - Not Assessed
- Land Parcel
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- Substation
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FIGURE: 8-04

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LEGEND

- Photographic Direction
- Turbine Layout
- Collector Cable
- Transmission Line
- Access Road
- Roads
- Railways
- Utility Line
- Watercourse
- Stage 2 Pedestrian Survey at 5m Intervals
- Stage 2 Test Pit Survey at 5m Intervals
- Steep Slope - Not Assessed
- Wet Area - Not Assessed
- Disturbed Area - Not Assessed
- Land Parcel
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- Substation
- Waterbody
- Wetland

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LEGEND

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- Turbine Layout
- Collector Cable
- Transmission Line
- Access Road
- Roads
- Railways
- Utility Line
- Watercourse
- Stage 2 Pedestrian Survey at 5m Intervals
- Stage 2 Test Pit Survey at 5m Intervals
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- Disturbed Area - Not Assessed
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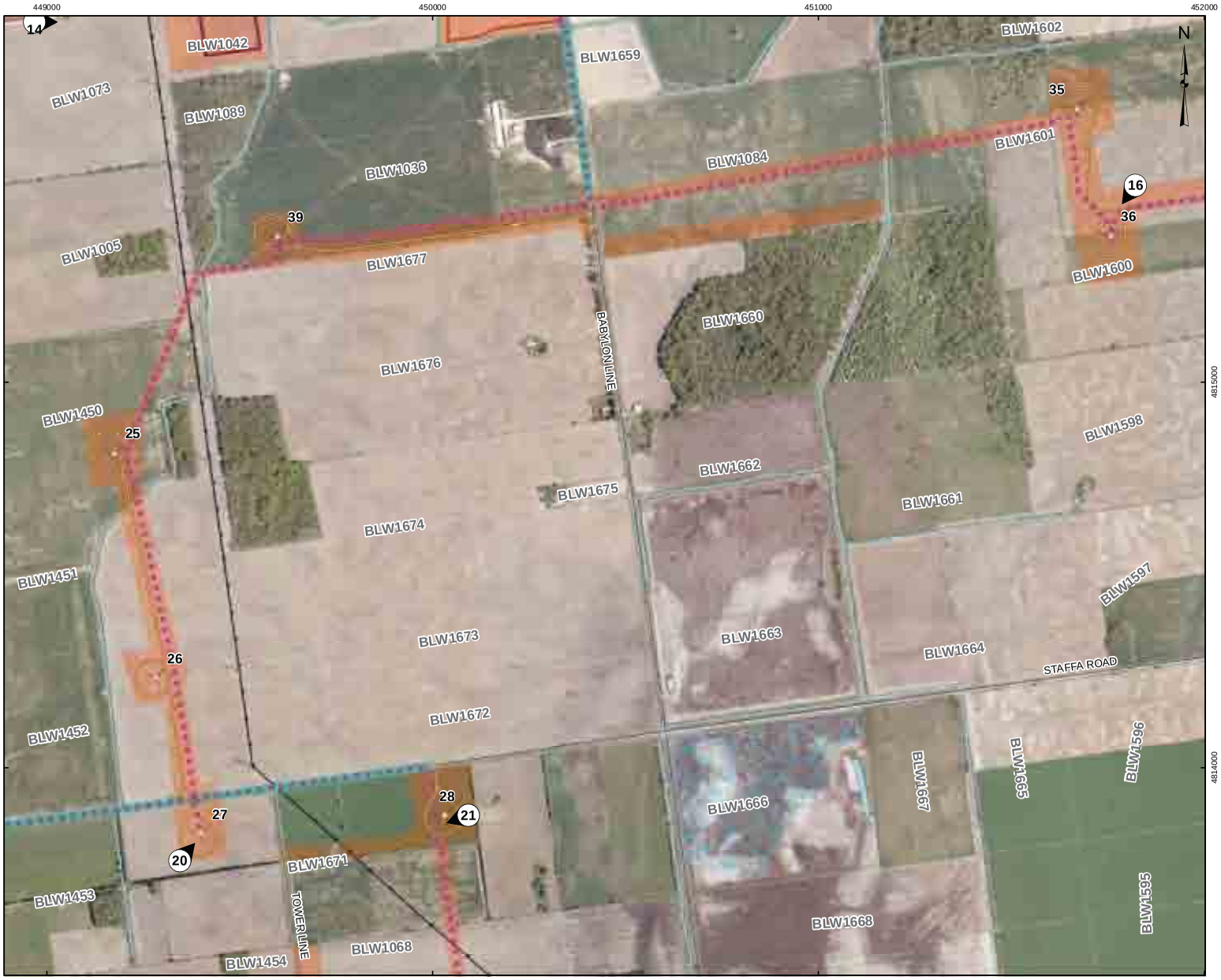

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- Turbine Layout
- Collector Cable
- Transmission Line
- Access Road
- Roads
- Railways
- Utility Line
- Watercourse
- Stage 2 Pedestrian Survey at 5m Intervals
- Stage 2 Test Pit Survey at 5m Intervals
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- Wet Area - Not Assessed
- Disturbed Area - Not Assessed
- Land Parcel
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- Substation
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LEGEND

- Photographic Direction
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- Transmission Line
- Access Road
- Roads
- Railways
- Utility Line
- Watercourse
- Stage 2 Pedestrian Survey at 5m Intervals
- Stage 2 Test Pit Survey at 5m Intervals
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- Wet Area - Not Assessed
- Disturbed Area - Not Assessed
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LEGEND

- Photographic Direction
- Turbine Layout
- Collector Cable
- Transmission Line
- Access Road
- Roads
- Railways
- Utility Line
- Watercourse
- Stage 2 Pedestrian Survey at 5m Intervals
- Stage 2 Test Pit Survey at 5m Intervals
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LEGEND

- Photographic Direction
- Turbine Layout
- Collector Cable
- Transmission Line
- Access Road
- Roads
- Railways
- Utility Line
- Watercourse
- Stage 2 Pedestrian Survey at 5m Intervals
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FIGURE: 8-10

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LEGEND

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- Turbine Layout
- Collector Cable
- Transmission Line
- Access Road
- Roads
- Railways
- Utility Line
- Watercourse
- Stage 2 Pedestrian Survey at 5m Intervals
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FIGURE: 8-11

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LEGEND

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- Transmission Line
- Access Road
- Roads
- Railways
- Utility Line
- Watercourse
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HURON COUNTY, ONTARIO

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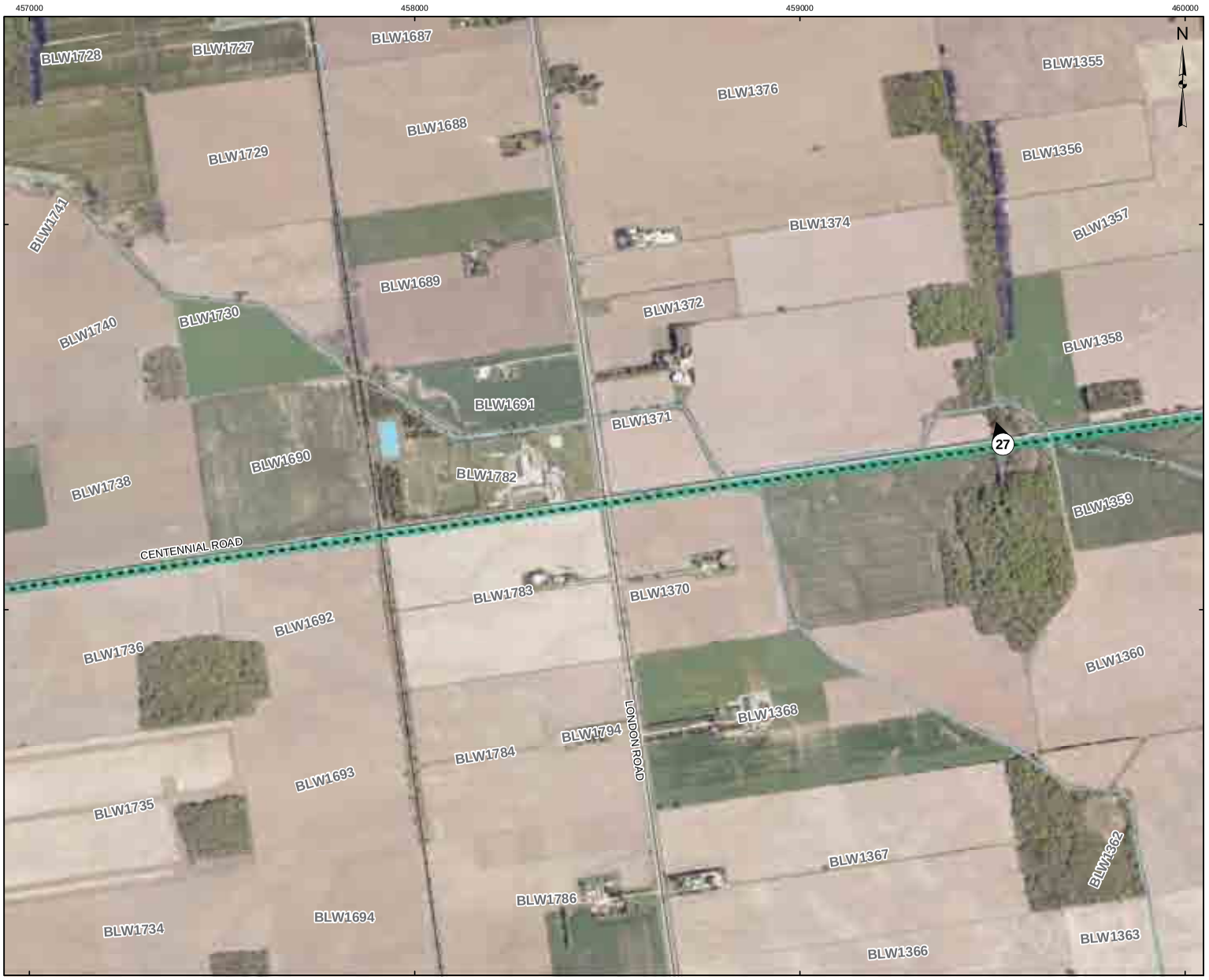

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- Turbine Layout
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- Transmission Line
- Access Road
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- Railways
- Utility Line
- Watercourse
- Stage 2 Pedestrian Survey at 5m Intervals
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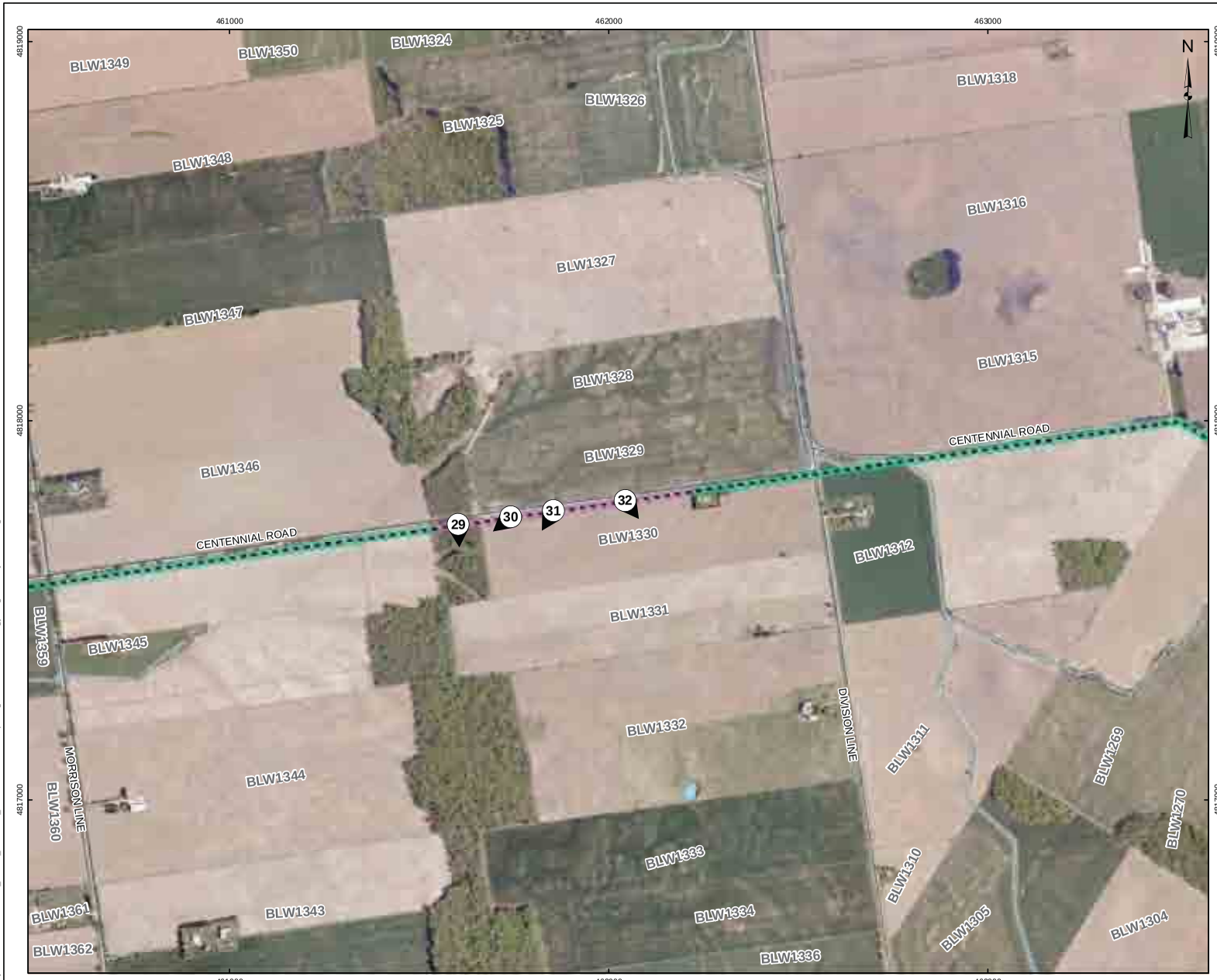

LEGEND

- Photographic Direction
- Turbine Layout
- Collector Cable
- Transmission Line
- Access Road
- Roads
- Railways
- Utility Line
- Watercourse
- Stage 2 Pedestrian Survey at 5m Intervals
- Stage 2 Test Pit Survey at 5m Intervals
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LEGEND

- Photographic Direction
- Turbine Layout
- Collector Cable
- Transmission Line
- Access Road
- Roads
- Railways
- Utility Line
- Watercourse
- Stage 2 Pedestrian Survey at 5m Intervals
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FIGURE: 8-15

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LEGEND

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- Turbine Layout
- Collector Cable
- Transmission Line
- Access Road
- Roads
- Railways
- Utility Line
- Watercourse
- Stage 2 Pedestrian Survey at 5m Intervals
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FIGURE: 8-16

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10.0 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 AECOM Canada Ltd. (the Client). 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.

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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, Culture and Sport's *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011).

Report Signature Page

GOLDER ASSOCIATES LTD.

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Project Archaeologist

James A. Wilson, M.A.
Principal, Senior Archaeologist

JM/JAW/gf

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APPENDIX A

Background on Historic Euro-Canadian Artifacts

The following appendix is intended to provide information on certain artifacts commonly found on historic Euro-Canadian archaeological sites. The list and descriptions are not meant to be an exhaustive reference. Rather, they provide general background information on the most commonly recovered ceramics, structural artifacts, and personal items. Further information on these and other artifact types found at historic Euro-Canadian archaeological sites can be found in the main text of this report or are cited in Section 7.0 (Bibliography and Sources).

Domestic Artifacts – Ceramics

Whiteware

Whiteware is a variety of earthenware with a near colorless glaze that replaced earlier near-white ceramics such as pearlware and creamware by the early 1830s. Early whiteware tends to have a porous paste, with more vitrified, harder, ceramics becoming increasingly common later in the 19th century (Kenyon 1985). Painted whiteware was popular from as early as 1830 through to the 1870s.

Stamped and sponge decorated whiteware ceramics were a form of inexpensive tableware in which a sponge was used to apply an underglaze pigment. All-over sponging became popular by the 1840s and remained common until the 1870s. Both stamped and spongewares were produced in hollowware form and were among the cheapest wares available. Although the technique was widely applied, it is considered Scottish. The principal overseas customer for these inexpensive cheerful wares was Canada, where it was distributed out of Quebec and other settlements along the St. Lawrence River (Cruikshank 1982:1-7; 52-53).

Transfer printed whiteware, which involved the transfer of an intricate pattern from a sheet of treated paper to the underglaze surface of the clay, became popular early in the 19th century. Before 1830, almost all transfer printed wares were blue. After 1830, however, colours such as light blue, black, brown, green, purple and red became more common. Flow transfer printed whiteware, in which the pigment flows into the glaze due to the introduction of volatile chlorides during firing, became popular in the 1840s and 1850s, with a later revival in the 1890s.

Dyed earthenware is refined white earthenware dyed with metallic oxides. The glaze for this ware is clear to allow the colour of the fabric to show through. The decoration of this ware is varied, including moulded relief, underglaze and overglaze painting, underglaze printing, lithograph, lustre and gilding. Common vessel forms include tablewares and pitchers. The ware was produced from 1878 to 1893 in Canada, and the late 19th century to present elsewhere.

Ironstone

This common nineteenth century utilitarian pottery is part of the general category of English "Stone China." It is referred to as "Undecorated White Granite Ware" or "Undecorated Ironstone" in the archaeological literature, after Mason's Patent Ironstone China (which was a specific brand of stone china patented in 1813). Ironstone, or graniteware, is a variety of refined white earthenware, introduced to Canada by the 1820s, widely available in the 1840s, and extremely popular in Upper Canada by the 1860s (Collard 1967; Kenyon 1985). It is usually much thicker than other whiteware. There is evidence that in the 1850s and early 1860s it was as expensive as transfer-printed earthenware, transfer printing being generally the most expensive decorative method used on

earthenware. However, by 1897, ironstone china was the cheapest dinnerware offered for sale in the T. Eaton Company's mail-order catalogue and the prices charged for moulded patterns, including Wheat, were the same as those charged for plain ironstone (Sussman 1985:9).

Chronologically, decorated Ironstone, including hand painted, transfer printed, sponged, and stamped, generally dates between 1805 and 1840 (Miller 1991). Undecorated Stone China with a vitreous paste is most common after 1840. Ironstone can also be decorated with raised moulded designs of wheat or fruit. The wheat design, also referred to as "Ceres", was the most popular ironstone pattern produced and has a production range of 1859 to present. Other popular mid-19th century decorative moulded motifs included leaves (e.g. oak, maple, grape, and ivy) and raised vines. Grape leaves and vines sheltered tiny, embossed bunches of grapes. Other fruits were used as well, including peaches, figs, plums, pears and berries. Flowers also decorated a lot of the mid-century ironstone. Lilies of the Valley, tulips, forget-me-not and hyacinths were used individually and also combined with other flowers in patterns such as "Meadow Bouquet" by W. Baker and Co. and "Summer Garden" by George Jones (Birks 2012).

Semi-Porcelain

During the first half of the 19th century, the English improved pottery techniques resulting in the production of durable and decorative wares with trade names such as semi-porcelain. This hard earthenware sought to emulate imported porcelains but lacked true translucency. In 1850, semi-porcelains were reintroduced and this vitreous, hard-glazed white earthenware, resembling bone china, soon dominated the marketplace (Hughes 1961).

Porcelain

Porcelain is a type of earthenware fired at such a high temperature that the clay has begun to vitrify; consequently the ceramic is translucent when held up to light. The Canadian pioneer generally preferred utilitarian earthenwares, but by mid-19th century, English potteries such as Copeland and Minton, were producing porcelains for the Canadian marketplace. Porcelain was not required as much as utilitarian ceramics, but it was always in steady demand (Collard 1967:163,175). By the turn of the century, porcelain became relatively common as production techniques had been developed in Europe which greatly reduced costs.

Utilitarian Earthenware

Red and yellow earthenware vessels were manufactured throughout the late 18th and 19th centuries and were the most common utilitarian ware in the first half of the 19th century, eventually replaced by more durable stoneware vessels. Stoneware vessels were also produced throughout the 19th century, becoming more durable and refined over time (Adams 1994:99).

North American stoneware, usually grey bodied with a clear salt glaze, and some with a characteristic interior with a dark brown, high-gloss surface called an Albany slip, characterize Canadian sites from 1840 to 1900. Exterior decoration, when present, generally consists of simple painted or stenciled designs in cobalt or manganese and in the early to mid-19th century, size numbers and makers marks were often stamped on the

vessels. Stoneware tended to be used for large vessels, such as harvest bottles, butter pots, creampans, storage crocks and pinched-neck pitchers (Noël Hume 1969). English stonewares are also present on Canadian historic sites and this typically includes Derbyshire stonewares, which possess a smooth, highly vitrified grey fabric with a light brown or buff interior and brown mottled exterior. Derbyshire stonewares are used most frequently for various types of bottles, preserve jars and jugs and have a date range of 1800 to post-1875.

Rockingham ware is similar to yellowware with a yellow or buff paste, but the addition of a second brown coloured manganese glaze results in the body of the ceramic having a mottled appearance. Rockingham wares were used as utilitarian vessels often in the form of crocks, jars, pitchers, and tea pots, and have a similar date range and popularity peak as yellowwares.

Domestic Artifacts – Glass

While the colour of bottle glass alone is very limited with regards to providing dates of manufacture for glass bottles (Lindsey 2012), glass colour can sometimes indicate at least a temporal range and the following is a list of date ranges for some typical coloured glass found on Canadian archaeological sites.

Colourless, or “clear” glass was relatively uncommon prior to the 1870s but became quite common after the wide spread use of automatic bottle machines in the mid-to-late 1910s (Toulouse 1969; Kendrick 1971; Fike 1987). Colorless glass is usually attained by using the purest sand source possible and by adding "decolorizing agents" to the glass batch to offset the residual iron impurities. The use of manganese, or "glassmakers soap", would neutralize the effects of other impurities in the sand, particularly iron and render the glass colourless and clear (Hunter 1950). But manganese oxide turns amethyst over time due to a chemical reaction caused by sun exposure. This glass, referred to as sun coloured amethyst glass, generally dates from the 1880s to 1920.

Colourless glass was also de-colorized with selenium or arsenic (or typically a combination of the two in conjunction with cobalt oxide) and results in a very faint "straw" or amber tint in the thickest portions of the glass (Scholes 1952; Tooley 1953; Lockhart 2011). This colourless "color" can be very diagnostic of a machine-made bottle from between 1900 and 1915, but typically no later than the 1950s (Girade 1989; Lockhart 2011).

Generally, aqua coloured glass fragments originate from medical and pharmaceutical products including patent medicine bottles of the 19th and 20th century (Kendrick 1971). “Black” glass dates from the early-to-mid 19th century. The addition of iron when making glass was a common practice up until 1860 and produced dark olive or dark amber glass that became known as “black glass” (Kendrick 1971).

Opaque white, or “milk” glass was most commonly used for cosmetic containers, toiletry bottles, or cream jars from about 1870 through to the 20th century (Lindsey 2012). It was typically produced by the addition of tin or zinc oxide, calcium and phosphate rich animal horns, bones, fluorides (i.e. fluorspar), and phosphates (Kendrick 1971).

Pressed glass dishes and dishwares can also be temporally diagnostic. Non-leaded pressed glass in a variety of patterns is common on Canadian sites post-1860 (Jones and Sullivan 1989:35).

Structural Artifacts

Nails

Nails can be temporally diagnostic, depending on whether they are wrought, cut, or wire drawn (Adams *et al.* 1994:92). Wrought nails were handmade and are identifiable by their irregular heads, hammered body texture, with all four sides coming to a taper. Wrought nails were the most commonly used nail in Upper Canada until about 1830 when machine cut nails started to become more popular. Cut nails date to the mid-to-late 19th century. Cut nails were machine cut and have a flat head. They were invented as early as 1790, but did not become common in Ontario until 1830. They were replaced by wire drawn nails in the 1890s. Wire drawn nails are identical to the type of nails in current use today, with a flat, round head and a wire shaft.

Window Glass

There were two common methods of making window or "flat" glass before industrial improvements developed in the late 19th and early 20th centuries. The crown glass method involved spinning out molten glass into circular sheets, which were then cut into panes. In the broad glass method large tubes or cylinders were blown, cut down one side, and then opened flat to form a large sheet. On small sherds, it is impossible to differentiate these two manufacturing methods.

A very visible change in window glass, however, took place in the 1840s. This was due, in part, to an English tax on window glass based on weight. Before the tax was lifted in 1845, manufacturers made window glass as thin as possible (usually by the crown method) to minimize the effects of this tax. As a result, most window glass made before the mid-1840s tends to be less than 1.6 mm thick, while window glass made after this date is thicker. While this is not true for every sherd, a sample of window glass dating to the first half of the 19th century should have and average thickness of 1.1 to 1.4 mm compared to about 1.7 to 2.0 mm from the last half (Adams 1994:92,93; Kenyon 1980).

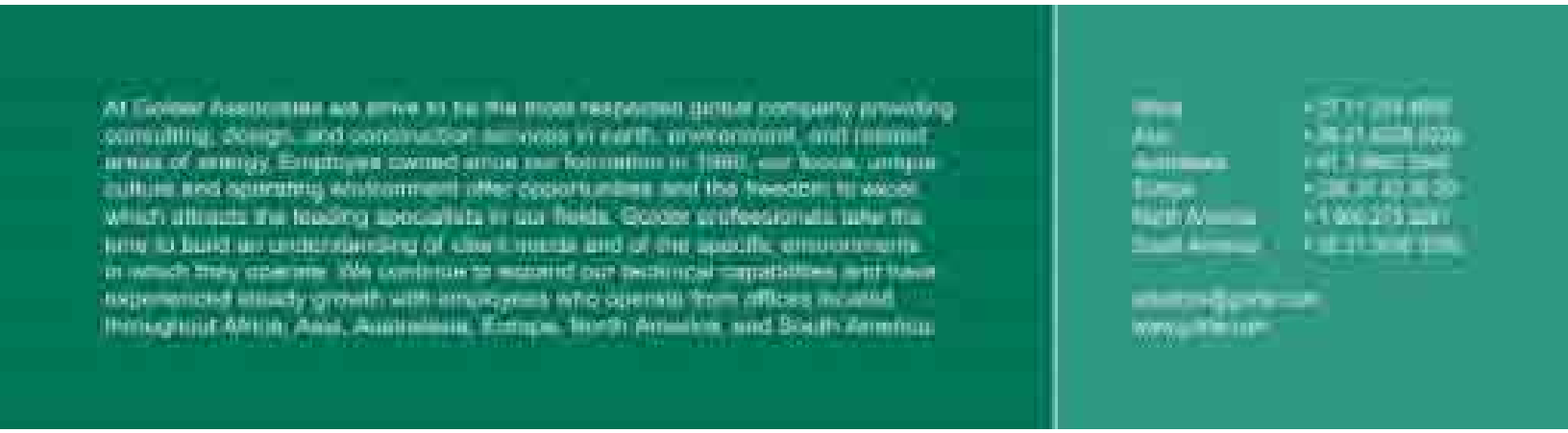
Personal Artifacts

Clay Tobacco Pipes

White clay pipes were very popular throughout the 19th century, with a decline in use by 1880 when they were replaced by briar pipes and cigarettes (Adams 1994:93). Most white clay pipes found in Upper Canada were manufactured in either Quebec or Scotland; occasionally examples from English, Dutch, French and American makers are also found. The maker's name may be impressed with the city of manufacture on the opposite side, although this did not become common practice until the 1840s.

Buttons

Agate buttons are made from pressed ceramic powder manufactured by the "Prosser" process patented in 1840. They became common from the late 1840s onwards. Agate buttons, which are often confused with white glass buttons, are distinguishable due to the dimpled appearance of the back of the button which is a result of the moulding process (Adams 1994:96).



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