

# RE SMITHS FALLS 6 SOLAR PROJECT

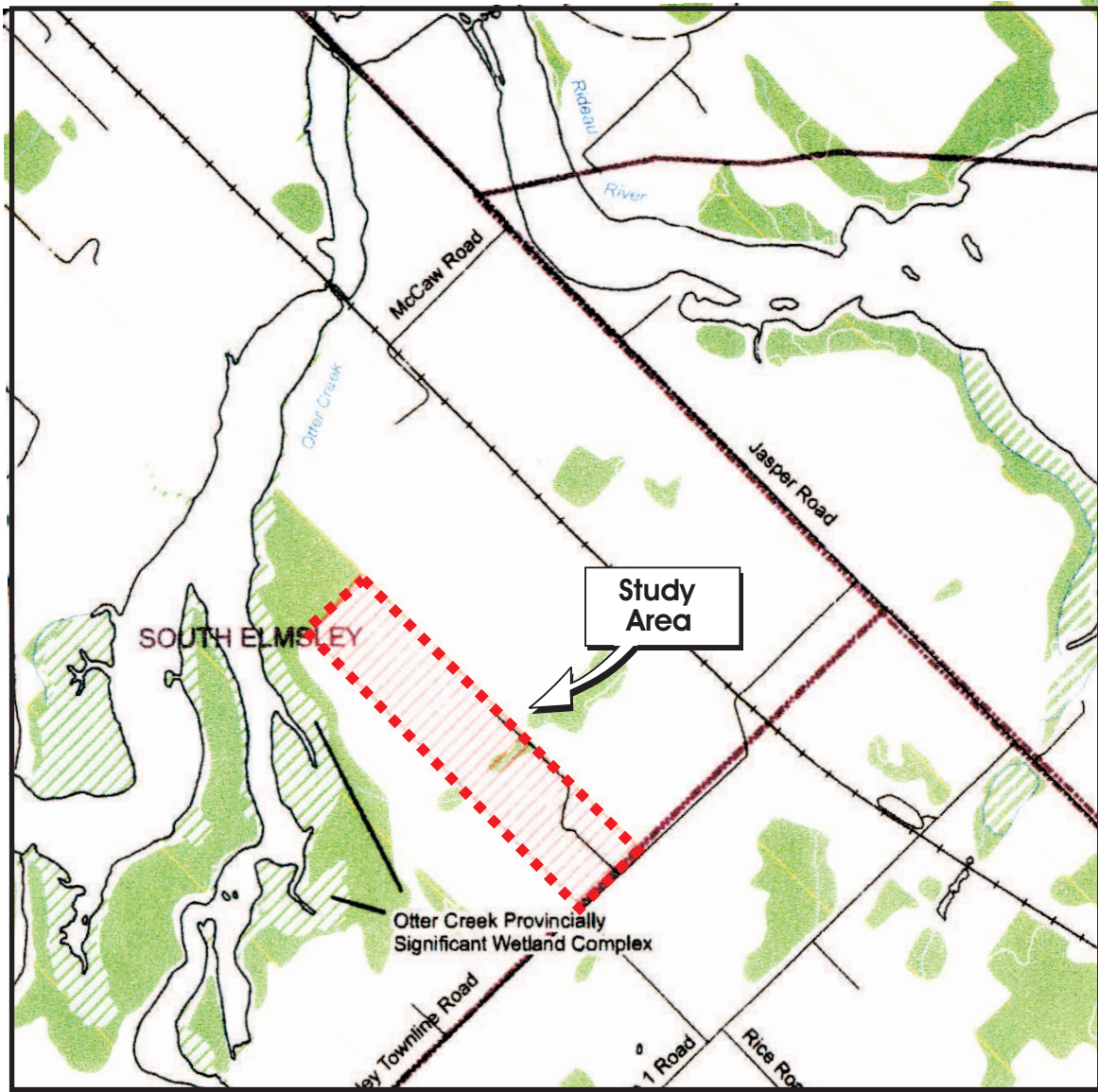
Stage 1 and 2 Archaeological Assessment Report

September 14, 2010

RECURRENT  
ENERGY



**Archaeological Assessment (Stages 1 & 2), RE Smiths  
Falls 6, Part Lot 3, Con. 1, Township of Rideau Lakes,  
United Counties of Leeds and Grenville, Ontario**



Mayer  
Heritage  
Consultants Inc.

*Cultural Heritage Assessments and Archaeological Mitigative Excavations*

**Archaeological Assessment (Stages 1 & 2), Re: Smiths Falls 6  
ULC, Part Lot 3, Con. 1, Township of Rideau Lakes, United  
Counties of Leeds and Grenville, Ontario**

submitted to

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- ***Kathleen Vukovics***, Hatch
- ***Bob Leah***, Recurrent Energy
- ***Robert von Bitter***, Archaeological Data Co-ordinator, Ontario Ministry of Tourism and Culture

# Archaeological Assessment (Stages 1 & 2), Re: Smiths Falls 6, Part Lot 3, Con. 1, Twp. of Rideau Lakes, United Counties of Leeds & Grenville, Ontario

## Introduction

Among other matters, the *Renewable Energy Approval process of the Green Energy Act, 2009*, establishes that the protection of features of archaeological interest is a matter of provincial concern. As such, an archaeological resource assessment (Stage 1 background research and Stage 2 general survey) was conducted as a standard condition of approval for FIT-FUL9X6J, a proposed solar energy site. The property is identified as Part Lot 3, Concession 1, Township of Rideau Lakes, UCLG, Ontario (Figure 1).

This assessment was conducted in order to determine if any direct and/or indirect impacts would occur by proposed construction activities on archaeological resources that might be present. Archaeological resources consist of artifacts (Aboriginal stone tools, pottery and subsistence remains as well as Euro-Canadian objects), subsurface settlement patterns and cultural features (post moulds, trash pits, privies, and wells), and sites (temporary camps and special purpose activity areas, plus more permanent settlements such as villages, homesteads, grist mills and industrial structures).

## Stage 1 Background Research

Stage 1 background research was conducted in order to complete the following tasks:

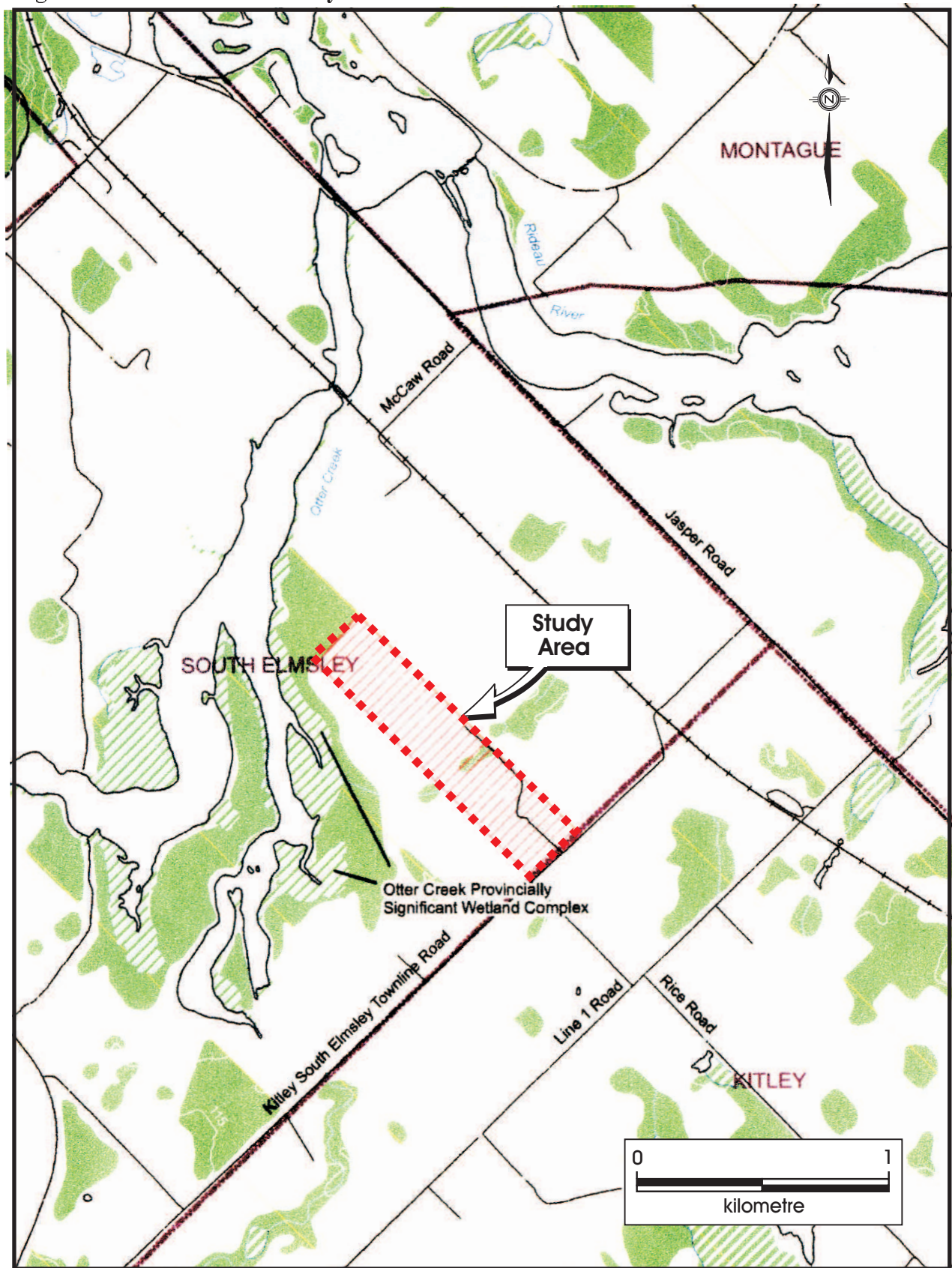
- amass all of the readily available information on any previous archaeological surveys in the area;
- determine the locations of any registered and unregistered sites; and
- develop an historical framework for assigning levels of potential significance to any new sites discovered during fieldwork.

The framework for assigning levels of potential archaeological significance is drawn from provincial guidelines (Weiler 1980). The necessary information includes the identification and evaluation of any feature that has one or more of the following attributes:

- *it has the potential through archaeological exploration, survey or fieldwork to provide answers to substantive questions (i.e. relate to particular times and places) about events and processes that occurred in the past and therefore add to our knowledge and appreciation of history;*
- *it has the potential through archaeological exploration, survey and fieldwork to contribute to testing the validity of general anthropological principles, cultural change and ecological adaptation, and therefore to the understanding and appreciation of our man-made heritage; or*
- *it is probable that various technical, methodological, and theoretical advances are likely to occur during archaeological investigation of a feature, alone or in association with other features, and therefore contribute to the development of better scientific means of understanding and appreciating our man-made heritage (Weiler 1980:8);*



Figure 1: Location of the Study Area.



## **Natural Environment**

The study area is within the Smiths Falls Limestone Plain physiographic region (Chapman and Putnam 1984). This area contains a wide variety of surface soil types, from clays and light loams to sand and even gravel. A large portion of this area is covered with peat and muck deposits and marsh. Drainage is often impeded. The study area is noted to be Farmington Loam with a gently sloping, rock free topography. The study area is adjacent to Otter Creek.

## **Potential for Archaeological Resources**

Archaeological potential is defined as the likelihood of finding archaeological sites within a study area. For planning purposes, determining archaeological potential provides a preliminary indication that significant sites might be found within the study area, and consequently, that it may be necessary to allocate time and resources for archaeological survey and mitigation. In predicting the locations of archaeological sites, the *Primer on Archaeology, Land Use Planning and Development in Ontario* (Ministry of Tourism and Culture 1997:12-13) states that undisturbed lands, or those with minimal disturbance, such as cultivated fields, within 300 metres of a primary water source or 200 metres of a secondary or tertiary water source are considered to have archaeological potential. Other criteria can include location on elevated ground or near distinctive or unusual landforms, and the presence of well-drained sandy soils.

Based upon a published synthesis of Aboriginal cultural occupations (Wright 1968), Table 1 is a general outline of the cultural history of southwestern Ontario that is applicable to the study area. Ellis and Ferris (1990) provide greater detail of the distinctive characteristics of each time period and cultural group. The Ministry of Tourism and Culture archaeological database coordinator (von Bitter 2010) indicated that there are no previously registered archaeological sites in the current study area or within 2,000 metres.

**Table 1: General Cultural Chronology for Eastern Ontario.**

<b>PERIOD</b>	<b>GROUP</b>	<b>TIME RANGE</b>	<b>COMMENTS</b>
Early Paleo-Indian	Fluted Projectiles	9500 - 8500 B.C.	big game hunters
Late Paleo-Indian	Hi-Lo Projectiles	8500 - 7500 B.C.	small nomadic groups
Early Archaic	---	7800 - 6000 B.C.	nomadic hunters and gatherers
Middle Archaic	Laurentian	6000 - 2000 B.C.	territorial settlements
Late Archaic	Lamoka	2500 - 1700 B.C.	polished ground stone tools
"	Broadpoint	1800 - 1400 B.C.	---
"	Crawford Knoll	1500 - 500 B.C.	---
"	Glacial Kame	circa 1000 B.C.	burial ceremonialism
Early Woodland	Meadowood	1000 - 400 B.C.	introduction of pottery
"	Red Ochre	1000 - 500 B.C.	---
Middle Woodland	Point Peninsula	300B.C. to 700 A.D.	long distance trade networks
"	Sandbanks	A.D. 600 - 900	incipient agriculture
Late Woodland	Pickering	A.D. 800 - 1300	transition to village life
"	Uren	A.D. 1300 - 1350	large villages with palisades
"	Middleport	A.D. 1300 - 1400	wide distribution of ceramic styles
"	Huron/St. Lawrence Iroquios	A.D. 1400 - 1650	tribal warfare
Early Contact	Mississauga plus others	A.D. 1700 - 1875	tribal displacement
Late Contact	Euro-Canadian	A.D. 1800 - present	European settlement



**Figure 2: Study Area, Bedrock on Surface Facing North**

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**Figure 3: Crew at Work in North Field facing South**







Over their thousands of years of occupation in the general region, Aboriginal people, have left behind, to a greater or lesser degree, physical evidence of their lifeway activities and settlements at many locations. The earliest possible human occupation was during the Paleo-Indian period (*circa* 9000 to 7000 B.C.) wherein small groups of nomadic peoples hunted big game along the shorelines of glacial lakes. These people were few in number and their small, temporary campsites are relatively rare.

People during the Archaic period (*circa* 7000 to 1000 B.C.) were still primarily nomadic hunters but also established territorial settlements, gathered seasonally available resources, and introduced burial ceremonialism. Late Archaic period sites are more numerous and can be quite large due to repeated annual visits.

Sites of the Woodland period (*circa* 1000 B.C. to A.D. 1650) are usually the most numerous because the population levels in southwestern Ontario had significantly increased. The manufacture of ceramic pottery vessels for storage and cooking was introduced along with the establishment of long distance trading networks, horticulture, warfare and large palisaded villages.

Sites of the Contact period (*circa* A.D. 1650 to 1900) include Aboriginal and Euro-Canadian residences and industries. Mika Publishing's *Historical Atlas of the Counties of Leeds and Grenville* indicates that in 1861 "H. Flook" owned the property, and that there was a structure on the lot within the current study area. This structure is situated in the approximate location of an existing house on the property. This house has an architectural style typical of the mid-nineteenth century. The absence of other structures on this map, however, does not necessarily mean that one or more structures were not present at that time, earlier or later.

Based upon the soil and topography suitable for human habitation, the proximity to water and the historic significance of the geographic region, the study area exhibits moderate to high potential for the discovery of pre-contact Aboriginal and Euro-Canadian archaeological resources.

## Stage 2 General Survey

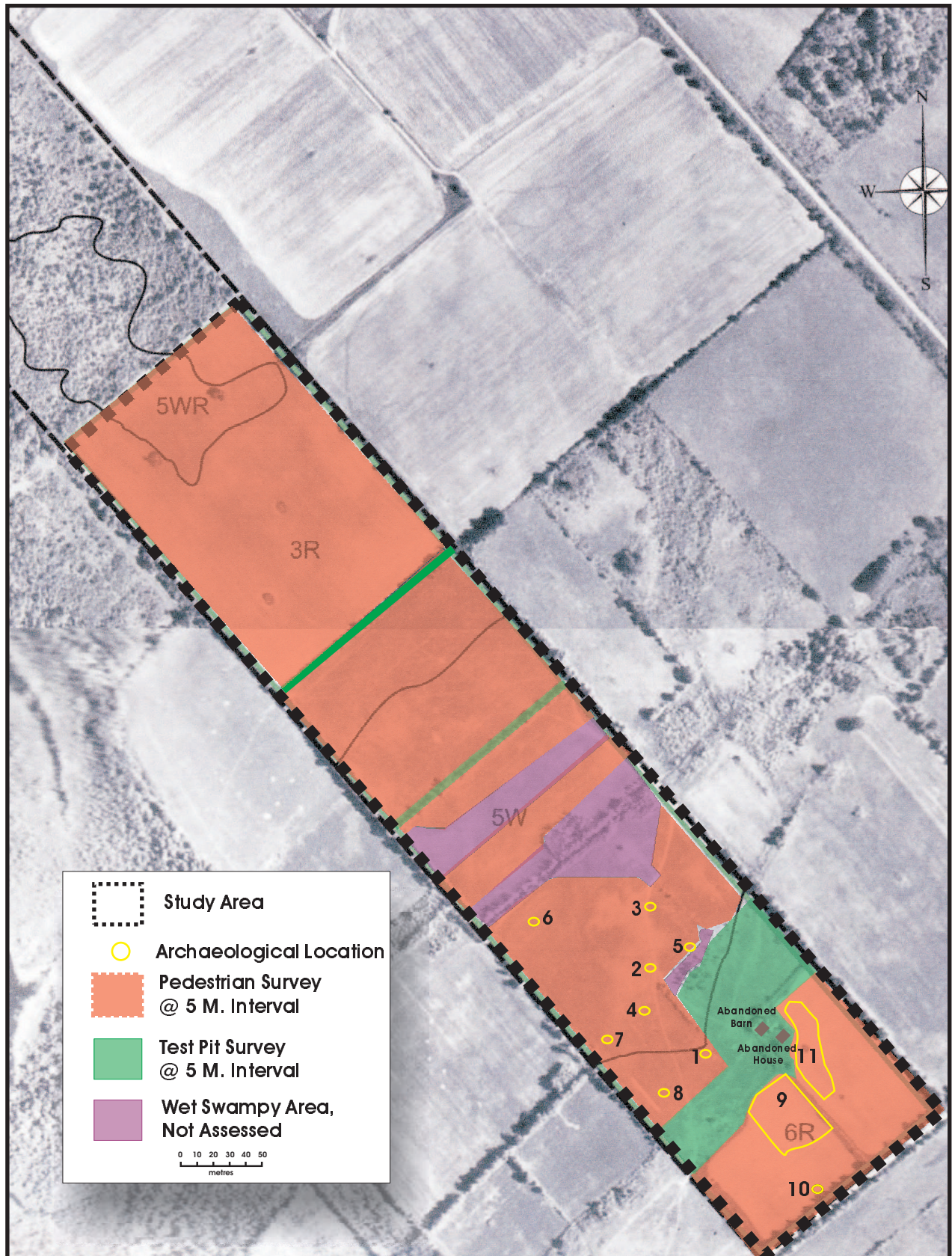
The Stage 2 general survey employed the both the shovel test pit method and the pedestrian survey method at a five-metre interval. Appropriate photographic documentation was taken during the survey. Permission was received to enter on the property and to remove artifacts as necessary. This survey was conducted on May 30 and 31 and Completed on June 1, 2010. Weather conditions were sunny with a high of 30 degrees Celsius. There were no conditions detrimental to the recovery of artifacts.

Most of the 27 hectare study area is ploughed agricultural field, however, a portion of the property is wooded, while another area is wet and swampy. The hedgerow areas and the approximate 4 hectare wooded area were tested using the standard shovel test pit method. Each test pit was 30 centimetres in diameter and was dug to subsoil, which was approximately 20 to 25 centimetres below the surface. All soil was screened through 6 millimetre mesh to maximize the potential for artifact recovery and all test pits were backfilled upon completion. No artifacts were recovered during the test pit portion of the survey. The wet area was not assessed (Figure 5)

The remainder of the study area was assessed using the standard pedestrian transect method at a five-metre interval. The field had been ploughed the previous week and was well weathered with excellent visibility. Any artifacts recovered triggered an intensified survey at a one-metre interval in the immediate surrounding area.



Figure 5: Site Map Showing Stage 2 Results





**Figure 6: View of Location 9, Facing Northwest**

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**Figure 7: Swampy Area in Centre of Study Area**



## **Results**

Eleven locations were recorded during the survey. All but one of these locations contain Euro-Canadian artifacts, the remaining location is Aboriginal. Because all of the Euro-Canadian sites are situated in the area surrounding the 1860's house and barn still existing on the property, it is likely that they are associated with these structures. The house is likely the one depicted on the 1861 historic map, and was still in use as a family home until within the last decade.

Each of the site locations was mapped and its position was recorded using a Global Positioning System, when possible (poor reception was encountered at times) (Garmin Etrex) with an accuracy of better than 15 metres. Each GPS co-ordinate represents the approximate centre of the location scatter. Figure 5 shows the locations of each site within the study area. All artifacts encountered during the Stage 2 survey were recorded during the assessment and those artifacts that were collected are presented in a catalogue in Appendix A. Generally, for larger sites, temporally diagnostic artifacts were collected, along with a random sample of remaining artifacts.

### **Location 1 (N44°51.279' W75°59.048')**

Location 1 consists of one piece of white earthenware. Additional assessment or mitigative measures are not warranted for this site because it exhibits low information potential by provincial standards and precedents.

### **Location 2 (N44°51.343' W75°59.090')**

Location 2 consists of ten finds of late period (i.e. post-1870's) artifacts in a 100 sq. metre area. Artifacts include three pieces of very thick window pane (approximately 5 millimetres thick, indicating it is fairly recent), a piece of brown bottle glass, a piece of aqua bottle glass, and a metal plough tooth. Ceramics recovered from the site include a piece of red earthenware, which is not temporally sensitive, and three pieces of plain ironstone. Ironstone was most commonly produced in the late 1800's and is typical of an archaeological assemblage dating to between 1875 and 1900. A random sample of artifacts was collected from the site and are presented in Appendix A and the remainder of the artifacts were left *in situ*. Because the temporally diagnostic artifacts at the site indicate that it dates to after 1875, this is not considered an archaeologically significant site. Additional assessment or mitigative measures are not warranted for this site because it exhibits low information potential by provincial standards and precedents.

### **Location 3 (N44°51.357 W75°59.042')**

Location 3 consists of a scatter of nearly 30 late period (i.e. post-1870's) artifacts in a 200 sq. metre area. Artifacts included thick, recent window pane glass, ironstone, and a large amount of bottle glass. The bottle glass is in a variety of colours, including brown, olive, aqua, and clear glass. A piece of each colour of glass was collected although more were left *in situ*. A single piece of a clear moulded glass dish was also observed. The remainder of the assemblage is made up of ironstone fragments. Ironstone was most commonly produced in the late 1800's and is typical of an archaeological assemblage dating to between 1875 and 1900. Six pieces were collected, although more were left *in situ*. Additional assessment or mitigative measures are not warranted for this site because it exhibits low information potential by provincial standards and precedents.



**Location 4 (N44°51.343` W75°59.125`)**

Location 4 consists of one piece of window glass. Additional assessment or mitigative measures are not warranted for this site because it exhibits low information potential by provincial standards and precedents.

**Location 5 (N44°51.357` W75°59.042`)**

Location 5 consists of one piece of brown transfer printed white earthenware. Additional assessment or mitigative measures are not warranted for this site because it exhibits low information potential by provincial standards and precedents.

**Location 6 (no GPS, poor reception)**

Location 6 consists of one piece of whiteware and one piece of ironstone located four metres apart. The centre of the site is situated 18 metres to the south of the man-made drainage channel and 25 metres to the east of the fence line marking the west property edge. Survey tape was left on the fence line to help relocate the site, if necessary. Additional assessment or mitigative measures are not warranted for this site because it exhibits low information potential by provincial standards and precedents.

**Location 7 (no GPS, poor reception)**

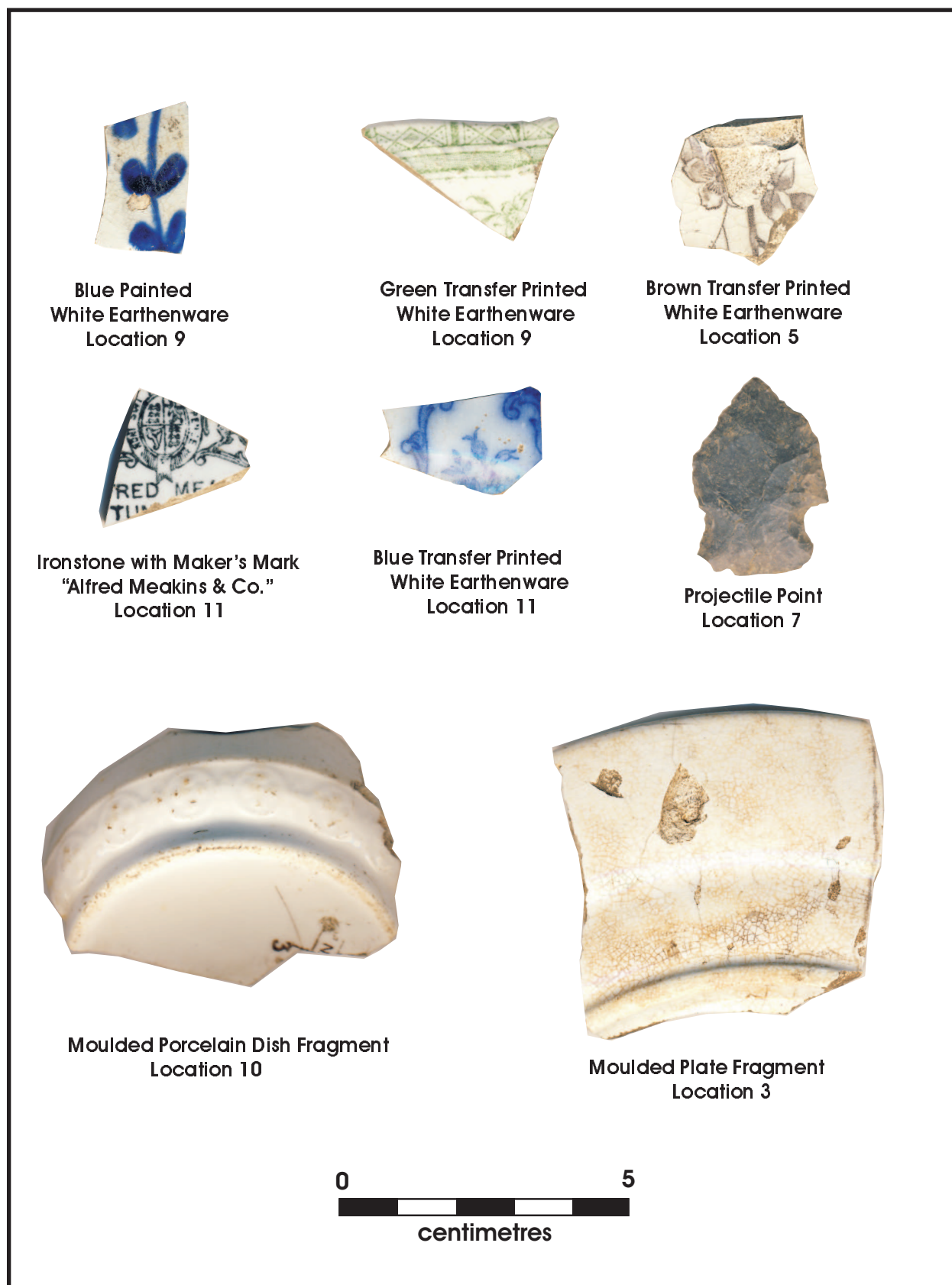
Location 7 consists of one reworked projectile point, manufactured on Onondaga chert. The site is situated 62 metres to the north of a fence-line separating the ploughed field from the house lawn and 12 metres to the east of the fence line marking the west property edge. Survey tape was left on both fence lines to help relocate the site, if necessary. Additional assessment or mitigative measures are not warranted for this site because it exhibits low information potential by provincial standards and precedents.

**Location 8 (no GPS, poor reception)**

Location 8 consists of two pieces of white earthenware that appear to be from a single dish. The centre of the site is situated 13 metres to the north of a fence-line separating the ploughed field from the house lawn and 16 metres to the east of the fence line marking the west property edge. Flagging was left on both fence lines to help relocate the site, if necessary. Additional assessment or mitigative measures are not warranted for this site because it exhibits low information potential by provincial standards and precedents.

**Location 9 (N44°51.281` W75°58.886`)**

Location 9 consists of an mid-nineteenth century scatter containing blue, blue flow, brown, black, green and red transfer printed white earthenware and blue painted whiteware. The wide variety of colours used in transfer printing and the presence of blue flow transfer printing are typical of a ceramic assemblage dating to between 1830 and 1875, when these items were commonly produced. Bottle glass and thin (i.e. less than 1.6 millimetres) and a wire nail were also observed. Kenyon (1980) has observed that through time there is a trend toward thicker glass and that pane glass that is thinner than 1.6 millimetres generally indicates a pre-1850 date. Wire nails first appear *circa* 1860, and become increasingly common later in the century. Porcelain, generally not common until the twentieth century, is also observed on the site. The site consists of a main scatter located close to an existing house, and several associated isolated finds that extend over most of the field in the southwest corner of the study area. Based on the temporally diagnosis artifacts, the site likely dates to the mid-nineteenth century. This location may represent a significant archaeological resource and further investigations are recommended to determine the nature and extent of this site.



**Location 10 (N44°51.249` W75°58.888`)**

Location 10 consists of one piece of a moulded porcelain dish. It has a printed maker's mark that reads "No. 3." Additional assessment or mitigative measures are not warranted for this site because it exhibits low information potential by provincial standards and precedents.

**Location 11 (N44°51.291` W75°58.953`)**

Location 11 consists of two loci of containing over 50 artifacts. The first locus is situated to the northeast of Location 9 and the second locus is located to the north of locus 1, near an abandoned house. A diffuse scatter of artifacts connects the two loci. Artifacts recovered from the site include brown, blue and flow blue transfer printed white earthenware and ironstone. The wide variety of colours used in transfer printing and the presence of blue flow transfer printing are typical of a ceramic assemblage dating to between 1830 and 1875, when these items were commonly produced. The presence of ironstone indicates that the occupation of this site continued to between 1875 and 1900, when ironstone was predominant in ceramic assemblages.

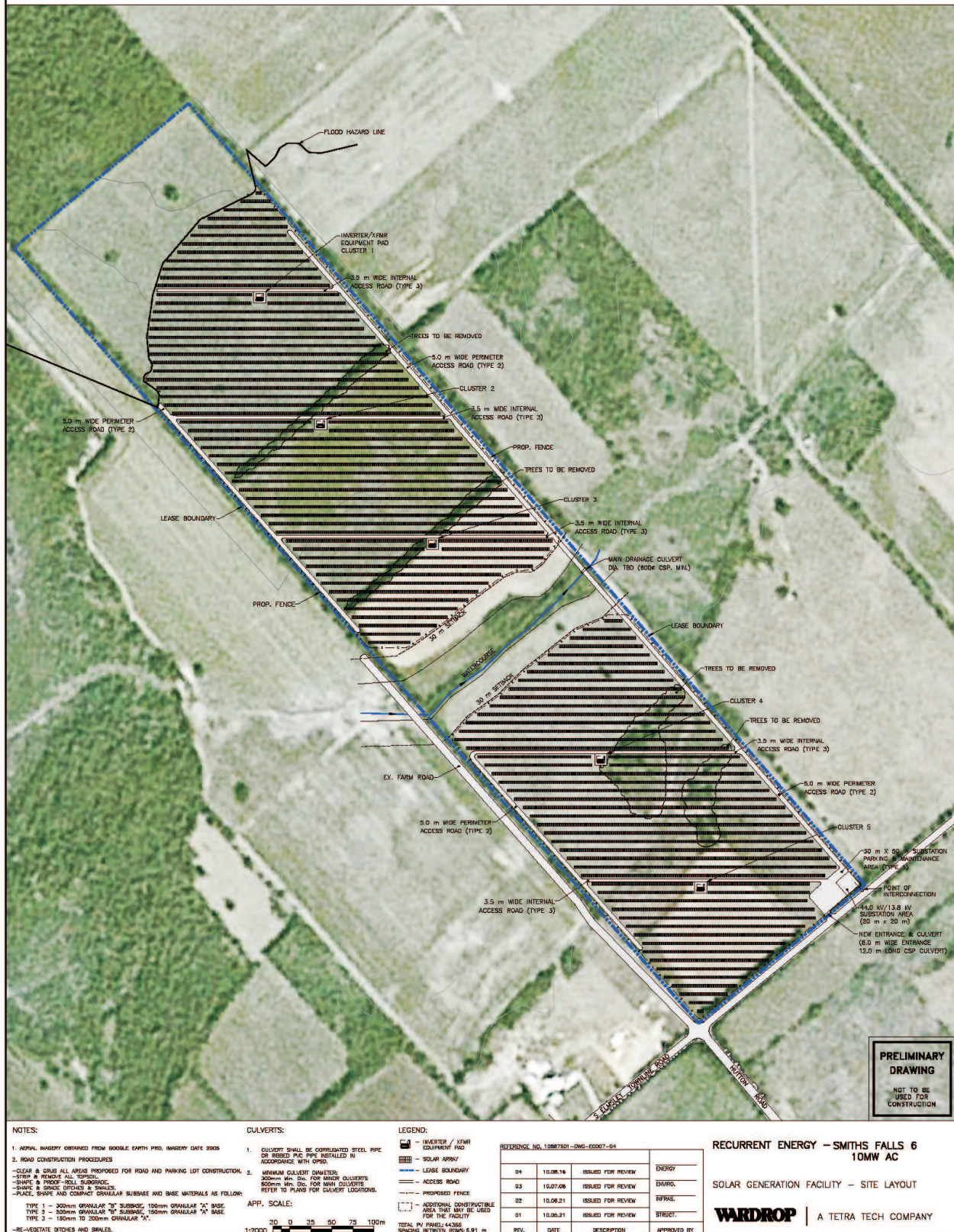
One of the ironstone fragments bears an identifiable printed maker's mark. This mark indicates that it was manufactured by "Alfred Meakin". The design indicates that it was manufactured after 1897 (Godden 1964). Bottle glass was also recovered from the site. No architectural materials were observed on the site. The artifacts from this site indicate that it was occupied during the mid- to late-nineteenth century. This location may represent significant archaeological resource and further investigations are recommended to determine the nature and extent of this site. Locations 9 and 10 may also be part of this site.





Figure 9: Solar Generation Facility, Site Layout

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## RECOMMENDATIONS

The following recommendations are provided for consideration by Hatch and by the Ministry of Tourism and Culture:

1. Additional assessment or mitigative measures are only warranted for Locations 9 and 11 because they represent potentially significant Euro-Canadian homestead sites. This fieldwork will involve a Stage 3 investigation consisting of a controlled surface collection of artifacts and the hand-excavation of one-metre square units at an approximate 5-metre interval across the site.
2. Additional assessment or mitigative measures are not warranted for Locations 1- 8 and 10 because they exhibit low information potential by provincial standards and precedents. The Ministry of Tourism and Culture is requested to issue a letter concurring with this recommendation.
3. The above recommendation is subject to concurrence by the Ministry of Tourism and Culture. It is an offence to destroy or alter an archaeological site without approval from the Ministry of Tourism and Culture. No landscaping, grading or other activities that may result in the destruction or disturbance of any of the archaeological sites documented in this report is permitted prior to the Ministry of Tourism and Culture's approval.
4. Although every reasonable effort was made to locate all archaeological resources, it is possible that some remain to be discovered within the study area. Should deeply buried archaeological material be found during construction, the Ministry of Tourism and Culture (416-314-7148) and Mayer Heritage Consultants Inc. in London (519-652-1818 or 800-465-9990) should be immediately notified.
5. As on virtually any property in southern Ontario, it is possible that Aboriginal or Euro-Canadian burials could be present within the study area. In the event that human remains are encountered during construction, the proponent should immediately contact both the Ministry of Tourism and Culture, and the Cemeteries Regulation Unit of the Ontario Ministry of Consumer and Commercial Relations in Toronto (416-326-8392), as well as the appropriate municipal police, the local coroner, and Mayer Heritage Consultants Inc.
6. The licensee shall keep in safekeeping all artifacts and records of archaeological fieldwork carried out under this licence, except where those artifacts and records are transferred to by the licensee to Her Majesty the Queen in right of Ontario or the licensee is directed to deposit them in a public institution in accordance with subsection 66(1) of the Act.

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## **Appendix A: Artifact Catalogue**

CAT. #	LOC.	DESCRIPTION	FREQ	COMMENTS
1000	6-1	white earthenware	1	
1001	6-2	red earthenware	1	white slip
1002	6-2	glass, bottle	1	aqua
1003	6-2	miscellaneous metal	1	plough tooth
1004	6-3	ironstone	5	
1005	6-3	ironstone	1	moulded plate
1006	6-3	glass, bottle	1	brown
1007	6-3	glass, bottle	1	olive
1008	6-3	glass, bottle	1	clear
1009	6-3	glass, bottle	2	aqua
1010	6-3	glass, dish	1	moulded, clear
1011	6-3	glass, window	3	thick, recent
1012	6-4	glass, window	1	
1013	6-5	white earthenware, transfer printed	1	brown
1014	6-6	ironstone	1	
1015	6-6	white earthenware	1	
1016	6-7	projectile point	1	reworked
1017	6-8	white earthenware	2	same dish
1018	6-9	porcelain	1	child's tea cup
1019	6-9	white earthenware, transfer printed	1	red
1020	6-9	white earthenware, transfer printed	1	brown
1021	6-9	white earthenware, transfer printed	1	black
1022	6-9	white earthenware, transfer printed	1	green, plate
1023	6-9	white earthenware, flow transfer printed	1	blue
1024	6-9	white earthenware, painted	1	blue
1025	6-9	glass, window	1	thin
1026	6-9	glass, bottle	1	brown, neck
1027	6-9	nail, wire	1	
1028	6-9	miscellaneous- porcelain tile	1	recent?
1029	6-10	porcelain	1	moulded dish, "No.3"
1030	6-11	red earthenware	1	yellow slip
1031	6-11	stoneware, salt-glazed	1	
1032	6-11	ironstone	1	moulded plate, wheat pattern
1033	6-11	ironstone	1	moulded plate, bow pattern
1034	6-11	white earthenware, transfer printed	1	brown
1035	6-11	white earthenware, transfer printed	1	blue
1036	6-11	white earthenware, flow transfer printed	1	blue
1037	6-11	white earthenware, edged	1	blue
1038	6-11	white earthenware	1	
1039	6-11	ironstone	1	British Royal Coat of Arms maker's mark
1040	6-11	ironstone	1	"...erial" maker's mark
1041	6-11	ironstone	1	"Alfred Meakin" maker's mark 1897+
1042	6-11	glass, bottle	1	aqua
1043	6-11	glass, bottle	1	clear, moulded

