

# APPENDIX F:

## Archaeological Assessment Addendum

**Sol-luce Kingston Solar PV  
Energy Project  
Additional Stage 2  
Archaeological Assessment**

Various Lots, Concessions 5 and 6  
Western Addition, Geographic  
Township of Kingston, now City of  
Kingston, Frontenac County;  
Various Lots, Concession 4,  
Geographic Township of  
Ernestown, now Loyalist  
Township, Lennox and Addington  
County, Ontario



Prepared for:  
A. Jose De Armas  
Manager, Project Development  
Kingston Solar LP  
55 Standish Court, 9th Floor  
Mississauga, ON L5R 4B2

Prepared by:  
Stantec Consulting Ltd.  
200-835 Paramount Drive  
Stoney Creek, ON L8J 0B4  
Licensee: Walter McCall (P389)  
PIF Number: P389-0016-2013

**ORIGINAL REPORT**

October 23, 2013

**SOL-LUCE KINGSTON SOLAR PV ENERGY PROJECT  
ADDITIONAL STAGE 2 ARCHAEOLOGICAL ASSESSMENT**

**Table of Contents**

**EXECUTIVE SUMMARY ..... IV**

**1.0 PROJECT CONTEXT ..... 1**

1.1 DEVELOPMENT CONTEXT ..... 1

1.2 HISTORICAL CONTEXT ..... 2

    1.2.1 Pre-contact Aboriginal Resources ..... 2

    1.2.2 Post-contact Aboriginal Resources ..... 3

    1.2.3 Historic Euro-Canadian Resources ..... 4

    1.2.4 Recent Reports ..... 6

1.3 ARCHAEOLOGICAL CONTEXT ..... 7

    1.3.1 The Natural Environment ..... 7

    1.3.2 Existing Conditions ..... 7

    1.3.3 Previously Known Archaeological Sites and Surveys ..... 7

    1.3.4 Archaeological Potential ..... 9

**2.0 FIELD METHODS ..... 11**

**3.0 RECORD OF FINDS ..... 15**

3.1 STANTEC LOCATION 1 (BBGD-58) ..... 15

    3.1.1 Artifact Catalogue ..... 15

**4.0 ANALYSIS AND CONCLUSIONS ..... 16**

**5.0 RECOMMENDATIONS ..... 17**

**6.0 ADVICE ON COMPLIANCE WITH LEGISLATION ..... 18**

**7.0 BIBLIOGRAPHY AND SOURCES ..... 19**

**8.0 IMAGES ..... 21**

8.1 PHOTOS ..... 21

8.2 ARTIFACTS ..... 38

**9.0 MAPS ..... 39**

**10.0 CLOSURE ..... 49**

**LIST OF TABLES**

Table 1: Parcels Studied Within the Sol-luce Kingston Solar PV Energy Project ..... 1

Table 2 Cultural Chronology for Kingston Area (Ellis and Ferris 1990) ..... 3

Table 3: Property Owners and Historic Euro-Canadian Features Illustrated in the *Illustrated Historical Atlas of the Counties of Frontenac, Lennox and Addington, Ontario* (Meacham & Co. 1878). ..... 5

Table 4: Archaeological Assessment Reports Related to the Kingston Solar LP project .... 6

Table 5: Archaeological Sites Found in the Stage 2 Assessment by AMEC (2012a) ..... 8



**SOL-LUCE KINGSTON SOLAR PV ENERGY PROJECT  
ADDITIONAL STAGE 2 ARCHAEOLOGICAL ASSESSMENT**

Table 6: Weather and Field Conditions during Stage 2 Archaeological Assessment ..... 11  
Table 7: Field Methods During Stage 2 Archaeological Assessment ..... 13  
Table 8: Inventory of Documentary Record ..... 15

**LIST OF FIGURES**

Figure 1: Location of Study Area ..... 40  
Figure 2: Treaties and Purchases..... 41  
Figure 3: Historical Maps..... 42  
Figure 4-1: Survey Methods..... 43  
Figure 4-2: Survey Methods ..... 44  
Figure 4-3: Survey Methods ..... 45  
Figure 4-4: Survey Methods ..... 46  
Figure 4-5: Survey Methods..... 47  
Figure 4-6: Survey Methods..... 48

**SOL-LUCE KINGSTON SOLAR PV ENERGY PROJECT  
ADDITIONAL STAGE 2 ARCHAEOLOGICAL ASSESSMENT**

## **Project Personnel**

|  |  |
|--|--|
| <b>Project Director:</b>                           | <b>Jim Wilson, MA, Principal, Regional Discipline Leader, Archaeology (P001)</b>   |
| <b>Project Manager</b>                             | <b>Jeffrey Muir, BA (R304)</b>   |
| <b>Project Coordinator</b>                         | <b>Amanda Laprise, BA (R470)</b>   |
| <b>Licensed Archaeologist</b>                      | <b>Walter McCall, Ph.D. (P389)</b>   |
| <b>Licensed Field Directors:</b>                   | <b>Walter McCall, Ph.D. (P389), Samantha Markham, MA (R438), Courtney Merner, MA (R468)</b>  |
| <b>Field Technicians:</b>                          | <b>Joel Bush, Courtney Cameron, MA (P371), Andy Chillman, Alex Hartley, Amanda Laprise, BA (R470), Calvin Lowe-Thomason, Tavis Maplesden (R467), Casandra Masse, Ricky Szczygielski, Kirk Vallier, Sergei Vassiliev, Josh Winter</b> |
| <b>Report Writer:</b>                              | <b>Joel Le Baron, Ph.D.</b>  |
| <b>Office Assistants:</b>                          | <b>Kurt Kostuk, Christina Muxlow, MA, Spencer Stroszka-Li, BES</b>   |
| <b>Technical Review</b>                            | <b>Jeffrey Muir, BA (R304)</b>   |
| <b>Senior Review:</b>                              | <b>Jim Wilson, MA (P001)</b>   |
| <b>Proponent Contact:</b>                          | <b>Mr. A. José De Armas, Kingston Solar LP</b>   |
| <b>Ministry of Tourism,<br/>Culture and Sport:</b> | <b>Robert von Bitter, Andrea Williams, MA</b>  |

# SOL-LUCE KINGSTON SOLAR PV ENERGY PROJECT ADDITIONAL STAGE 2 ARCHAEOLOGICAL ASSESSMENT

## Executive Summary

A Stage 2 archaeological assessment was conducted by Stantec Consulting Ltd. (Stantec), on behalf of Kingston Solar LP, for additional properties for the proposed Sol-luce Kingston Solar Photovoltaic (PV) Energy Project. Previous Stage 1 and Stage 2 archaeological assessments were conducted by AMEC Environment & Infrastructure (2011, 2012a, 2012b, 2012c) and Golder Associates Ltd. (2012). The Stage 2 assessment conducted by Stantec was undertaken in order to meet the requirements for an application for a Renewable Energy Approval, as outlined in Ontario Regulation 359/09 sections 21 and 22 under Part V.0.1 of the *Environmental Protection Act* (Government of Ontario 1990a).

The Stage 2 assessment was conducted between September 23, 2013 and October, 11, 2013 under the PIF P389-0016-2013 issued to Walter McCall, Ph.D. (P389) by the Ministry of Tourism, Culture and Sport. A total of 117.16 hectares were assessed during the additional Stage 2 archaeological assessment. The study area assessed consists of the Project Location on additional properties housing solar panels and associated infrastructure, plus a number of access road entrances within the Project Location along existing road right-of-ways, in various lots and concessions in the Geographic Township of Kingston, now City of Kingston, Frontenac County and the Geographic Township of Ernestown, now Township of Loyalist, Lennox and Addington County, Ontario.

The Stage 2 archaeological assessment of the Sol-luce Kingston Solar PV Energy Project identified one site, Stantec Location 1 (BbGd-58). The cultural heritage value or interest of the site is considered to be sufficiently documented. Therefore, **no further archaeological assessment of Stantec Location 1 (BbGd-58) is recommended and no further archaeological assessment of the properties discussed in this report is required.**

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

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

# SOL-LUCE KINGSTON SOLAR PV ENERGY PROJECT ADDITIONAL STAGE 2 ARCHAEOLOGICAL ASSESSMENT

Project Context  
October 23, 2013

## 1.0 Project Context

### 1.1 DEVELOPMENT CONTEXT

Stantec Consulting Ltd. (Stantec) was retained by Kingston Solar LP to complete a Stage 2 archaeological assessment according to the Ontario Ministry of Tourism, Culture and Sport's (MTCS) 2011 *Standards and Guidelines for Consultant Archaeologists*. Additional parcels measuring approximately 117.19 hectares (ha) located within the Geographic Townships of Kingston and Ernestown are to be impacted by the construction of the Sol-luce Kingston Solar Photovoltaic (PV) Energy Project (the Project).

Kingston Solar LP intends to design and construct a solar facility with a maximum name plate capacity of approximately 100 MW AC (megawatts of alternating current). The solar output will be collected and connected to an electrical substation capable of transforming the power from distribution voltage to a transmission voltage of 230 kV. The Project Area is to be located to the north and south of Unity Road and south of Mud Lake Road in the City of Kingston and Loyalist Township.

The current study area consists of the Project Location on additional properties housing solar panels and associated infrastructure, plus a number of access road entrances within the Project Location along existing road right-of-ways (ROW). The current study area is located in various lots and concessions in the Geographic Township of Kingston, now City of Kingston, Frontenac County and the Geographic Township of Ernestown, now Township of Loyalist, Lennox and Addington County, Ontario. Table 1 lists the parcels located within the study area. Permission to enter the optioned lots within the study area and to remove archaeological resources was given by Mr. A. José De Armas of Kingston Solar LP.

Table 1: Parcels Studied Within the Sol-luce Kingston Solar PV Energy Project

| County               | Geographic Township | Concession         | Lot                | Property being studied | Approximate size of study area |
|----------------------|---------------------|--------------------|--------------------|------------------------|--------------------------------|
| Frontenac            | Kingston            | 6 Western Addition | 2 and 3            | 2                      | 15.17 ha                       |
| Frontenac            | Kingston            | 6 Western Addition | 5                  | 4                      | 5.69 ha                        |
| Frontenac            | Kingston            | 5 Western Addition | 3                  | 12                     | 0.41 ha                        |
| Frontenac            | Kingston            | 5 Western Addition | 8                  | 14                     | 0.25 ha                        |
| Lennox and Addington | Ernestown           | 4                  | 36, 37, 38, and 39 | 24                     | 12.3 ha                        |
| Frontenac            | Kingston            | 6 Western Addition | 5 and 6            | 25A/B                  | 83.14 ha                       |
| Lennox and Addington | Ernestown           | 4                  | 38                 | Right-of-Way (ROW) A   | 0.03 ha                        |
| Lennox and Addington | Ernestown           | 4                  | 39                 | ROW B                  | 0.02 ha                        |
| Lennox and Addington | Ernestown           | 4                  | Gore               | ROW C                  | 0.01 ha                        |
| Lennox and Addington | Ernestown           | 4                  | Gore               | ROW D                  | 0.01 ha                        |
| Frontenac            | Kingston            | 5 Western Addition | 3                  | ROW E                  | 0.01 ha                        |

# SOL-LUCE KINGSTON SOLAR PV ENERGY PROJECT ADDITIONAL STAGE 2 ARCHAEOLOGICAL ASSESSMENT

Project Context  
October 23, 2013

| County    | Geographic Township | Concession         | Lot | Property being studied | Approximate size of study area |
|-----------|---------------------|--------------------|-----|------------------------|--------------------------------|
| Frontenac | Kingston            | 6 Western Addition | 8   | ROW F                  | 0.03 ha                        |
| Frontenac | Kingston            | 5 Western Addition | 7   | ROW G                  | 0.03 ha                        |
| Frontenac | Kingston            | 6 Western Addition | 5   | ROW H                  | 0.02 ha                        |
| Frontenac | Kingston            | 6 Western Addition | 3   | ROW J                  | 0.07 ha                        |

The Stage 2 archaeological assessment was undertaken in order to meet the requirements for an application for a Renewable Energy Approval (REA). The *Green Energy Act* (Government of Ontario 2009) enabled legislation governing project assessments and approvals to be altered to allow for a more streamlined REA process. Under Section 21(2) of the REA, an archaeological assessment must be conducted by a consultant archaeologist. 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 objective of the Stage 2 assessment was to provide an overview of archaeological resources on the property and to determine whether any of the resources might be artifacts and/or archaeological sites with cultural heritage value or interest; and to provide specific direction for the protection, management and/or recovery of these resources. In compliance with the provincial standards and guidelines set out in the *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011), the objectives of the Stage 2 Property Assessment are as follows:

- To document all archaeological resources within the study area;
- To determine whether the study area contains archaeological resources requiring further assessment; and
- To recommend appropriate Stage 3 assessment strategies for archaeological sites identified.

## 1.2 HISTORICAL CONTEXT

### 1.2.1 Pre-contact Aboriginal Resources

According to the Archaeological Sites Database (ASDB) there were no pre-contact Aboriginal sites registered within a one-kilometre radius of the study area prior to AMEC's 2011 assessment (AMEC 2012a). During their Stage 2 fieldwork, AMEC (2012a) identified one isolated Early Woodland Meadowood projectile point (circa 950-400 B.C.), registered as site BbGd-53. This site was not recommended for further archaeological assessment. A second findspot, A1, was recorded during additional Stage 2 assessment in 2011 (AMEC 2012b). The medial section of a refined biface manufactured from Onondaga chert was recovered. It was not registered or recommended for further archaeological assessment.

Table 2 provides a general outline of the culture history of the Kingston area based on chapters in Ellis and Ferris (1990).



**SOL-LUCE KINGSTON SOLAR PV ENERGY PROJECT  
ADDITIONAL STAGE 2 ARCHAEOLOGICAL ASSESSMENT**

Project Context  
October 23, 2013

**Table 2 Cultural Chronology for Kingston Area (Ellis and Ferris 1990)**

| <b>Period</b>      | <b>Characteristics</b>         | <b>Time Period</b>  | <b>Comments</b>                    |
|--------------------|--------------------------------|---------------------|------------------------------------|
| Early Paleo-Indian | Fluted Projectiles             | 9000 - 8400 B.C.    | spruce parkland/caribou hunters    |
| Late Paleo-Indian  | Hi-Lo Projectiles              | 8400 – 8000 B.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               |
|                    | Broad Points                   | 1800 - 1500 B.C.    | large chipped lithic tools         |
|                    | Small Points                   | 1500 – 1100 B.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    |
| Contact Aboriginal | Various Iroquoian Groups       | A.D. 1700 – 1875    | early written records and treaties |
| Historic           | Euro-Canadian                  | A.D. 1796 – present | European settlement                |

**1.2.2 Post-contact Aboriginal Resources**

The post-contact Aboriginal occupation of Southern Ontario was heavily influenced by the dispersal of various Iroquoian-speaking peoples by the New York State Iroquois and the subsequent arrival of Algonkian-speaking groups from northern Ontario at the end of the 17<sup>th</sup> century and beginning of the 18<sup>th</sup> century (Schmalz 1991).

The nature of their settlement size, population distribution, and material culture shifted as European settlers encroached upon their territory. However, despite this shift, “written accounts of material life and livelihood, the correlation of historically recorded villages to their archaeological manifestations, and the similarities of those sites to more ancient sites have revealed an antiquity to documented cultural expressions that confirms a deep historical continuity to Iroquoian systems of ideology and thought” (Ferris 2009). As a result, First Nation peoples of southern Ontario have left behind archaeologically significant resources throughout southern Ontario which show continuity with past peoples, even if they have not been recorded in historical Euro-Canadian documentation.

The study area, located within the Geographic Townships of Kingston and Ernestown, falls within the treaty area designated Crawford’s Purchase (Morris 1943). On October 9, 1783, Captain Crawford purchased the lands from Toniata or Onagara River (now Jones Creek near Brockville) to the Trent River along the north shore of Lake Ontario. In a letter to Sir John Johnson, he writes:



# SOL-LUCE KINGSTON SOLAR PV ENERGY PROJECT ADDITIONAL STAGE 2 ARCHAEOLOGICAL ASSESSMENT

Project Context  
October 23, 2013

*According to your directions I have purchased from the Mississa[u]gas all the lands from Toniata or Onagara River to the River in the Bay of Quinte within eight leagues of the bottom of the said Bay, including all the Islands, extending from the Lake back as far as a man can travel in a day. ... The Chiefs claiming the land at the bottom of the Bay could not be got together at the present. I believe their lands can be got nearly on the same terms, though this when I see them.*

(Morris 1943:9-10)

While it is difficult to delineate treaty boundaries today, Figure 2 provides an approximate outline of the limits of Crawford's Purchase. According to the ASDB, there are no post-contact Aboriginal archaeological sites within one kilometre of the study area.

### 1.2.3 Historic Euro-Canadian Resources

Kingston (located to the southeast of the study area) was first settled in 1673 with the construction of the Fort Frontenac trading post (Archaeological Services Inc. 2010). Kingston exerted considerable influence over the study area. However, small pioneer outposts also provided important supplies. One of these outposts was Odessa, located to the southwest of the study area. This general area was used as agricultural land, the majority of which remained in cultivation until the 1960s.

The first survey of the Upper St. Lawrence was started in 1783 (MacRow 1982). Kingston Township was nine miles deep and spread six miles along the waterfront. The boundaries originally did not join with Ernestown Township and a pie-shaped piece of land (identified as the Western Addition) was added to Kingston Township so that Ernestown and Kingston Townships could be joined to facilitate road building (MacRow 1982).

Ernestown Township was first settled in 1784 with the arrival of United Empire Loyalist refugees from the American Revolutionary War, in particular former soldiers known as Jessup's Loyal Rangers and their families (Turner 1993). Similarly, this area of Kingston Township was settled between 1783 and 1814 (Nuttall 1982). Sir John Johnson, commanding officer of the King's Royal Regiment of New York, was in charge of the overall loyalist settlement in this area (Turner 1993).

A second wave of immigration occurred following the War of 1812 when emigrants from Great Britain were encouraged to populate the province. Between 1820 and 1860, English, Scots, and Irish immigrant families arrived (Turner 1993). Settlement consisted of dispersed family farms distributed along concessions and lots with a focus on the expansion and intensification of agricultural pursuits (Nuttall 1982). Furthermore, two settlements developed in this area: the village of Glenvale and the small settlement of Sharpton (AMEC 2011).

The later part of the 19<sup>th</sup> century was characterized by rural depopulation (Turner 1993; Osborne 1982). This decrease was due to emigration to cities in search of employment opportunities; the shift towards commercially-oriented mixed farming in the rest of Ontario, which was not feasible here due to the low quality of the soils; the opening of the Grand Trunk Railway in 1856, creating a competitive farming

# SOL-LUCE KINGSTON SOLAR PV ENERGY PROJECT ADDITIONAL STAGE 2 ARCHAEOLOGICAL ASSESSMENT

Project Context  
October 23, 2013

market; and increasing settlement opportunities in western Canada. In spite of these challenges, the regional economy continued to be dominated by agriculture (Turner 1993).

The late 19<sup>th</sup> century settlement pattern in the study area is illustrated by the 1878 historical atlas maps of Kingston and Ernestown Townships in the *Illustrated Historical Atlas of the Counties of Frontenac, Lennox and Addington, Ontario* (Meacham & Co. 1878). There are structures shown on properties on which the study area falls as noted in Table 3 below. However, those structures are located outside of the study areas documented in this report (Figure 3) except for one structure on Property 25A. This structure probably would have stood where abandoned buildings are still located (Figure 4-6).

**Table 3: Property Owners and Historic Euro-Canadian Features Illustrated in the *Illustrated Historical Atlas of the Counties of Frontenac, Lennox and Addington, Ontario* (Meacham & Co. 1878).**

| Property | Lot                                    | Concession         | Geo. Twp. | Owner/Resident    | Euro-Canadian Features     |
|----------|--|--------------------|-----------|-------------------|----------------------------|
| 2        | 3, eastern 1/2                         | 6 Western Addition | Kingston  | George Duggan     | None within study area.    |
|          | 2, southeastern 1/2                    | 6 Western Addition | Kingston  | Robert Moon       | None within study area.    |
| 4        | 5 eastern 1/2                          | 6 Western Addition | Kingston  | Estate of J. Moon | None within study area.    |
| 25A      | 5, western 1/2                         | 6 Western Addition | Kingston  | Ralph Bennington  | One structure illustrated. |
| 25B      | 6, eastern 1/2                         | 6 Western Addition | Kingston  | John Harker       | None within study area.    |
| 24       | 37                                     | 4                  | Ernestown | Henry Henzy       | None within study area.    |
|          | 38, southern 1/3; 39, southeastern 1/4 | 4                  | Ernestown | John McCormick    | None within study area.    |
|          | 39, eastern 1/2                        | 4                  | Ernestown | George Lee Senior | None within study area.    |
| 12       | 3 central 1/3                          | 5                  | Kingston  | John Leonard      | None within study area.    |
| 14       | 8 northeastern 1/4                     | 5                  | Kingston  | John Bell         | None within study area.    |
| ROW A    | 38                                     | 4                  | Ernestown | D. Lee            | None within study area.    |
| ROW B    | 39                                     | 4                  | Ernestown | John Lee          | None within study area.    |
| ROW C    | Gore                                   | 4                  | Ernestown | Samuel Bradshaw   | None within study area.    |
| ROW D    | Gore                                   | 4                  | Ernestown | Samuel Bradshaw   | None within study area.    |
| ROW E    | 3                                      | 5 Western Addition | Kingston  | John Leonard      | None within study area.    |
| ROW F    | 8                                      | 6 Western Addition | Kingston  | Francis Bell      | None within study area.    |
| ROW G    | 7                                      | 5 Western Addition | Kingston  | Mrs. Gordon       | None within study area.    |

# SOL-LUCE KINGSTON SOLAR PV ENERGY PROJECT ADDITIONAL STAGE 2 ARCHAEOLOGICAL ASSESSMENT

Project Context  
October 23, 2013

| Property | Lot | Concession         | Geo. Twp. | Owner/Resident   | Euro-Canadian Features  |
|----------|-----|--------------------|-----------|------------------|-------------------------|
| ROW H    | 5   | 6 Western Addition | Kingston  | Ralph Bennington | None within study area. |
| ROW J    | 3   | 6 Western Addition | Kingston  | William Raycroft | None within study area. |

In 1998, the Township of Ernestown became part of Loyalist Township, Lennox and Addington County. At this time Kingston Township was also amalgamated, becoming the City of Kingston, Frontenac County. The southern half of Lennox and Addington County is still essentially rural, with hamlets and small villages acting as commercial and tourism hubs.

## 1.2.4 Recent Reports

A number of archaeological reports have been filed with the MTCS for the Sol-Luce Kingston Solar PV Energy Project (Table 4). Aside from the reports described below, no other reports are known to have been published for areas within 50 metres of the study area. A Stage 1 archaeological assessment for the Sol-luce Kingston Solar PV Energy Project was completed by AMEC in 2011 in a combined Stage 1 and 2 Report (AMEC 2011). Their Stage 2 assessment was performed in the fall of 2011 for 22 parcels of land (AMEC 2012a). Subsequently, in December 2011, AMEC completed a Stage 2 property assessment of 5 additional parcels of land (AMEC 2012b). In May 2012 AMEC conducted a Stage 2 property assessment for a various access roads and other infrastructure (AMEC 2012c). In April of 2012 Golder performed a Stage 2 assessment of 5 parcels within the project study area, as well as access roads to be used by Hydro One Networks Inc. (HONI) (Golder 2012).

Table 4: Archaeological Assessment Reports Related to the Kingston Solar LP project

| Year  | Title   | Author | PIF Number                     |
|-------|---|--------|--------------------------------|
| 2011  | <i>Stage 1 Archaeological Assessment And Stage 2 Property Assessment: Sol-Luce Kingston Solar PV Energy Project, Ernestown And Kingston Townships, Frontenac, Lennox And Addington Counties, Ontario</i>  | AMEC   | P348-001-2011<br>P141-160-2011 |
| 2012a | <i>Final Report Stage 1 Archaeological Background Study And Stage 2 Property Assessment Sol-Luce Kingston Solar PV Energy Project Ernestown And Kingston Townships, Frontenac, Lennox And Addington Counties, Ontario</i>   | AMEC   | P348-001-2011<br>P141-160-2011 |
| 2012b | <i>Final Report, Stage 2 Property Assessment, Parcel 14A, 21, 22, 23 &amp;24, Sol-Luce Kingston Solar PV Energy Project, Ernestown And Kingston Townships, Frontenac, Lennox And Addington Counties, Ontario.</i>   | AMEC   | P141-166-2011                  |
| 2012c | <i>Original Report Stage 2 Property Assessment Access Roads/Collector Lines: Parcel 1-2, 3, 4, 21 &amp; 22 Sol-Luce Kingston Solar PV Energy Project Ernestown And Kingston Townships, Frontenac, Lennox And Addington Counties, Ontario</i>  | AMEC   | P141-169-2012                  |
| 2012  | <i>Stage 2 Archaeological Assessment, Kingston Solar LP, Sol-Luce Kingston Solar PV Energy Project, Various Lots And Concessions, Geographic Townships Of Kingston And Ernestown, Now City Of Kingston, Frontenac County And Township Of Loyalist, Lennox And Addington County, Ontario</i> | Golder | P218-226-2012                  |

# SOL-LUCE KINGSTON SOLAR PV ENERGY PROJECT ADDITIONAL STAGE 2 ARCHAEOLOGICAL ASSESSMENT

Project Context  
October 23, 2013

## 1.3 ARCHAEOLOGICAL CONTEXT

### 1.3.1 The Natural Environment

The Project Location consists of a rural setting with residential, vacant, agricultural, horticultural, institutional, commercial and light industrial land. This area is located within the Napanee Plain which is described by Chapman and Putnam (1984) as:

*...a flat-to-undulating plain of limestone from which the glacier stripped most of the overburden. Based mainly on limestone of the Gull River and Bobcaygeon Formations, it is a counterpart of the smaller Carden plain, and the large Smiths Falls plain which is underlain chiefly by sandstones and dolostones of the Beekmantown Group. Centring on the Town of Napanee it covers approximately 700 square miles.*

(Chapman and Putnam 1984:186)

In terms of major water sources, Odessa Lake is located immediately to the west of the study area, whilst Glenvale Creek runs to the east of the Study Area. Numerous other creeks transect the township, providing stratified clay loam deposits. Due to the limestone plain, agriculture in this area was historically found to be difficult. The region is characterized by an uneven patchwork of fertile farms interspersed with sections of marginal plots. The soils in Kingston Township are similar to those in Ernestown Township. In some areas, heavy clays require drainage before they can be cultivated, whereas in other locations there is no soil cover, only exposed limestone (Osborne 1982).

The characteristic forest in this area is made up of sugar maple, white elm, silver and red maple, white cedar, basswood, beech and bur oak trees. White pine, hemlock, balsam fir, hawthorne, hickory, black ash and white spruce are also prevalent (Chapman and Putnam 1984). Ground cover plants include Canada blue grass, mullein, blueweed, and ground juniper.

### 1.3.2 Existing Conditions

The Stage 2 archaeological assessment for the Sol-luce Kingston Solar PV Energy Project was conducted between September 23, 2013 and October 11, 2013, under PIF P389-0016-2013, issued to Walter McCall, Ph.D. (P389) by the MTCS. The study area encompasses approximately 117.19 hectares and consists of ploughed, well-weathered fields; scrub brush; woodlots; some wet areas; some areas of bedrock; and disturbance from modern structures or roads.

### 1.3.3 Previously Known Archaeological Sites and Surveys

In Ontario, information concerning archaeological sites is stored in the ASDB, maintained by the MTCS. This database contains archaeological sites registered within the Borden System. In this system, each site is defined by a unique Borden Number, which is a geographic reference indicator, based on longitude and latitude. A Borden block is approximately 13 kilometres east to west, and approximately 18.5 kilometres north to south. Each Borden block is referenced by a four letter designator, and sites within a block are

# SOL-LUCE KINGSTON SOLAR PV ENERGY PROJECT ADDITIONAL STAGE 2 ARCHAEOLOGICAL ASSESSMENT

Project Context  
October 23, 2013

numbered sequentially as they are recorded. In order to compile an inventory of archaeological resources within the study area, the registered archaeological site records kept by the MTCS were consulted.

As part of the Stage 2 archaeological assessment, the ASDB was consulted. According to the ASDB, there are five registered archaeological sites located within a one-kilometre radius of the study area. All five registered sites were found during the previous work on the Project, as outlined below.

A Stage 1 archaeological assessment was previously conducted by AMEC under PIF# P348-001-2011. This assessment indicated that portions of the primary study area that have not been thoroughly disturbed and that are not low lying and wet have archaeological potential. This conclusion was based on three main factors: proximity to water; the nearby presence of early historic settlement centers and roadways; and the fact that there are three previously identified pre-contact Aboriginal sites over a kilometre to the southeast of the Project Location (AMEC 2012a).

The majority of the Stage 2 property assessment for the Project was conducted by AMEC under PIF numbers P141-160-2011, P141-166-2011, and P141-169-2012. The Stage 2 assessment occurred between October and December 2011 and also May 2012 (AMEC 2012a; AMEC 2012b; AMEC2012c), identifying one isolated pre-contact Aboriginal findspot, two isolated historic Euro-Canadian findspots, and six registered archaeological sites (Table 5). One of the registered sites, BbGd-53, consisted of an isolated pre-contact Aboriginal findspot. The remaining five registered sites, BbGd-48, BbGd-49, BbGd-50, BbGd-51 and BbGd-52, were identified as mid-19<sup>th</sup> century to early/mid-20<sup>th</sup> century Euro-Canadian sites (AMEC 2012a).

**Table 5: Archaeological Sites Found in the Stage 2 Assessment by AMEC (2012a)**

| <b>Name</b> | <b>Cultural Affiliation</b> | <b>Site Type</b> | <b>Stage 3 Recommended</b> | <b>In ASDB?</b> | <b>Within One Kilometre of Property</b> | <b>Within 50 Metres of Property</b> |
|-------------|-----------------------------|------------------|----------------------------|-----------------|---|-------------------------------------|
| BbGd-48     | Historic Euro-Canadian      | Homestead        | yes                        | yes             | 4                                       | None                                |
| BbGd-49     | Historic Euro-Canadian      | Homestead        | yes                        | yes             | None                                    | None                                |
| BbGd-50     | Historic Euro-Canadian      | Homestead        | yes                        | yes             | 12                                      | None                                |
| BbGd-51     | Historic Euro-Canadian      | Homestead        | yes                        | yes             | 2 and 4                                 | None                                |
| BbGd-52     | Multi-component             | Homestead        | yes                        | yes             | 14                                      | None                                |
| BbGd-53     | Early Woodland              | Findspot         | no                         | yes             | 4                                       | 25A/B                               |
| H1          | Historic Euro-Canadian      | Findspot         | no                         | no              | None                                    | None                                |
| H2          | Historic Euro-Canadian      | Findspot         | no                         | no              | None                                    | None                                |
| A1          | Pre-contact Aboriginal      | Findspot         | no                         | no              | 24                                      | None                                |

A Stage 2 archaeological assessment was also conducted by Golder (2012) for approximately 20.99 hectares, covering Parcels 3, 7, 14A, 14C, and 21; the access road between Parcels 2 and 3; and lands to be used by HONI. While archaeological potential was noted by AMEC (2012a) for pre-contact Aboriginal,

# SOL-LUCE KINGSTON SOLAR PV ENERGY PROJECT

## ADDITIONAL STAGE 2 ARCHAEOLOGICAL ASSESSMENT

Project Context  
October 23, 2013

post-contact Aboriginal, and historic Euro-Canadian occupation, Golder's (2012) Stage 2 archaeological assessment did not result in the identification of any archaeological resources. Given the lack of finds, Golder considered the cultural heritage value or interest of the parcels studied to be sufficiently documented.

### 1.3.4 Archaeological Potential

Archaeological potential is established by determining the likelihood that archaeological resources may be present on a subject property. Stantec applied archaeological potential criteria commonly used by the MTCS (Government of Ontario 2011) to determine areas of archaeological potential within the region under study. These variables include proximity to previously identified archaeological sites, distance to various types of water sources, soil texture and drainage, glacial geomorphology, elevated topography and the general topographic variability of the area.

Distance to modern or ancient water sources is generally accepted as the most important determinant of past human settlement patterns and, considered alone, may result in a determination of archaeological potential. However, any combination of two or more other criteria, such as well-drained soils or topographic variability, may also indicate archaeological potential.

Distance to water is an essential factor in archaeological potential modeling. When evaluating distance to water it is important to distinguish between water and shoreline, as well as natural and artificial water sources, as these features affect site locations and types to varying degrees.

A negative indicator of archaeological potential is extensive land disturbance. This includes widespread earth movement activities that would have eradicated or relocated any cultural material to such a degree that the information potential and cultural heritage value or interest has been lost. The types of disturbance referred to above include, but are not restricted to, quarrying, sewage and infrastructure development, building footprints and major landscaping involving grading below topsoil. No major areas of disturbance are evident on the subject properties and archaeological integrity is considered sound.

Mud Lake/Odessa Lake is located west of the property's western boundary and Glenvale Creek transects the eastern portion of the Project Location. Water is the most important resource necessary for human settlement. Evidence for historical land use includes two historic settlement centers, residential dwellings, historic roadways and other historic structures (post office and churches) within the study area.

AMEC (2012a) indicated that all portions of the study area that have not been thoroughly disturbed and that are not low lying and wet have pre-contact Aboriginal archaeological potential. This conclusion was based on the proximity of the study area to water and previously identified archaeological sites.

AMEC (2012a) indicated that all portions of the study area that have not been thoroughly disturbed and that are not low lying and wet have post-contact Aboriginal archaeological potential. This conclusion was based on the proximity of the study area to water, historic settlement, and previously identified archaeological sites.

## SOL-LUCE KINGSTON SOLAR PV ENERGY PROJECT ADDITIONAL STAGE 2 ARCHAEOLOGICAL ASSESSMENT

Project Context  
October 23, 2013

Finally, AMEC (2012a) indicated that all portions of the study area that have not been thoroughly disturbed and that are not low lying and wet have historic Euro-Canadian archaeological potential. This conclusion was based on the proximity of the study area to water, historic settlement, and previously identified archaeological sites.

In summary, AMEC (2012a) indicated that all portions of the study area that have not been thoroughly disturbed and that are not low lying and wet have pre-contact Aboriginal, post-contact Aboriginal, and historic Euro-Canadian archaeological potential.



# SOL-LUCE KINGSTON SOLAR PV ENERGY PROJECT ADDITIONAL STAGE 2 ARCHAEOLOGICAL ASSESSMENT

Field Methods  
October 23, 2013

## 2.0 Field Methods

The Stage 2 study area includes portions of Properties 2, 4, 12, 14, 24 and 25A/B plus nine road ROWs where proposed access roads will access existing roads. The study area covers approximately 117.19 hectares within the Sol-luce Kingston Solar PV Energy Project. These properties were assessed between September 23, 2013 and October 11, 2013. In addition, portions of Property 4 and Property 24 originally assessed by AMEC have been reassessed in this report. In the case of Property 4, there was some question from the local farmer whether the area had indeed been ploughed and assessed previously. Therefore Stantec undertook an additional Stage 2 pedestrian survey and test pit survey of Property 4 where AMEC had previously assessed. Similarly, there was some confusion as to the full extent of what AMEC had assessed in Property 24 and so Stantec conducted additional Stage 2 test pit survey on Property 24 where AMEC had previously assessed.

As per the *Standards and Guidelines for Consultant Archaeologists* (Section 7.8.6 Standard 1a; Government of Ontario 2011), Photos 1 to 34 confirm that the conditions of the surveyed portions of the study area allowed the standards for Stage 2 pedestrian survey and test pit survey to be met. Photograph locations and directions are provided in Figure 4 in this report and Figure 5 in the Supplementary Documentation (Supplement A). During assessment, weather conditions varied from partly cloudy to sunny and from cool to hot. Field surface visibility was at least 80% and lighting conditions were excellent. At no time were the field or weather conditions detrimental to the recovery of archaeological material. Table 6 lists weather and field conditions during the additional Stage 2 archaeological assessment.

**Table 6: Weather and Field Conditions during Stage 2 Archaeological Assessment**

| Date               | Property | Activity          | Weather                             | Field Conditions   |
|--------------------|----------|-------------------|-------------------------------------|--|
| September 23, 2013 | 2        | Test Pitting      | Sunny. Cool morning, hot afternoon. | Flat/gently sloping. Primarily woodlot and scrub, some open pastures. Areas of exposed limestone with no soil coverage. Soil shallow, silty clay to silty loam, loose to moderately loose consistency. |
| September 24, 2013 | 2        | Test Pitting      | Sunny and warm.                     | Flat/gently sloping. Primarily scrub, small pockets of dense trees. Areas of exposed limestone with no soil coverage. Soil shallow, silty clay to silty sand, loose to moderately loose consistency    |
|                    | 4        | Pedestrian Survey | Sunny and warm.                     | Gently sloping, ploughed agricultural fields, 80% soil visibility, with loose silty sand soil.   |
|                    |          | Test Pitting      | Sunny and warm.                     | Flat/gently sloping, very dense woodlot, very thin silty loam soil and much exposed limestone.   |
|                    | 25A      | Test Pitting      | Sunny and warm.                     | Flat/gently sloping open yards adjacent to residences and barns. Exposed limestone over much of barn yards. Soil exceptionally shallow with exposed limestone, silty clay semi-compact.                |
| September 25, 2013 | 4        | Test Pitting      | Sunny and warm.                     | Flat/gently sloping woodlot with areas of mature forest and clearings, thin silty to sandy loam soil, overlying limestone.   |

**SOL-LUCE KINGSTON SOLAR PV ENERGY PROJECT  
ADDITIONAL STAGE 2 ARCHAEOLOGICAL ASSESSMENT**

Field Methods  
October 23, 2013

| <b>Date</b>        | <b>Property</b> | <b>Activity</b>            | <b>Weather</b>          | <b>Field Conditions</b>  |
|--------------------|-----------------|----------------------------|-------------------------|--|
|                    | 25A and 25B     | Test Pitting               | Sunny and warm.         | Flat/gently sloping, dense woodlot. Shallow, silty loam to sandy clay soil overlying limestone. Soil semi-compact.                         |
| September 26, 2013 | 25B             | Pedestrian Survey          | Sunny and hot           | Flat/gently sloping, ploughed fields, 80% soil visibility. Semi-compact clay/silt loam.  |
|                    |                 | Test Pitting               | Sunny and hot.          | Flat/gently sloping, dense woodlot on limestone plateau. Shallow soil silty loam with much exposed limestone.                              |
| September 27, 2013 | 25B             | Test Pitting               | Sunny and hot.          | Flat/gently sloping, dense woodlot on limestone plateau. Shallow soil silty loam with much exposed limestone.                              |
| September 30, 2013 | 25B             | Test Pitting               | Overcast and cool.      | Flat, ploughed agricultural lot with pockets of standing trees. Sandy silt/clayey silt soil, semi-loose constancy.                         |
| October 1, 2013    | 24              | Test Pitting               | Partly cloudy and warm. | Flat/gently sloping, open grassy areas transitioning to dense, seasonally wet forest. Areas of exposed limestone and damp sandy loam soil. |
| October 2, 2013    | 25B             | Test Pitting               | Overcast and cool.      | Flat, ploughed agricultural lot with pockets of standing trees. Sandy silt/clayey silt soil, semi-loose constancy.                         |
| October 10, 2013   | 25B             | Pedestrian Survey          | Warm and sunny.         | Flat/gently sloping ploughed agricultural field, visibility 80%, clayey silt soil, semi compact.   |
|                    | 2               | Pedestrian Survey          | Warm and sunny.         | Flat/gently sloping ploughed field, visibility 85%, silty loam soil, loose consistency.  |
|                    | 12              | Test Pitting               | Warm and Sunny          | Gently sloping dense bush, primarily on roots and rock, sandy loam soil.   |
|                    | 14              | Test Pitting               | Warm and Sunny          | Steep, but accessible slope, brush and forest, sandy loam soil.  |
| October 11, 2013   | Road ROW        | Photographic documentation | Cool and sunny          | Lands adjacent to country roads  |

Approximately less than 1% of the study area was not assessed due to areas of previous disturbance in the road right-of-way or the due to the presence of abandoned farm structures on Property 25A; of the additional parcels 47% were subject to pedestrian survey at five metre intervals and 52% were assessed by test pit survey at five metre intervals. The areas subject to pedestrian survey were assessed at five metre intervals according to Section 2.1.1 Standard 6 in the *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011). During pedestrian survey, in the event that archaeological resources were recovered, survey intervals were intensified to one metre within a 20 metre radius of the find as per Section 2.1.1 Standard 7 of the *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011b). This approach was taken to establish whether or not the artifact was an isolated find or part of a larger artifact scatter (Government of Ontario 2011b).

Wooded, scrub, and grassy areas inaccessible to ploughing were assessed by the test pit survey method at five metre intervals as per Section 2.1.2 Standards 1a, 1e, and 2 in *Standards and Guidelines for*

# SOL-LUCE KINGSTON SOLAR PV ENERGY PROJECT ADDITIONAL STAGE 2 ARCHAEOLOGICAL ASSESSMENT

Field Methods  
October 23, 2013

*Consultant Archaeologists* (Government of Ontario 2011). Each test pit was excavated by hand and was approximately thirty centimetres in diameter and excavated five centimetres into sterile subsoil, as per the *Standards and Guidelines for Consultant Archaeologists* Section 2.1.2 Standards 5 and 6 (Government of Ontario 2011). Test pits were examined for stratigraphy, cultural features, and 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 (*Standards and Guidelines for Consultant Archaeologists* Section 2.1.2 Standards 6, 7, and 9; Government of Ontario 2011). No artifacts were recovered during the test pit survey and no further test pitting procedures were employed.

During the test pit survey, areas with exposed bedrock (Photos 3, 8, 10, 12, 15, 24) or of man-made drainage (Photo 16) were encountered but none of these areas exceeded five metres in width. As a result, they were encompassed by test pits spaced at five metre intervals and as a result are included within the mapped areas of test pit survey.

However, areas of previous disturbance, such as an abandoned agricultural complex (Photos 12 and 13) and the nine ROWs that have been impacted by modern road construction and ditching (Photos 25 to 33), were photo-documented and not subjected to further Stage 2 archaeological assessment.

Table 7 outlines the field methods employed for each additional property and ROW assessed in the Stage 2 archaeological assessment.

**Table 7: Field Methods During Stage 2 Archaeological Assessment**

| <b>Property</b> | <b>Survey Method</b>       | <b>Size of Area</b> | <b>Photos</b> | <b>Map Figure</b>                                |
|-----------------|----------------------------|---------------------|---------------|--|
| 2               | Test Pit Survey            | 11.53 ha            | 1-3, 21       | 4-6; 5-6   |
|                 | Pedestrian Survey          | 3.64 ha             | 4-6           | 4-6; 5-6   |
| 4               | Pedestrian Survey          | 3.12 ha             | 7             | 4-6; 5-6   |
|                 | Test Pit Survey            | 2.57 ha             | 8, 9          | 4-6; 5-6   |
| 12              | Test Pit Survey            | 0.41 ha             | 22            | 4-1; 5-1   |
| 14              | Test Pit Survey            | 0.25 ha             | 23, 24        | 4-2; 5-2   |
| 24              | Test Pit Survey            | 12.30 ha            | 15 to 18      | 4-5  |
| 25A and 25B     | Pedestrian Survey          | 48.40 ha            | 10, 19, 20    | 4-6; 5-6   |
|                 | Test Pit Survey            | 34.27 ha            | 11 to 14      | 4-6; 5-6   |
|                 | Photographic Documentation | 0.47 ha             | 12, 13        | 4-6; 5-6   |
| Road ROW        | Photographic Documentation | 0.23 ha             | 25 to 33      | 4-1, 4-2, 4-3, 4-4, 4-6; 5-1, 5-2, 5-3, 5-4, 5-6 |

Universal Transverse-Mercator (UTM) readings were taken using a Topcon FC-25 with Magnet software, using the North American Datum (NAD) 83 with a minimum accuracy of two metres. UTM coordinates were recorded for the identified archaeological site and is presented in the supplementary documentation to this report (Supplement B).



**SOL-LUCE KINGSTON SOLAR PV ENERGY PROJECT  
ADDITIONAL STAGE 2 ARCHAEOLOGICAL ASSESSMENT**

Field Methods  
October 23, 2013

# SOL-LUCE KINGSTON SOLAR PV ENERGY PROJECT ADDITIONAL STAGE 2 ARCHAEOLOGICAL ASSESSMENT

Record of Finds  
October 23, 2013

## 3.0 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 8 below. The Stage 2 survey was conducted by Stantec between September 23, 2013 and October 11, 2013. A summary of the artifacts collected for each site location and its spatial extents are provided below. Supplement A illustrates the site locations and Supplement B lists the UTM coordinates for each of these locations. They are included in the supplementary documentation for this report.

Table 8: Inventory of Documentary Record

| Document Type             | Current Location of Document Type | Additional Comments                                    |
|---------------------------|-----------------------------------|--|
| 44 Pages of Field Notes   | Stantec office in London          | In original field book and photocopied in project file |
| 6 Field Maps              | Stantec office in London          | In original field book and photocopied in project file |
| 2 Maps Provided by Client | Stantec office in London          | Hard and digital copies in project file                |
| 280 Digital Photographs   | Stantec office in London          | Stored digitally in project file                       |

### 3.1 STANTEC LOCATION 1 (BbGd-58)

Stantec Location 1(BbGd-58) is a findspot located within an area of pedestrian survey on Property 4. The area was previously reported upon by AMEC (2012a), but since there was some question whether the area had indeed actually been subject to pedestrian survey, the area was reassessed by Stantec. The findspot consists of the distal end of one side-notched Meadowood projectile point manufactured from Onondaga chert. Meadowood projectile points (Kenyon 1980) date to the Early Woodland (950-400 B.C.). This projectile points measures 28.2 millimetres long, 23.8 millimetres wide and 5.3 millimetres thick. While the blade is broken and cannot be fully measured, the inter-notch width of the projectile point is 16.5 millimetres wide and the basal length is 9.8 millimetres.

#### 3.1.1 Artifact Catalogue

| Cat. # | Context      | Artifact         | Quantity | Comments                | Chert    |
|--------|--------------|------------------|----------|-------------------------|----------|
| 1      | surface find | projectile point | 1        | Meadowood, blade broken | Onondaga |

# SOL-LUCE KINGSTON SOLAR PV ENERGY PROJECT ADDITIONAL STAGE 2 ARCHAEOLOGICAL ASSESSMENT

Analysis and Conclusions  
October 23, 2013

## 4.0 Analysis and Conclusions

The additional Stage 2 assessment conducted between September 23, 2013 and October 11, 2013 resulted in the identification of one isolated pre-contact artifact. The pre-contact Aboriginal artifact discovered on property 4 consisted of the lower section of a broken side-notched projectile point made on Onondaga chert. The projectile point suggests is an Early Woodland Meadowood point. It should be noted that AMEC (2012a) discovered a similar isolated Meadowood projectile point during their Stage 2 fieldwork.

The Early Woodland period occurred between 950 B.C. and 400 B.C. Within the Early Woodland period are two recognized cultural traditions, the Meadowood and the Middlesex. The Meadowood Complex is thought to be a temporal extension of the Small Point/Glacial Kame Late Archaic Tradition in southern Ontario and adjacent New York. It is differentiated from earlier time periods by the introduction of ceramics and marked by a very diagnostic lanceolate blade point with side notches. Although there is variation within the flake patterning of Meadowood bifaces, they are typically smooth and relatively thin (Kenyon 1980), precisely side-notched and ovate to tear-shaped (Granger 1978). Few Meadowood stone tools were made from local sources, with the vast majority derived from traded, non-local cherts such as Onondaga (Kinsey 1974). The Meadowood saw widespread circulation of objects and raw materials across northeastern North America, with the main currency of trade being Onondaga chert (Taché 2011).

Onondaga formation chert is from the Middle Devonian age, with outcrops occurring along the north shore of Lake Erie between Long Point and the Niagara River (Eley and von Bitter 1989). It is a high quality raw material frequently utilized by pre-contact people and often found at archaeological sites in southern Ontario. Onondaga chert occurs in nodules or irregular thin beds. It is a dense non-porous rock that may be light to dark grey, bluish grey, brown or black and can be mottled with a dull to vitreous or waxy lustre (Eley and von Bitter 1989).

Given the absence of other pre-contact Aboriginal artifacts within Property 4, this isolated find likely represents a loss event, as no other artifacts were encountered during survey intensification of the surrounding area. The single artifact does not meet minimum criteria for a Stage 3 assessment as outlined in Section 2.2 of the *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011) and its cultural heritage value and interest has been sufficiently documented.

# SOL-LUCE KINGSTON SOLAR PV ENERGY PROJECT ADDITIONAL STAGE 2 ARCHAEOLOGICAL ASSESSMENT

Recommendations  
October 23, 2013

## 5.0 Recommendations

The Stage 2 archaeological assessment of the Sol-luce Kingston Solar PV Energy Project identified one archaeological site, Stantec Location 1 (BbGd-58). The cultural heritage value or interest of the site is considered to be sufficiently documented. Therefore, **no further archaeological assessment of Stantec Location 1 (BbGd-58) is recommended and no further archaeological assessment of the properties discussed in this report is required.**

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

# SOL-LUCE KINGSTON SOLAR PV ENERGY PROJECT ADDITIONAL STAGE 2 ARCHAEOLOGICAL ASSESSMENT

Advice on Compliance With Legislation  
October 23, 2013

## 6.0 Advice on Compliance With Legislation

This report is submitted to the Ontario Minister 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, 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 Ontario Ministry of Consumer Services.



# SOL-LUCE KINGSTON SOLAR PV ENERGY PROJECT ADDITIONAL STAGE 2 ARCHAEOLOGICAL ASSESSMENT

Bibliography and Sources  
October 23, 2013

## 7.0 Bibliography and Sources

- AMEC 2011. *Stage 1 Archaeological Assessment and Stage 2 Property Assessment: Sol-luce Kingston Solar PV Energy Project, Ernestown and Kingston Townships, Frontenac, Lennox and Addington Counties, Ontario*, prepared by AMEC Earth & Infrastructure (PIF 348-001-2011 and P141-160-2011), Report on file with the Ministry of Tourism, Culture and Sport.
- AMEC 2012a. *Final Report Stage 1 Archaeological Background Study and Stage 2 Property Assessment Sol-Luce Kingston Solar PV Energy Project Ernestown And Kingston Townships, Frontenac, Lennox And Addington Counties, Ontario*. (PIF P348-001-2011 and P141-160-2011), Report on file with the Ministry of Tourism, Culture and Sport.
- AMEC 2012b. *Final Report, Stage 2 Property Assessment, Parcel 14A, 21, 22, 23 &24, Sol-luce Kingston Solar PV Energy Project, Ernestown and Kingston Townships, Frontenac, Lennox and Addington Counties, Ontario*. (PIF P141-166-2011), Report on file with the Ministry of Tourism, Culture and Sport.
- AMEC 2012c. *Original Report Stage 2 Property Assessment Access Roads / Collector Lines: Parcel 1-2, 3, 4, 21 & 22 Sol-Luce Kingston Solar PV Energy Project Ernestown And Kingston Townships, Frontenac, Lennox And Addington Counties, Ontario*. (PIF P141-169-2012), Report on file with the Ministry of Tourism, Culture and Sport.
- Archaeological Services Inc. 2010. *Master Plan of Archaeological Resources, City of Kingston, Technical Report*. Submitted to Planning and Development Department, City of Kingston, Kingston, Ontario. Electronic document:  
[http://www.cityofkingston.ca/documents/10180/14295/MasterPlan\\_Archaeological\\_Technical.pdf/8512e700-9352-474a-b7fa-6a97f4004ebc](http://www.cityofkingston.ca/documents/10180/14295/MasterPlan_Archaeological_Technical.pdf/8512e700-9352-474a-b7fa-6a97f4004ebc). Last accessed on October 15, 2013.
- Chapman, Lyman John and Donald F. Putnam. 1984. *The Physiography of Southern Ontario*. 3<sup>rd</sup> ed. Ontario Geological Survey Special Volume 2. Toronto: Ontario Ministry of Natural Resources.
- Eley, Betty E. and Peter H. von Bitter. 1989. *Cherts of Southern Ontario*. Toronto: Royal Ontario Museum.
- Ellis, Chris J. and Neal Ferris (editors). 1990. *The Archaeology of Southern Ontario to A.D. 1650*. Occasional Publication of the London Chapter, Ontario Archaeological Society, Number 5.
- Ferris, Neal. 2009. *The Archaeology of Native-Lived Colonialism: Challenging History in the Great Lakes*. Tucson: University of Arizona Press.
- Golder Associates Ltd. 2012. *Stage 2 Archaeological Assessment, Kingston Solar LP Sol-luce Kingston Solar PV Energy Project, Various Lots and Concessions, Geographic Townships of Kingston and Ernestown, Now City of Kingston, Frontenac County and Township of Loyalist, Lennox and*

## SOL-LUCE KINGSTON SOLAR PV ENERGY PROJECT ADDITIONAL STAGE 2 ARCHAEOLOGICAL ASSESSMENT

Bibliography and Sources  
October 23, 2013

*Addington County, Ontario.* (PIF P218-226-2012) Report on file with the Ministry of Tourism, Culture and Sport.

Government of Ontario. 2009. *The Green Energy Act*, S.O. 2009, Chapter 12, Schedule A. Last amendment: 2011, c.9, Sched. 27, s.27. Electronic document: [http://www.e-laws.gov.on.ca/html/statutes/english/elaws\\_statutes\\_09g12\\_e.htm](http://www.e-laws.gov.on.ca/html/statutes/english/elaws_statutes_09g12_e.htm). Last accessed on October 15, 2013.

Government of Ontario. 2011. *Standards and Guidelines for Consultant Archaeologists*. Toronto: Ministry of Tourism, Culture and Sport.

Granger, Joseph E. 1978. *Meadowood Phase Settlement Pattern in the Niagara Frontier Region of Western New York State*. Anthropological Papers, No. 65. Ann Arbor: Museum of Anthropology, University of Michigan.

Kenyon, Ian. 1980. Meadowood Point. *KEWA* 80-5.

Kinsey, W. Fred, III. 1974. Early to Middle Woodland Cultural Complexes on the Piedmont and Coastal Plain. *Pennsylvania Archaeologist* 44(4).

MacRow, Kathy. 1982. Kingston Township in Rollason 1982, pp. 472-481.

Meacham, J.H. and Co. 1878. *Illustrated Historical Atlas of the Counties of Frontenac, Lennox and Addington, Ontario*. J.H. Meacham and Co.

Morris, J.L. 1943. *Indians of Ontario*. 1964 reprint. Department of Lands and Forests, Government of Ontario.

Nuttall, A. Jay. 1982. *Pushing Back the Frontier*, in Rollason 1982, pp. 48-66.

Osborne, Brian S. 1982. *The Farmer and the Land* in Rollason 1982, pp. 81-94.

Rollason, B. (editor). 1982. *County of a Thousand Lakes: the History of the County of Frontenac 1673-1973*. Kingston: Frontenac County Council.

Schmalz, Peter S. 1991. *The Ojibwa of Southern Ontario*. Toronto: University of Toronto Press.

Taché, Karine. 2011. New Perspectives on Meadowood Trade Items. *American Antiquity* 76(1): 41-80.

Turner, Larry. 1993. *Ernestown: Rural Spaces, Urban Places*. Louisville: Best Gagne Book Manufacturers.

# SOL-LUCE KINGSTON SOLAR PV ENERGY PROJECT ADDITIONAL STAGE 2 ARCHAEOLOGICAL ASSESSMENT

Images

October 23, 2013

## 8.0 Images

### 8.1 PHOTOS

Photo 1: Test Pit Survey at Five Metre Intervals, Property 2, scrub areas, facing east.



**SOL-LUCE KINGSTON SOLAR PV ENERGY PROJECT  
ADDITIONAL STAGE 2 ARCHAEOLOGICAL ASSESSMENT**

Images  
October 23, 2013

**Photo 2: Test Pit Survey at Five Metre Intervals, Property 2, wooded area, facing southeast.**



**Photo 3: Test Pit Survey at Five Metre Intervals, Property 2, areas of exposed bedrock, facing northwest.**



**SOL-LUCE KINGSTON SOLAR PV ENERGY PROJECT  
ADDITIONAL STAGE 2 ARCHAEOLOGICAL ASSESSMENT**

Images  
October 23, 2013

**Photo 4: Pedestrian Survey at Five Metre Intervals, Property 2, field conditions, facing south.**



**Photo 5: Pedestrian Survey at Five Metre Intervals, Property 2, ploughed field, facing southeast.**



**SOL-LUCE KINGSTON SOLAR PV ENERGY PROJECT  
ADDITIONAL STAGE 2 ARCHAEOLOGICAL ASSESSMENT**

Images  
October 23, 2013

**Photo 6: Pedestrian Survey at Five Metre Intervals, Property 2, ploughed field, facing south.**



**Photo 7: Pedestrian Survey at Five Metre Intervals, Property 4, ploughed field, facing east.**



**SOL-LUCE KINGSTON SOLAR PV ENERGY PROJECT  
ADDITIONAL STAGE 2 ARCHAEOLOGICAL ASSESSMENT**

Images  
October 23, 2013

**Photo 8: Test Pit Survey at Five Metre Intervals, Property 4, exposed bedrock, facing west.**



**Photo 9: Test Pit Survey at Five Metre Intervals, Property 4, open areas within woodlot, facing west.**



**SOL-LUCE KINGSTON SOLAR PV ENERGY PROJECT  
ADDITIONAL STAGE 2 ARCHAEOLOGICAL ASSESSMENT**

Images  
October 23, 2013

**Photo 10: Test Pit Survey at Five Metre Intervals, Property 25A, exposed bedrock, facing east.**



**Photo 11: Pedestrian Survey at Five Metre Intervals, Property 25A, ploughed field, facing southeast.**





**SOL-LUCE KINGSTON SOLAR PV ENERGY PROJECT  
ADDITIONAL STAGE 2 ARCHAEOLOGICAL ASSESSMENT**

Images  
October 23, 2013

**Photo 12: Test Pit Survey at Five Metre Intervals, Property 25A, barnyards with exposed limestone bedrock, facing east.**



**Photo 13: Test Pit Survey at Five Metre Intervals, Property 25A, abandoned barns with associated disturbance in background, facing north.**



**SOL-LUCE KINGSTON SOLAR PV ENERGY PROJECT  
ADDITIONAL STAGE 2 ARCHAEOLOGICAL ASSESSMENT**

Images  
October 23, 2013

**Photo 14: Test Pit Survey at Five Metre Intervals, Property 25B, wooded area, facing northwest.**



**Photo 15: Test Pit Survey at Five Metre Intervals, Property 24, test pitting around exposed bedrock, facing southeast.**



**SOL-LUCE KINGSTON SOLAR PV ENERGY PROJECT  
ADDITIONAL STAGE 2 ARCHAEOLOGICAL ASSESSMENT**

Images  
October 23, 2013

**Photo 16: Test Pit Survey at Five Metre Intervals, Property 24, test pitting around a man-made drainage channel, facing northwest.**



**Photo 17: Test Pit Survey at Five Metre Intervals, Property 24, overgrown rocky area, facing northeast.**



**SOL-LUCE KINGSTON SOLAR PV ENERGY PROJECT  
ADDITIONAL STAGE 2 ARCHAEOLOGICAL ASSESSMENT**

Images  
October 23, 2013

**Photo 18: Test Pit Survey at Five Metre Intervals, Property 24, wooded area, facing southeast.**



**Photo 19: Pedestrian Survey at Five Metre Intervals, Property 25B, ploughed field, facing northwest.**



**SOL-LUCE KINGSTON SOLAR PV ENERGY PROJECT  
ADDITIONAL STAGE 2 ARCHAEOLOGICAL ASSESSMENT**

Images  
October 23, 2013

**Photo 20: Pedestrian Survey at Five Metre Intervals, Property 25B, ploughed field, facing north.**



**Photo 21: Pedestrian Survey at Five Metre Intervals, Property 2, ploughed field, facing northeast.**



**SOL-LUCE KINGSTON SOLAR PV ENERGY PROJECT  
ADDITIONAL STAGE 2 ARCHAEOLOGICAL ASSESSMENT**

Images  
October 23, 2013

**Photo 22: Test Pit Survey at Five Metre Intervals, Property 12, wooded area, facing northwest.**



**Photo 23: Test Pit Survey at Five Metre Intervals, Property 14, wooded area, facing north.**



**SOL-LUCE KINGSTON SOLAR PV ENERGY PROJECT  
ADDITIONAL STAGE 2 ARCHAEOLOGICAL ASSESSMENT**

Images  
October 23, 2013

**Photo 24: Test Pit Survey at Five Metre Intervals, Property 14, wooded area, facing southeast.**



**Photo 25: ROW A, Property 22, previously disturbed and not assessed, County Road 19, facing southwest.**



**SOL-LUCE KINGSTON SOLAR PV ENERGY PROJECT  
ADDITIONAL STAGE 2 ARCHAEOLOGICAL ASSESSMENT**

Images  
October 23, 2013

**Photo 26: ROW B, Property 21, previously disturbed and not assessed, County Road 19,  
facing northeast.**



**Photo 27: ROW C, Property 19, previously disturbed and not assessed, Howes Road,  
facing northwest.**





**SOL-LUCE KINGSTON SOLAR PV ENERGY PROJECT  
ADDITIONAL STAGE 2 ARCHAEOLOGICAL ASSESSMENT**

Images  
October 23, 2013

**Photo 28: ROW D, Property 19, previously disturbed and not assessed, Howes Road, facing south.**



**Photo 29: ROW E, Property 12, previously disturbed and not assessed, Westbrook Road, facing north.**



**SOL-LUCE KINGSTON SOLAR PV ENERGY PROJECT  
ADDITIONAL STAGE 2 ARCHAEOLOGICAL ASSESSMENT**

Images  
October 23, 2013

**Photo 30: ROW F, Property 14, previously disturbed and not assessed, Unity Road, facing east.**



**Photo 31: ROW G, Property 14, previously disturbed and not assessed, Unity Road, facing east.**



**SOL-LUCE KINGSTON SOLAR PV ENERGY PROJECT  
ADDITIONAL STAGE 2 ARCHAEOLOGICAL ASSESSMENT**

Images  
October 23, 2013

**Photo 32: ROW H, Property 25A, previously disturbed and not assessed, Unity Road, facing west.**



**Photo 33: ROW J, Property 3, previously disturbed and not assessed, Unity Road, facing east.**



**SOL-LUCE KINGSTON SOLAR PV ENERGY PROJECT  
ADDITIONAL STAGE 2 ARCHAEOLOGICAL ASSESSMENT**

Images  
October 23, 2013

**8.2 ARTIFACTS**

**Plate 1: Stantec Location 1 (BbGd-58) Artifact**



Projectile Point, Cat. #1

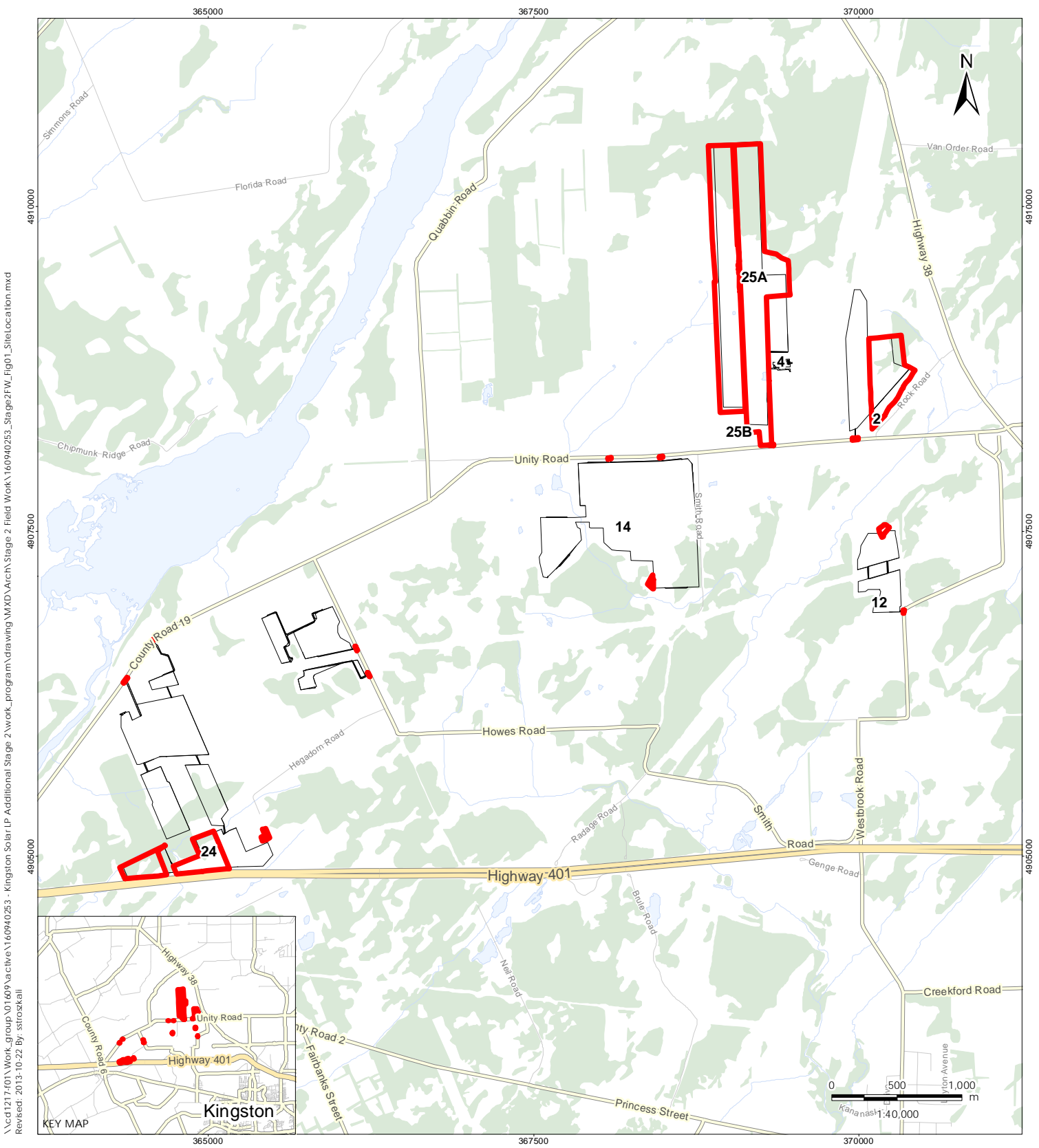


# SOL-LUCE KINGSTON SOLAR PV ENERGY PROJECT ADDITIONAL STAGE 2 ARCHAEOLOGICAL ASSESSMENT

Maps  
October 23, 2013

## 9.0 Maps

All maps will follow on succeeding pages. Maps identifying exact site locations do not form part of this public report; Figure 5 may be found in the supplementary documentation as Supplement A.



\c:\cd1217\01\Work\_group\01\60940253 - Kingston Solar LP Additional Stage 2 Field Work\160940253\_Stage2\FW\_Fig01\_SiteLocation.mxd  
 Revised: 2013-10-22 By: sstroszkall

October 2013  
160940253



- Legend**
- Location of Study Area
  - General Solar Layout Boundary (Subject To Change)
  - Highway
  - Major Road
  - Local Road
  - Watercourse
  - Waterbody
  - Wooded Area

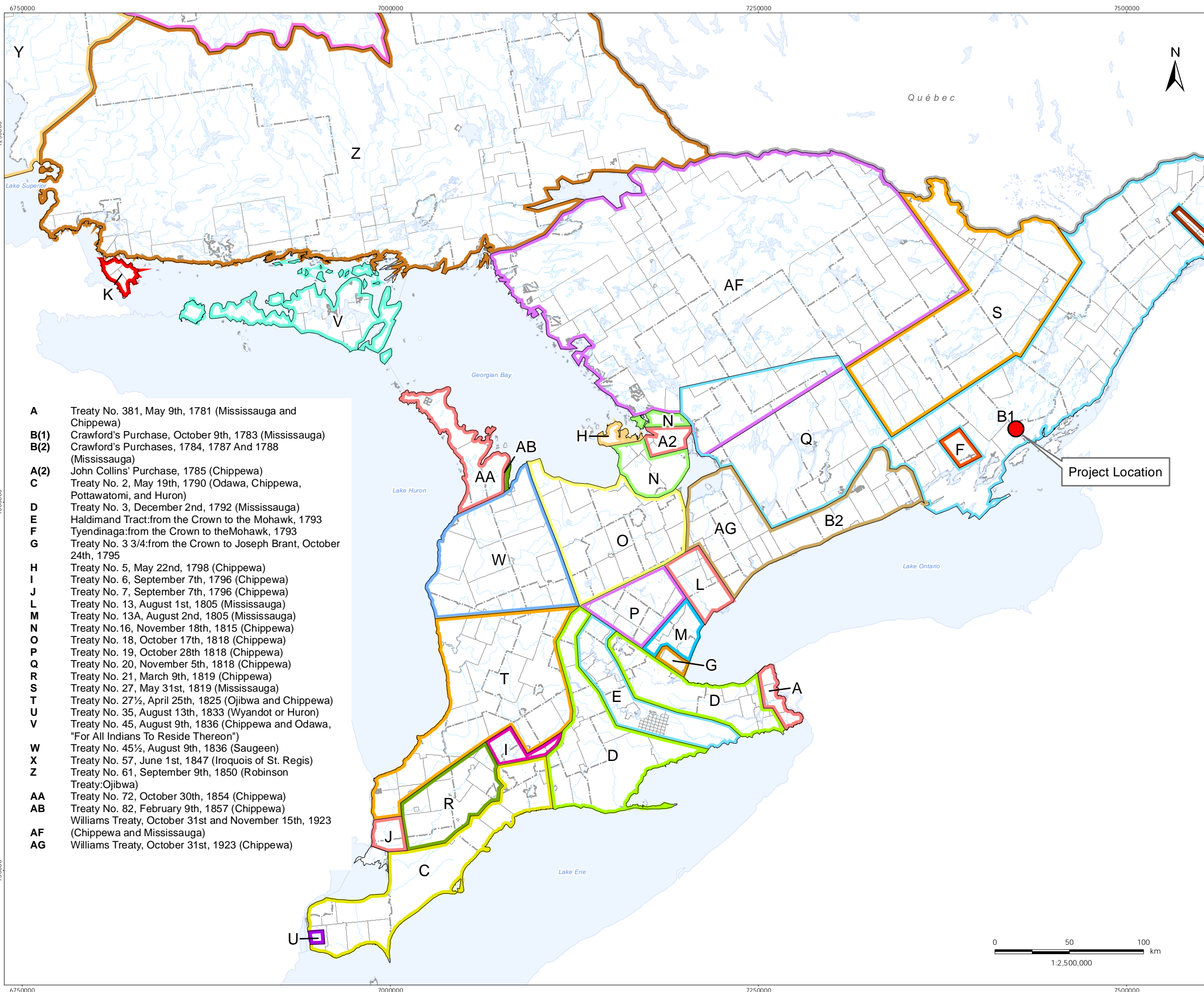
**Client/Project**  
 Kingston Solar LP  
 Sol-luce Kingston Solar PV Energy Project  
 Additional Stage 2 Archaeological Assessment

**Figure No.**  
 1  
**Title**  
 Location of Study Area

- Notes**
- Coordinate System: NAD 1983 CSRS UTM Zone 18N
  - Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2013.

Legend

- province
- Waterbody
- Watercourse
- Municipal Boundary -
- Municipal Boundary -



- A** Treaty No. 381, May 9th, 1781 (Mississauga and Chippewa)
- B(1)** Crawford's Purchase, October 9th, 1783 (Mississauga)
- B(2)** Crawford's Purchases, 1784, 1787 And 1788 (Mississauga)
- A(2)** John Collins' Purchase, 1785 (Chippewa)
- C** Treaty No. 2, May 19th, 1790 (Odawa, Chippewa, Pottawatomi, and Huron)
- D** Treaty No. 3, December 2nd, 1792 (Mississauga)
- E** Haldimand Tract: from the Crown to the Mohawk, 1793
- F** Tyendingaga: from the Crown to the Mohawk, 1793
- G** Treaty No. 3 3/4: from the Crown to Joseph Brant, October 24th, 1795
- H** Treaty No. 5, May 22nd, 1798 (Chippewa)
- I** Treaty No. 6, September 7th, 1796 (Chippewa)
- J** Treaty No. 7, September 7th, 1796 (Chippewa)
- L** Treaty No. 13, August 1st, 1805 (Mississauga)
- M** Treaty No. 13A, August 2nd, 1805 (Mississauga)
- N** Treaty No. 16, November 18th, 1815 (Chippewa)
- O** Treaty No. 18, October 17th, 1818 (Chippewa)
- P** Treaty No. 19, October 28th 1818 (Chippewa)
- Q** Treaty No. 20, November 5th, 1818 (Chippewa)
- R** Treaty No. 21, March 9th, 1819 (Chippewa)
- S** Treaty No. 27, May 31st, 1819 (Mississauga)
- T** Treaty No. 27½, April 25th, 1825 (Ojibwa and Chippewa)
- U** Treaty No. 35, August 13th, 1833 (Wyandot or Huron)
- V** Treaty No. 45, August 9th, 1836 (Chippewa and Odawa, "For All Indians To Reside Thereon")
- W** Treaty No. 45½, August 9th, 1836 (Saugeen)
- X** Treaty No. 57, June 1st, 1847 (Iroquois of St. Regis)
- Z** Treaty No. 61, September 9th, 1850 (Robinson Treaty: Ojibwa)
- AA** Treaty No. 72, October 30th, 1854 (Chippewa)
- AB** Treaty No. 82, February 9th, 1857 (Chippewa)
- AF** Williams Treaty, October 31st and November 15th, 1923 (Chippewa and Mississauga)
- AG** Williams Treaty, October 31st, 1923 (Chippewa)

Notes

1. Coordinate System: NAD 1983 Statistics Canada Lambert
2. Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2013.
3. Treaty boundaries adapted from MNR July 1980, based on map compiled by J.L. Morris 2 March 1931. For cartographic representation only.

October 2013  
160940253

Client/Project

Kingston Solar LP  
Sol-luce Kingston Solar PV Energy Project  
Additional Stage 2 Archaeological Assessment

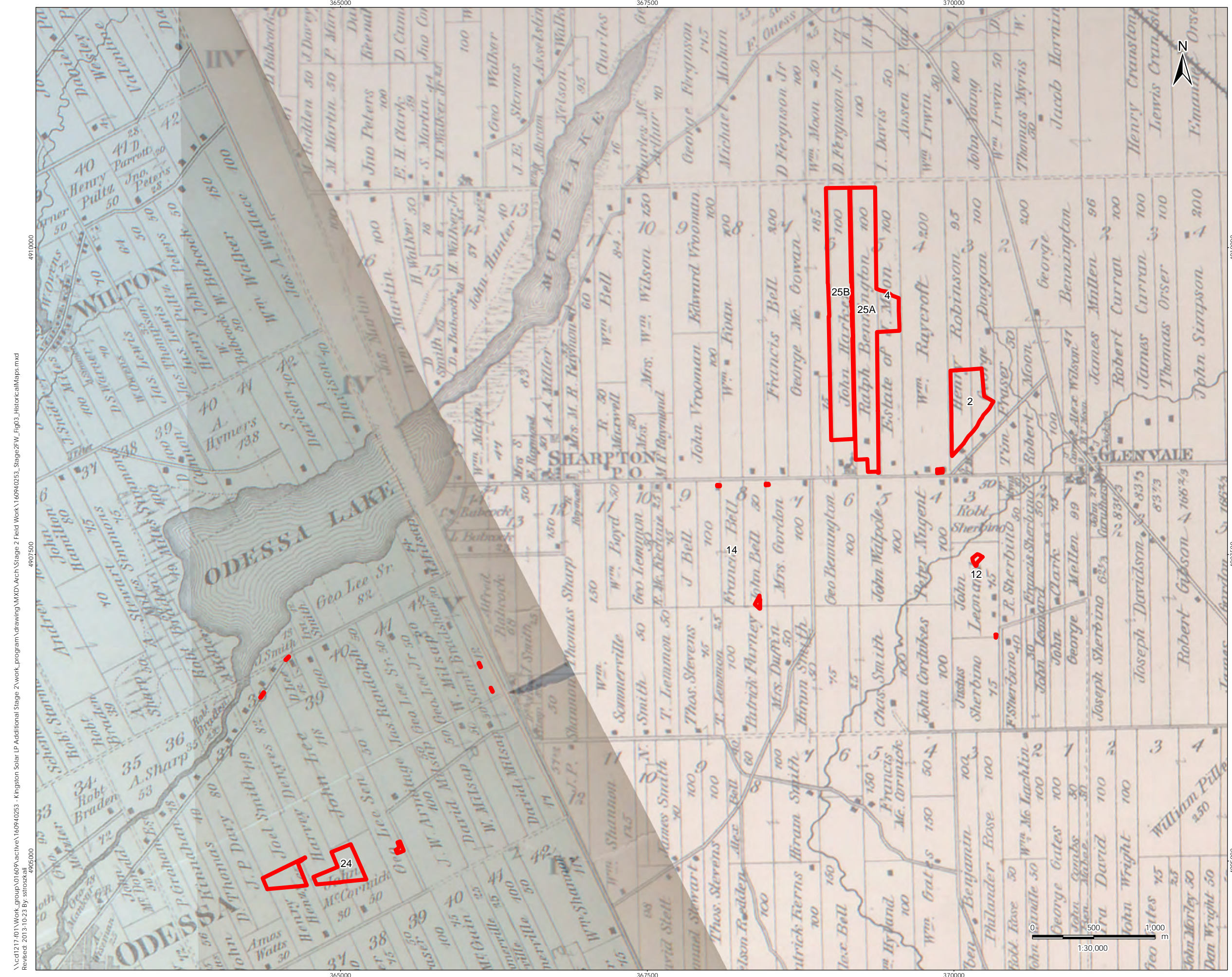
Figure No.

2

Title

Treaties and Purchases  
(Adapted from Morris 1931)

\\cd1217101\Work\_group\01609\active\160940253 - Kingston Solar LP Additional Stage 2\work\_program\drawing\MXD\Arch\Stage 2 Field Work\160940253\_Stage2\FW\_Fig02\_Treaties.mxd  
 Revised: 2013-10-22 By: sstroszka



Legend  
 Location of Study Area

- Notes
1. Coordinate System: NAD 1983 CSRS UTM Zone 18N
  2. Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2013.
  3. Frontenac, Lennox and Addington Counties (Ontario Map Ref #31 and #30) Illustrated historical atlas of the counties of Frontenac, Lennox and Addington, Ontario. Toronto : J.H. Meacham & Co., 1878. McGill University, Rare Books Division, eIF G1148.F7J3 1878

October 2013  
160940253

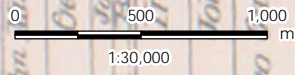
Client/Project  
 Kingston Solar LP  
 Sol-luce Kingston Solar PV Energy Project  
 Additional Stage 2 Archaeological Assessment

Figure No.  
 3

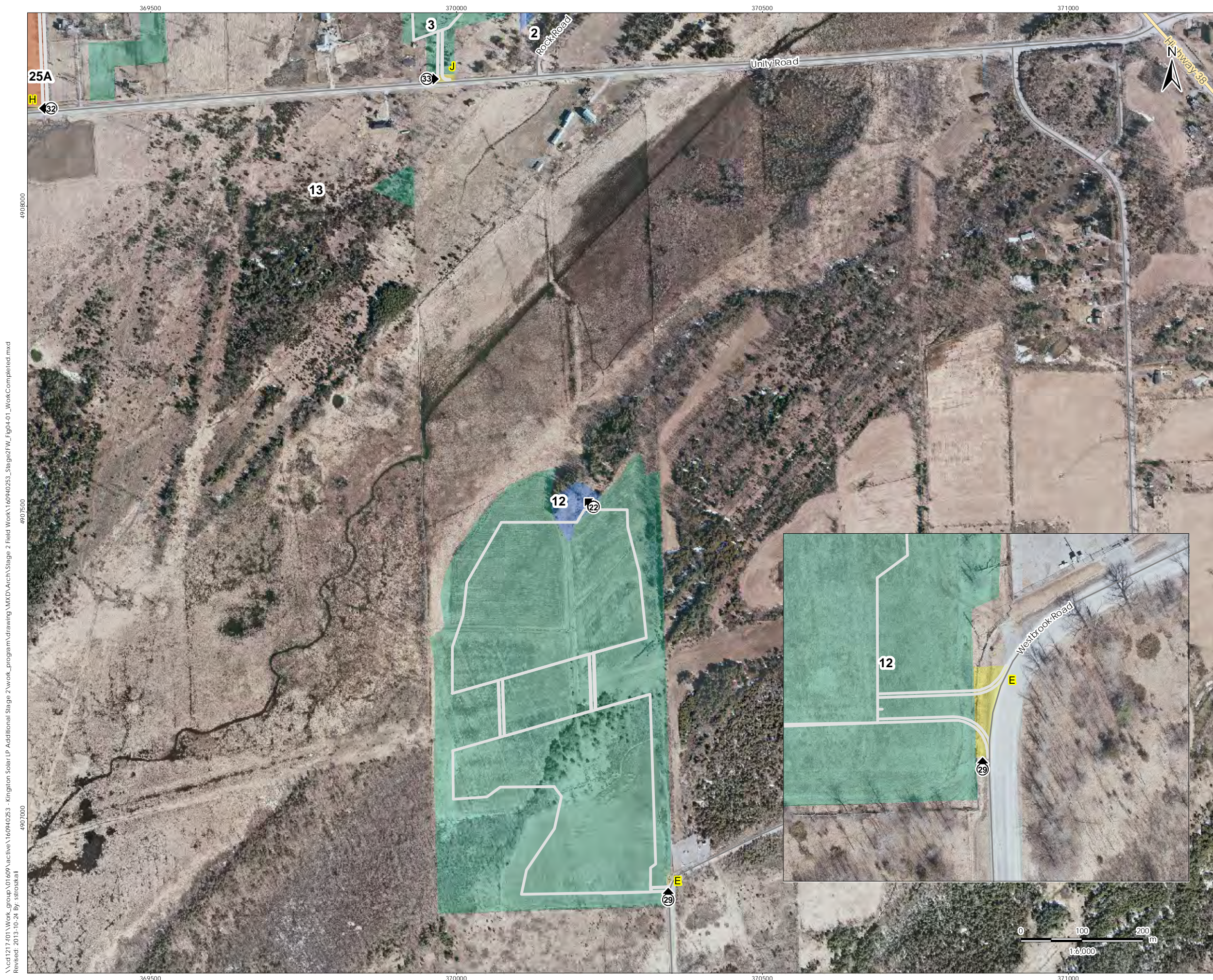
Title  
 Historical Maps

\\cd1217\01\Work\_group\01609\_active\160940253 - Kingston Solar LP Additional Stage 2 Field Work\160940253\_Stage2\FW\_Fig03\_HistoricalMaps.mxd  
 Revised: 2013-10-23 By: sstrosckel  
 4907500

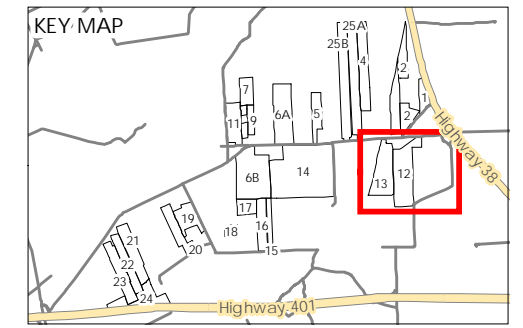
4910000  
 4907500  
 4905000







- Legend**
- Highway
  - Other Road
  - General Solar Layout Boundary
  - Photo Location
- Stage 2 Work Completed**
- AMEC (2012a; 2012b; 2012c)
  - Golder (2012)
  - Stantec - Pedestrian Survey at 5m Intervals
  - Stantec - Previously Disturbed, Not Assessed
  - Stantec - Test Pit at 5m Intervals
- 1** Property Number Assigned by Kingston Solar LP



- Notes**
1. Coordinate System: NAD 1983 CSRS UTM Zone 18N
  2. Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2013.

October 2013  
160940253

Client/Project  
Kingston Solar LP  
Sol-luce Kingston Solar PV Energy Project  
Additional Stage 2 Archaeological Assessment

Figure No.  
4-1

Title  
Stage 2 Archaeological Assessment  
Survey Methods

\\cd1217101\Work\_group\01609\active\160940253 - Kingston Solar LP Additional Stage 2 Field Work\160940253\_Stage2\FW\_Fig04-01\_WorkCompleted.mxd  
 Revised: 2013-10-24 By: sstroska

367500

368000

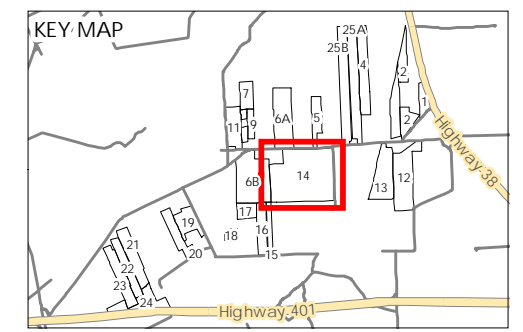
368500

25B



Legend

- Highway
- Other Road
- General Solar Layout Boundary
- Photo Location
- Stage 2 Work Completed**
- AMEC (2012a; 2012b; 2012c)
- Golder (2012)
- Stantec - Pedestrian Survey at 5m Intervals
- Stantec - Previously Disturbed, Not Assessed
- Stantec - Test Pit at 5m Intervals
- 1** Property Number Assigned by Kingston Solar LP



- Notes
1. Coordinate System: NAD 1983 CSRS UTM Zone 18N
  2. Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2013.

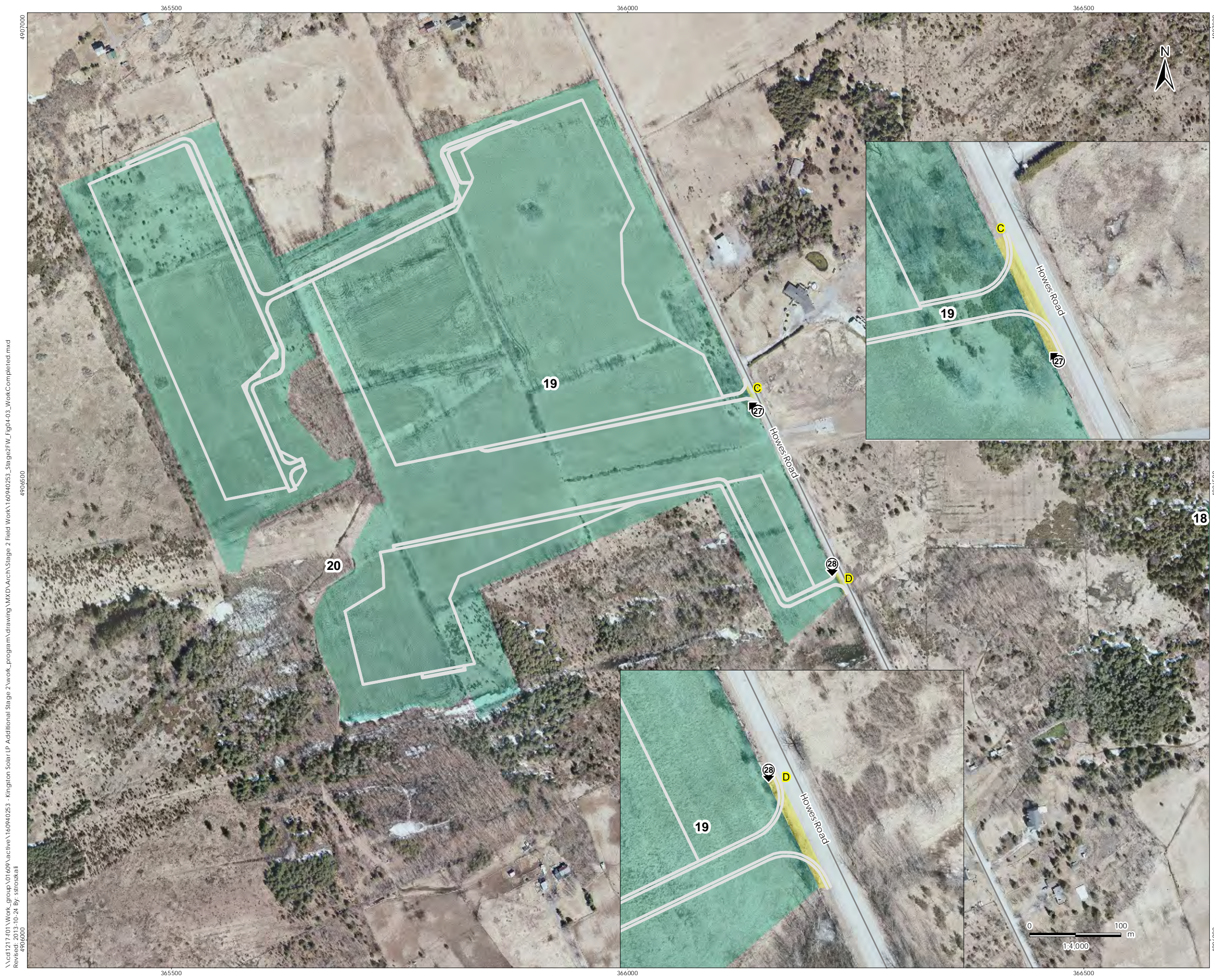
October 2013  
160940253

Client/Project  
 Kingston Solar LP  
 Sol-luce Kingston Solar PV Energy Project  
 Additional Stage 2 Archaeological Assessment

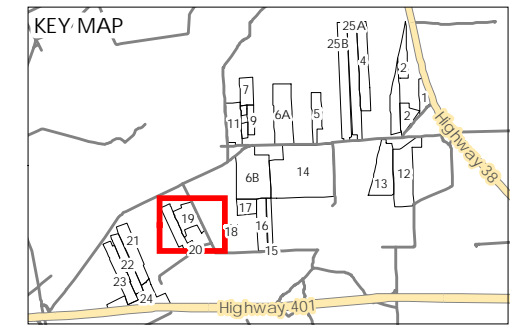
Figure No.  
 4-2

Title  
 Stage 2 Archaeological Assessment  
 Survey Methods

\\cd1217\01\Work\_group\01609\active\160940253 - Kingston Solar LP Additional Stage 2 Field Work\160940253\_Stage2\FW\_Fig04-02\_WorkCompleted.mxd  
 Revised: 2013-10-24 By: sstroskski  
 4907000



- Legend**
- Highway
  - Other Road
  - General Solar Layout Boundary
  - Photo Location
- Stage 2 Work Completed**
- AMEC (2012a; 2012b; 2012c)
  - Golder (2012)
  - Stantec - Pedestrian Survey at 5m Intervals
  - Stantec - Previously Disturbed, Not Assessed
  - Stantec - Test Pit at 5m Intervals
- 1** Property Number Assigned by Kingston Solar LP



- Notes**
1. Coordinate System: NAD 1983 CSRS UTM Zone 18N
  2. Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2013.

Client/Project  
 Kingston Solar LP  
 Sol-luce Kingston Solar PV Energy Project  
 Additional Stage 2 Archaeological Assessment

Figure No.  
 4-3

Title  
 Stage 2 Archaeological Assessment  
 Survey Methods

\\cd1217101\Work\_group\01609\active\160940253 - Kingston Solar LP Additional Stage 2 Field Work\160940253\_Stage2\FW\_Fig04-03\_WorkCompleted.mxd  
 Revised: 2013-10-24 By: sstroszka  
 4906000

364000

364500

365000

4906500

4906500

4906000

4906000

364000

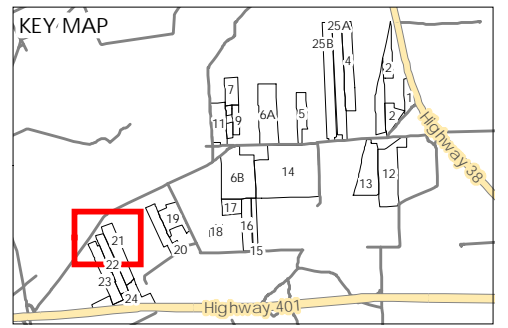
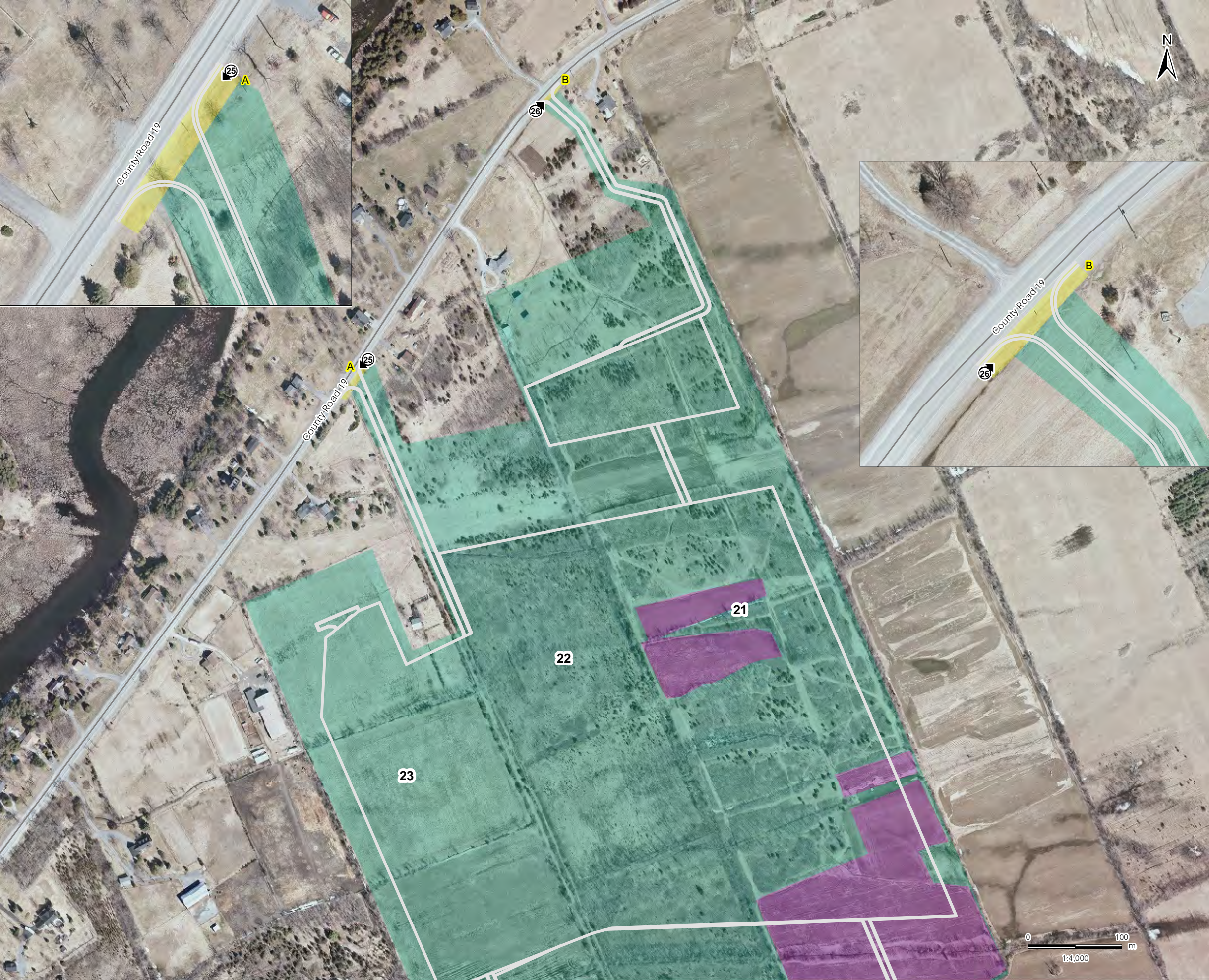
364500

365000



Legend

- Highway
  - Other Road
  - General Solar Layout Boundary
  - Photo Location
- Stage 2 Work Completed
- AMEC (2012a; 2012b; 2012c)
  - Golder (2012)
  - Stantec - Pedestrian Survey at 5m Intervals
  - Stantec - Previously Disturbed, Not Assessed
  - Stantec - Test Pit at 5m Intervals
- 1** Property Number Assigned by Kingston Solar LP



Notes

1. Coordinate System: NAD 1983 CSRS UTM Zone 18N
2. Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2013.

October 2013  
160940253

Client/Project  
 Kingston Solar LP  
 Sol-luce Kingston Solar PV Energy Project  
 Additional Stage 2 Archaeological Assessment

Figure No.  
 4-4

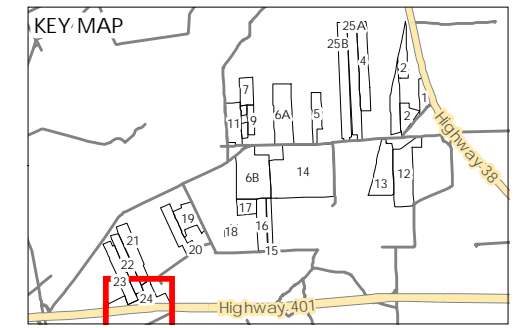
Title  
 Stage 2 Archaeological Assessment  
 Survey Methods

\\cd1217101\Work\_group\01609\active\160940253 - Kingston Solar LP Additional Stage 2\work\_program\drawing\MXD\Arch\Stage 2 Field Work\160940253\_Stage2\FW\_Fig04-04\_WorkCompleted.mxd  
 Revised: 2013-10-24 By: sstroszka

\\cd1217-101\Work\_group\01609\active\160940253 - Kingston Solar LP Additional Stage 2 Field Work\160940253\_Stage2\FW\_Fig04-05\_WorkCompleted.mxd  
 49045000  
 Revised: 2013-10-24 By: sstroszka ll  
 49045000



- Legend**
- Highway
  - Other Road
  - General Solar Layout Boundary
  - Photo Location
- Stage 2 Work Completed**
- AMEC (2012a; 2012b; 2012c)
  - Golder (2012)
  - Stantec - Pedestrian Survey at 5m Intervals
  - Stantec - Previously Disturbed, Not Assessed
  - Stantec - Test Pit at 5m Intervals
- 1** Property Number Assigned by Kingston Solar LP



- Notes**
1. Coordinate System: NAD 1983 CSRS UTM Zone 18N
  2. Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2013.

October 2013  
160940253

---

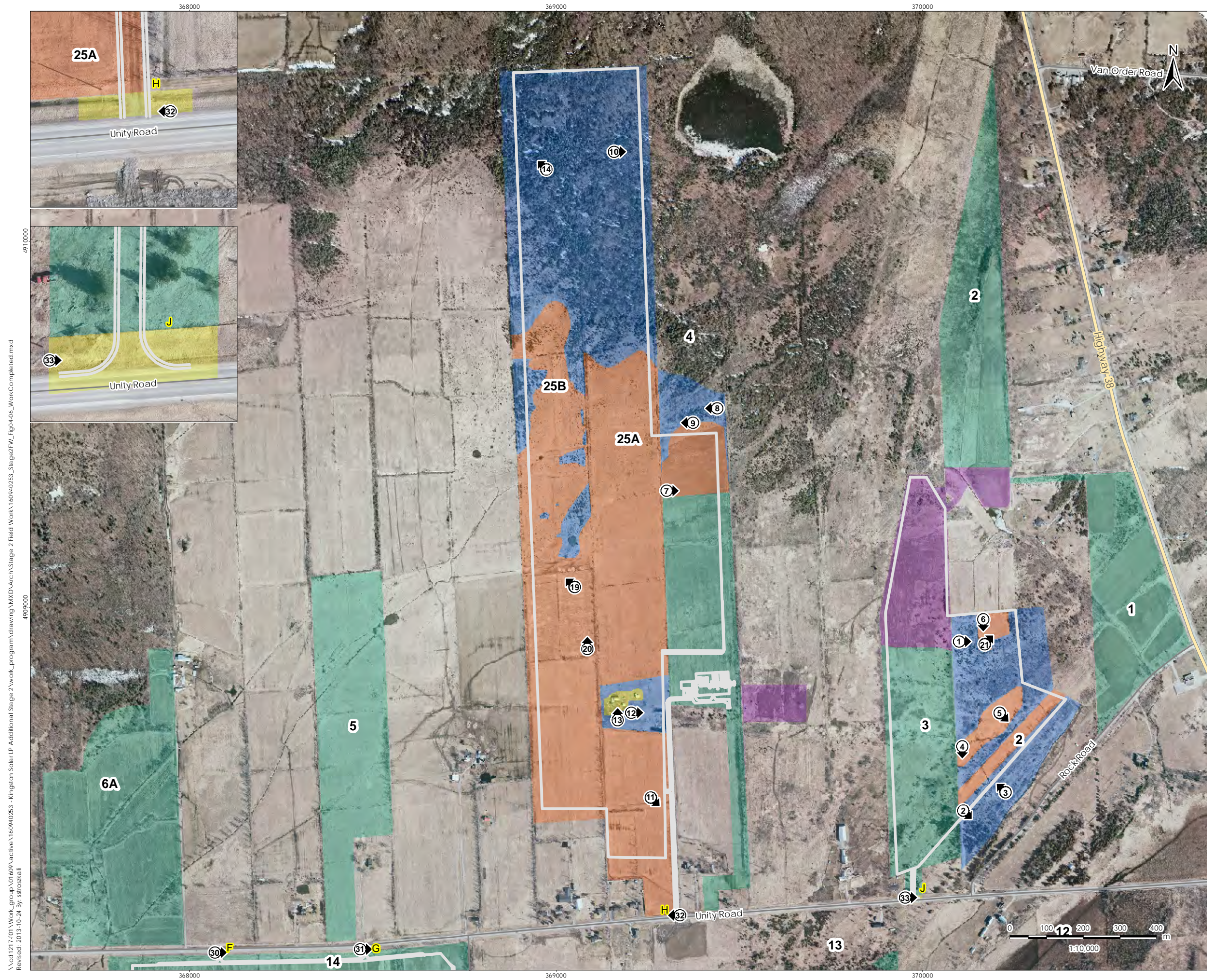
Client/Project  
 Kingston Solar LP  
 Sol-luce Kingston Solar PV Energy Project  
 Additional Stage 2 Archaeological Assessment

---

Figure No.  
 4-5

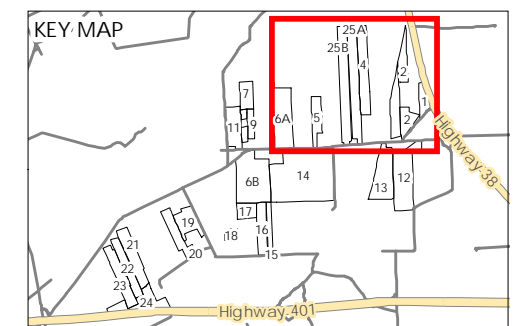
---

Title  
 Stage 2 Archaeological Assessment  
 Survey Methods



Legend

- Highway
- Other Road
- General Solar Layout Boundary
- Photo Location
- Stage 2 Work Completed
  - AMEC (2012a; 2012b; 2012c)
  - Golder (2012)
  - Stantec - Pedestrian Survey at 5m Intervals
  - Stantec - Previously Disturbed, Not Assessed
  - Stantec - Test Pit at 5m Intervals
- 1** Property Number Assigned by Kingston Solar LP



Notes

1. Coordinate System: NAD 1983 CSRS UTM Zone 18N
2. Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2013.

October 2013  
160940253

Client/Project  
Kingston Solar LP  
Sol-luce Kingston Solar PV Energy Project  
Additional Stage 2 Archaeological Assessment

Figure No.  
4-6

Title  
**Stage 2 Archaeological Assessment  
Survey Methods**

\\cd1217101\Work\_group\01609\active\160940253 - Kingston Solar LP Additional Stage 2\work\_program\drawing\MXD\Arch\Stage 2 Field Work\160940253\_Stage2\FW\_Fig04-06\_WorkCompleted.mxd  
 Revised: 2013-10-24 By: sstroszka

**SOL-LUCE KINGSTON SOLAR PV ENERGY PROJECT  
ADDITIONAL STAGE 2 ARCHAEOLOGICAL ASSESSMENT**

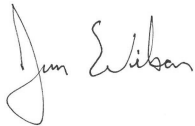
Closure  
October 23, 2013

## **10.0 Closure**

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

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

Yours truly,



**Jim Wilson, MA**  
Regional Discipline Leader, Archaeology  
Principal  
Tel: (613) 722-4420  
Fax: (613) 722-2799  
[Jim.Wilson@Stantec.com](mailto:Jim.Wilson@Stantec.com)



**Walter McCall, Ph.D.**  
Director of Field Operations  
Tel: (519) 645-2007  
Fax: (519) 645-6575  
[Walter.McCall@Stantec.com](mailto:Walter.McCall@Stantec.com)

**Sol-luce Kingston Solar PV Energy  
Project  
Additional Stage 2 Archaeological  
Assessment**

Various Lots, Concessions 5 and 6  
Western Addition, Geographic  
Township of Kingston, now City of  
Kingston, Frontenac County; Various  
Lots, Concession 4, Geographic  
Township of Ernestown, now Loyalist  
Township, Lennox and Addington  
County, Ontario



Prepared for:  
A. Jose De Armas  
Manager, Project Development  
Kingston Solar LP  
55 Standish Court, 9th Floor  
Mississauga, ON L5R 4B2

Prepared by:  
Stantec Consulting Ltd.  
200-835 Paramount Drive  
Stoney Creek, ON L8J 0B4  
Licensee: Walter McCall (P389)  
PIF Number: P389-0016-2013

**ORIGINAL SUPPLEMENTARY  
DOCUMENTATION**

October 23, 2013



**SOL-LUCE KINGSTON SOLAR PV ENERGY PROJECT  
ADDITIONAL STAGE 2 ARCHAEOLOGICAL ASSESSMENT**

**Table of Contents**

**1.0 SUPPLEMENT A: MAPS..... 1**

**2.0 SUPPLEMENT B: UTM COORDINATES ..... 8**

**LIST OF TILES**

Figure 5-1: Stage 2 Archaeological Assessment Methods and Results..... 2

Figure 5-2: Stage 2 Archaeological Assessment Methods and Results..... 3

Figure 5-3: Stage 2 Archaeological Assessment Methods and Results..... 4

Figure 5-4: Stage 2 Archaeological Assessment Methods and Results..... 5

Figure 5-5: Stage 2 Archaeological Assessment Methods and Results..... 6

Figure 5-6: Stage 2 Archaeological Assessment Methods and Results..... 7

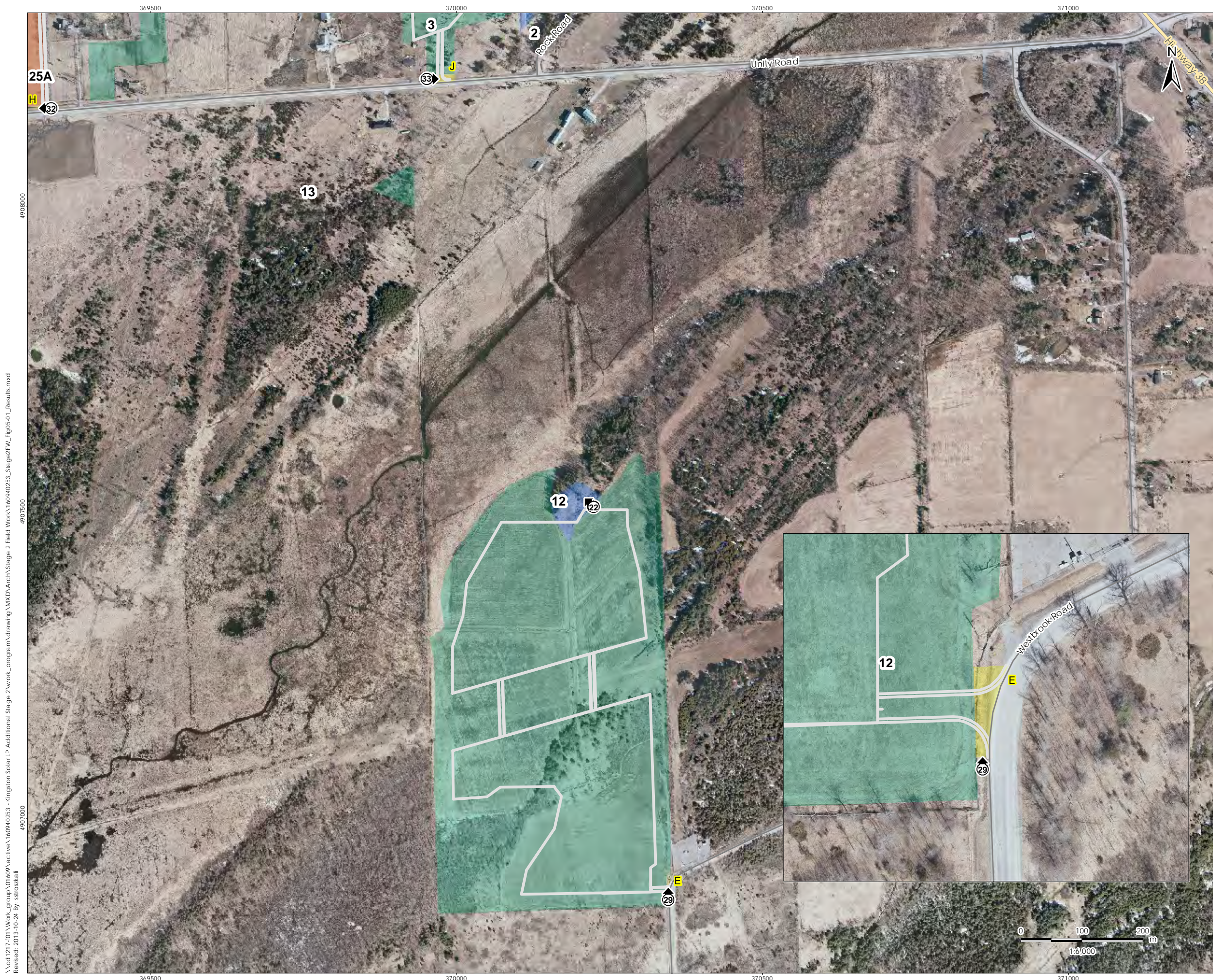
**LIST OF TABLES**

Table 1: UTM Coordinates for Stantec Location 1 (BbGd-58) ..... 8

**SOL-LUCE KINGSTON SOLAR PV ENERGY PROJECT  
ADDITIONAL STAGE 2 ARCHAEOLOGICAL ASSESSMENT**

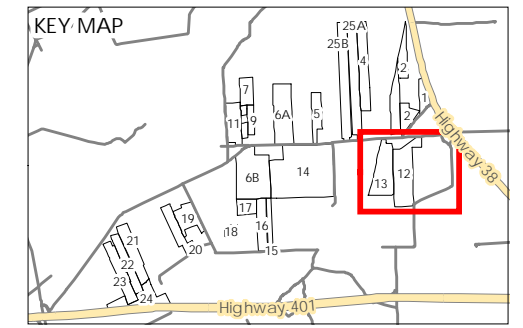
## **1.0 Supplement A: Maps**

The following pages provide maps for the Stage 2 assessment of the Sol-luce Kingston Solar PV Energy Project study area, illustrating the exact site locations.



Legend

- Highway
- Other Road
- General Solar Layout Boundary
- Photo Location
- Stage 2 Work Completed
  - AMEC (2012a; 2012b; 2012c)
  - Golder (2012)
  - Stantec - Pedestrian Survey at 5m Intervals
  - Stantec - Previously Disturbed, Not Assessed
  - Stantec - Test Pit at 5m Intervals
- 1** Property Number Assigned by Kingston Solar LP



Notes

1. Coordinate System: NAD 1983 CSRS UTM Zone 18N
2. Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2013.

October 2013  
160940253

Client/Project

Kingston Solar LP  
Sol-luce Kingston Solar PV Energy Project  
Additional Stage 2 Archaeological Assessment

Figure No.

5-1

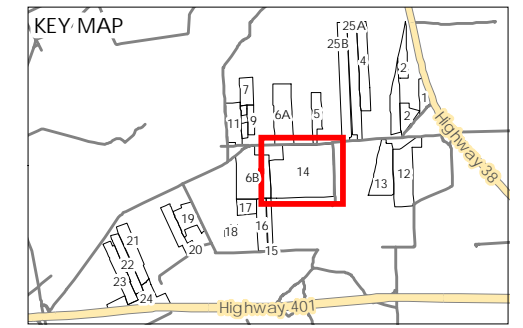
Title

Stage 2 Archaeological Assessment  
Survey Methods and Results

\\cd1217101\Work\_group\01609\active\160940253 - Kingston Solar LP Additional Stage 2 Field Work\160940253\_Stage2\FW\_Fig05-01\_Results.mxd  
 Revised: 2013-10-24 By: sstroska



- Legend**
- Highway
  - Other Road
  - General Solar Layout Boundary
  - Photo Location
- Stage 2 Work Completed**
- AMEC (2012a; 2012b; 2012c)
  - Golder (2012)
  - Stantec - Pedestrian Survey at 5m Intervals
  - Stantec - Previously Disturbed, Not Assessed
  - Stantec - Test Pit at 5m Intervals
- 1** Property Number Assigned by Kingston Solar LP



- Notes**
1. Coordinate System: NAD 1983 CSRS UTM Zone 18N
  2. Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2013.

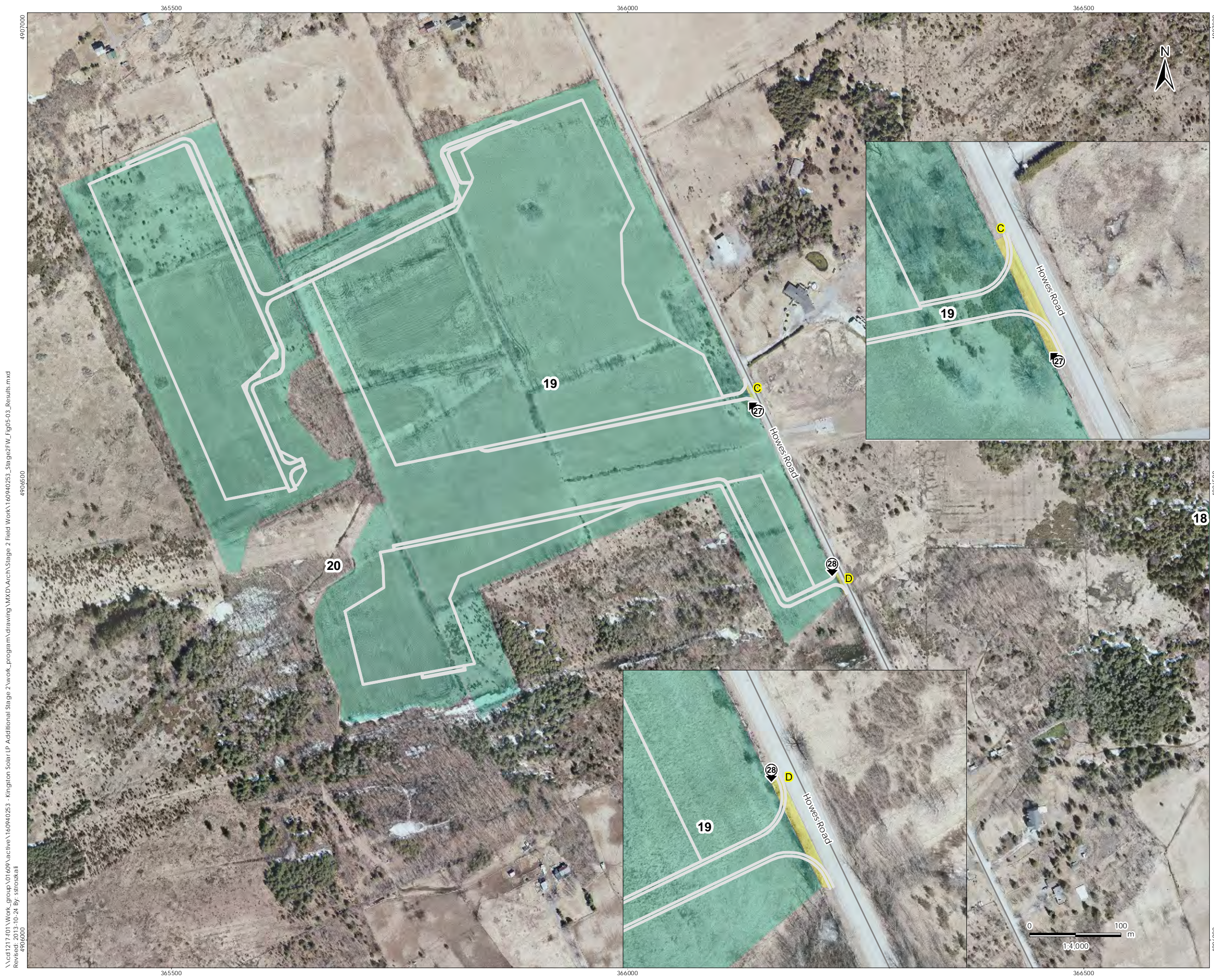
October 2013  
160940253

Client/Project  
Kingston Solar LP  
Sol-luce Kingston Solar PV Energy Project  
Additional Stage 2 Archaeological Assessment

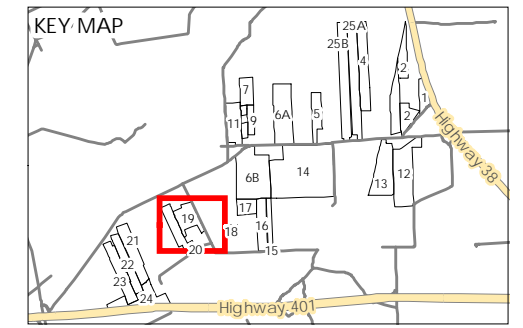
Figure No.  
5-2

Title  
**Stage 2 Archaeological Assessment  
Survey Methods and Results**

\\cd1217101\Work\_group\01609\active\160940253 - Kingston Solar LP Additional Stage 2 Field Work\160940253\_Stage2\FW\_Fig05-02\_Results.mxd  
 Revised: 2013-10-24 By: sstroskski  
 4907000



- Legend**
- Highway
  - Other Road
  - General Solar Layout Boundary
  - Photo Location
- Stage 2 Work Completed**
- AMEC (2012a; 2012b; 2012c)
  - Golder (2012)
  - Stantec - Pedestrian Survey at 5m Intervals
  - Stantec - Previously Disturbed, Not Assessed
  - Stantec - Test Pit at 5m Intervals
- 1** Property Number Assigned by Kingston Solar LP



- Notes**
1. Coordinate System: NAD 1983 CSRS UTM Zone 18N
  2. Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2013.

Client/Project  
 Kingston Solar LP  
 Sol-luce Kingston Solar PV Energy Project  
 Additional Stage 2 Archaeological Assessment

Figure No.  
 5-3

Title  
 Stage 2 Archaeological Assessment  
 Survey Methods and Results

\\cd1217101\Work\_group\01609\active\160940253 - Kingston Solar LP Additional Stage 2 Field Work\160940253\_Stage2\FW\_Fig05-03\_Results.mxd  
 Revised: 2013-10-24 By: sstroski  
 4906000

365500

366000

366500

4907000

4907000

4906500

4906500

365500

366000

366500

4906000

364000

364500

365000

4906500

4906500

4906000

4906000

364000

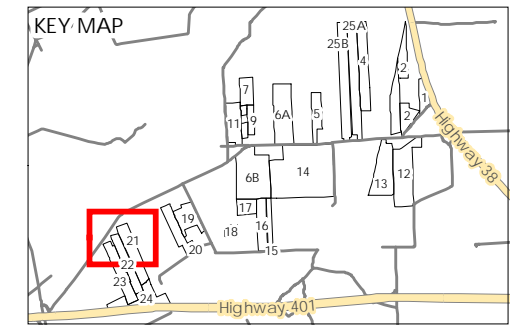
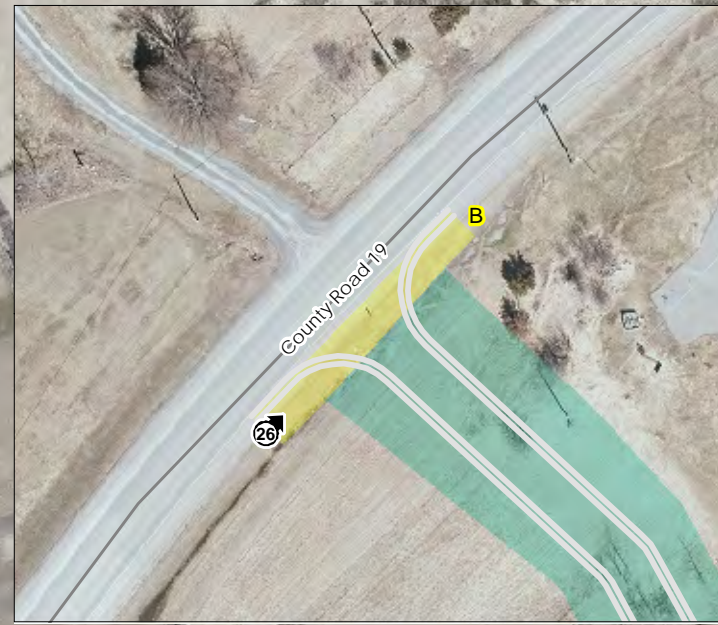
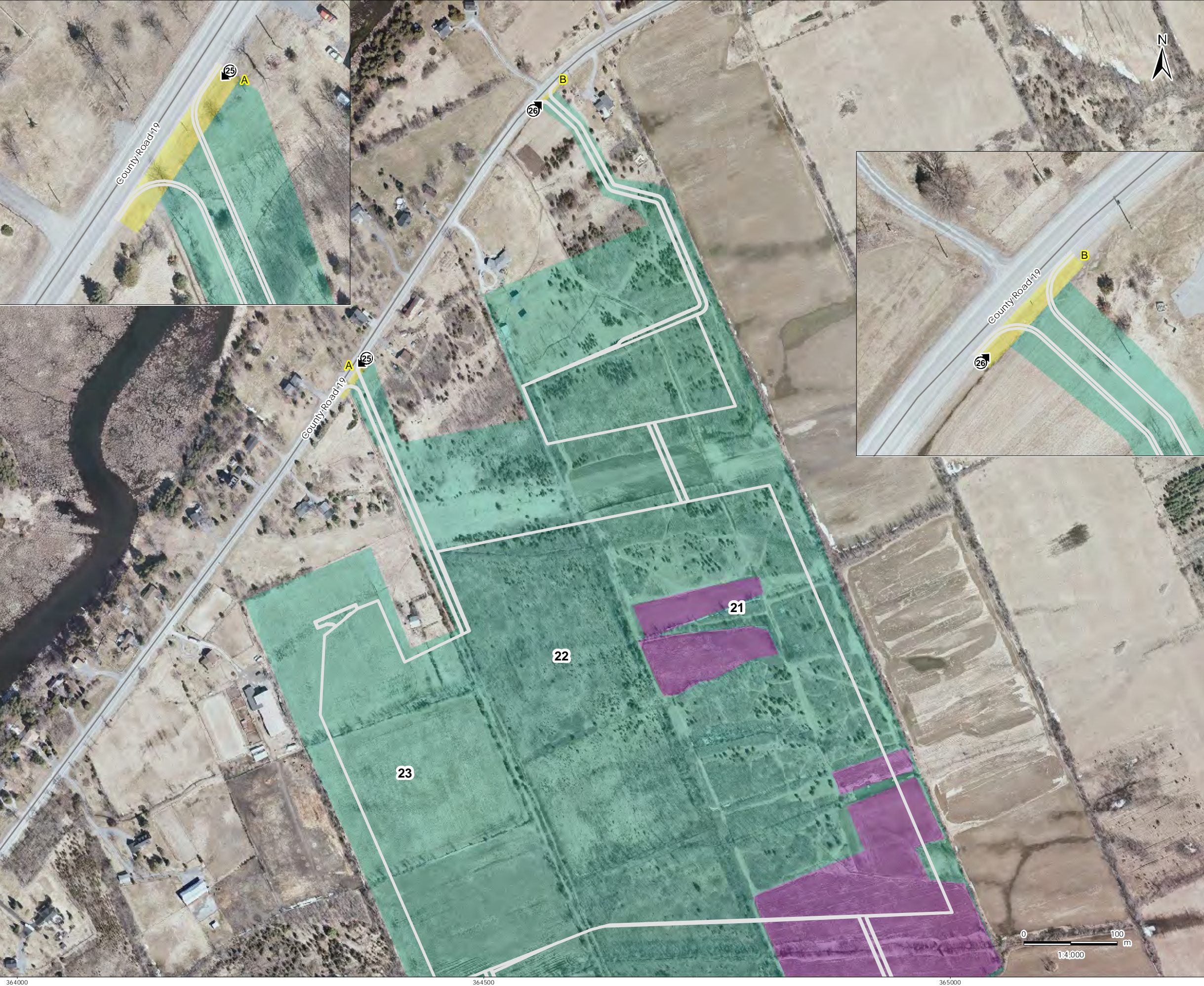
364500

365000



Legend

- Highway
- Other Road
- General Solar Layout Boundary
- Photo Location
- Stage 2 Work Completed**
- AMEC (2012a; 2012b; 2012c)
- Golder (2012)
- Stantec - Pedestrian Survey at 5m Intervals
- Stantec - Previously Disturbed, Not Assessed
- Stantec - Test Pit at 5m Intervals
- 1** Property Number Assigned by Kingston Solar LP



Notes

1. Coordinate System: NAD 1983 CSRS UTM Zone 18N
2. Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2013.

October 2013  
160940253

Client/Project

Kingston Solar LP  
Sol-luce Kingston Solar PV Energy Project  
Additional Stage 2 Archaeological Assessment

Figure No.

5-4

Title

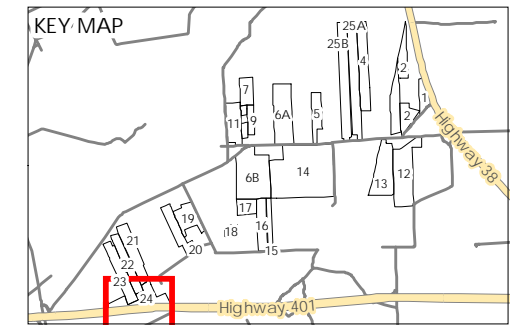
Stage 2 Archaeological Assessment  
Survey Methods and Results

\\cd1217101\work\_group\01609\active\160940253 - Kingston Solar LP Additional Stage 2\work\_program\drawing\MXD\Arch\Stage 2 Field Work\160940253\_Stage2\FW\_Fig05-04\_Results.mxd  
Revised: 2013-10-24 By: sstroszka

\\cd1217101\Work\_group\01609\active\160940253 - Kingston Solar LP Additional Stage 2 Field Work\160940253\_Stage2\FW\_Fig05-05\_Results.mxd  
4905000  
Revised: 2013-10-24 By: sstroszka



- Legend
- Highway
  - Other Road
  - General Solar Layout Boundary
  - Photo Location
- Stage 2 Work Completed
- AMEC (2012a; 2012b; 2012c)
  - Golder (2012)
  - Stantec - Pedestrian Survey at 5m Intervals
  - Stantec - Previously Disturbed, Not Assessed
  - Stantec - Test Pit at 5m Intervals
- 1 Property Number Assigned by Kingston Solar LP



- Notes
- Coordinate System: NAD 1983 CSRS UTM Zone 18N
  - Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2013.

October 2013  
160940253

---

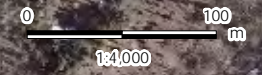
Client/Project  
Kingston Solar LP  
Sol-luce Kingston Solar PV Energy Project  
Additional Stage 2 Archaeological Assessment

---

Figure No.  
5-5

---

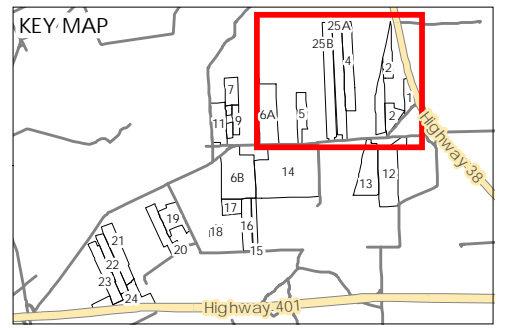
Title  
Stage 2 Archaeological Assessment  
Survey Methods and Results



\\cd1217101\Work\_group\01609\active\160940253 - Kingston Solar LP Additional Stage 2\work\_program\drawing\MXD\Arch\Stage 2 Field Work\160940253\_Stage2\FW\_Fig05-06\_Results.mxd  
 Revised: 2013-10-24 By: sstroszka



- Legend**
- Stantec Location 1
  - Highway
  - Other Road
  - General Solar Layout Boundary
  - Photo Location
- Stage 2 Work Completed**
- AMEC (2012a; 2012b; 2012c)
  - Golder (2012)
  - Stantec - Pedestrian Survey at 5m Intervals
  - Stantec - Previously Disturbed, Not Assessed
  - Stantec - Test Pit at 5m Intervals
- 1** Property Number Assigned by Kingston Solar LP



- Notes**
1. Coordinate System: NAD 1983 CSRS UTM Zone 18N
  2. Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2013.

Client/Project  
 Kingston Solar LP  
 Sol-luce Kingston Solar PV Energy Project  
 Additional Stage 2 Archaeological Assessment

Figure No.  
 5-6

Title  
 Stage 2 Archaeological Assessment  
 Survey Methods and Results

October 2013  
 160940253



SOL-LUCE KINGSTON SOLAR PV ENERGY PROJECT  
ADDITIONAL STAGE 2 ARCHAEOLOGICAL ASSESSMENT

## 2.0 Supplement B: UTM Coordinates

The UTM coordinates recorded during the Stage 2 archaeological assessment are provided below. All UTM coordinates were recorded using a Topcon FC-25 with Magnet software, using the North American Datum (NAD) 83, Zone 18. The UTM coordinates for Stantec Location 1 (BbGd-58) are:

Table 1: UTM Coordinates for Stantec Location 1 (BbGd-58)

| <b>Site Name</b>   | <b>Zone</b> | <b>Easting</b> | <b>Northing</b> |
|--------------------|-------------|----------------|-----------------|
| Stantec Location 1 | 18T         | 369426.0       | 4909502.0       |