

DRAFT

Stage 1 and 2 Archaeological Assessments Loyalist Solar Project L-006345-SPV-001-054 Township of Stone Mills Lennox & Addington County Multiple Lots and Concessions Geographic Townships of Camden and Sheffield Lennox & Addington County, Ontario

> Prepared for Loyalist Solar LP c/o BluEarth Renewables Inc. 34 Harvard Road Guelph, ON N1G 4V8 Tel: 1-844-214-2578 &

The Ministry of Tourism, Culture and Sport

Licenced under P.J. Racher, M.A., CAHP MTCS Licence #P007 PIF #P007-0744-2016 ARA File #2016-0169

21/10/2016

Original Report

EXECUTIVE SUMMARY

Under a contract awarded in April 2016, Archaeological Research Associates Ltd. carried out Stage 1 and Stage 2 archaeological assessments of lands with the potential to be impacted by the proposed Loyalist Solar Project in the Township of Stone Mills, Lennox & Addington County, Ontario. The assessments were completed as part of Renewable Energy Approval application, in accordance with the requirements set out in Sections 21 and 22 of Ontario Regulation 359/09 under Part V.0.1 of the *Environmental Protection Act*. This report documents the background research and fieldwork involved in the assessments, and presents conclusions and recommendations pertaining to archaeological concerns within the assessed area.

Loyalist Solar LP, a partnership between BluEarth Renewables Inc. and the Mohawks of the Bay of Quinte, is proposing to develop a Class 3 Solar Facility with a maximum nameplate capacity of 54 MW AC. A proposal was submitted to the Independent Electricity System Operator under the Large Renewable Procurement process, and a contract was awarded to generate electricity (Reference Number L-006345-SPV-001-054). The project will utilize both privately-owned leased lands and municipal road Rights-of-Way, and major components will include solar photovoltaic panels, racking systems, inverters, access roads, underground and/or overhead collector cables, a connection line to transmit the generated energy and a transformer substation adjacent to the existing 230 kV transmission line. A variety of other project components will be required during the construction, operation and decommissioning of the project, all of which will fall within the limits of the project location/Construction Disturbance Area (Dillon Consulting Ltd. 2016).

The Stage 1 and 2 assessments were conducted concurrently between April and October 2016 under PIF #P007-0744-2016. The assessments encompassed the entirety of the proposed project location and additional lands previously under consideration for development (i.e., areas removed from the project design and included in the subject report in fulfillment of archaeological licensing requirements). All of the additional lands were subject to Stage 1 and 2 assessments, save for the Lockridge Road Right-of-Way which was only subject to a Stage 1 property inspection. Legal permission to enter and conduct all necessary fieldwork activities within the assessed lands was granted by the property owners. At the time of assessment, the study area comprised a mixture of agricultural fields, pasture, grassed areas and wooded areas, as well as a variety of municipal roadways (e.g., Hinch Road, Rattie Road, Centreville Road, County Road 27, Teskey Road, Miller Road, Sheffield Bridge Road) and their associated embankments and ditches.

The Stage 1 assessment determined that the study area comprised a mixture of areas of archaeological potential and areas of no archaeological potential. The Stage 2 assessment of the identified areas of archaeological potential resulted in the identification of 16 locations of archaeological materials: Pre-Contact Findspot 2, Findspot 4, Findspot 9 (BcGf-8), Findspot 10 (BcGf-15), Findspot 11 (BcGf-9) and Findspot 12; Euro-Canadian Findspot 1 (BcGf-7), Findspot 5, Findspot 6 (BcGf-14), Findspot 7, Findspot 8 (BcGf-13), Findspot 11 (BcGf-9), Findspot 13, Findspot 14 (BcGf-10) and Findspot 15 (BcGf-12); and multi-component Findspot 3. Findspots 1, 8, 9, 11, 14, 15 and 16 were found to be of further cultural heritage value or interest, whereas Findspots 2, 3, 4, 5, 6, 7, 10, 12 and 13 were found to be of no further cultural heritage value or interest. All of the sites fall within the project location, save for Findspot 9 (BcGf-8). This

site was avoided through a project redesign associated with the identification of a Loggerhead Shrike nest and is currently 80 m south of the project location.

Regarding the project location/Construction Disturbance Area, Archaeological Research Associates Ltd. recommends that 1) Findspots 1, 8, 9, 11, 14, 15 and 16 be subject to Stage 3 site-specific assessment in advance of construction, 2) Findspots 2, 3, 4, 5, 6, 7, 10, 12 and 13 do not require further archaeological assessment and 3) the remainder of the project location does not require further archaeological assessment.

Regarding the additional lands previously under consideration for development (i.e., areas removed from the project design and included in the subject report in fulfillment of archaeological licensing requirements), it is recommended that 1) Findspot 9 be subject to Stage 3 site-specific assessment if any future developments are contemplated, 2) the portion of the Hinch Road Right-of-Way adjacent to the Camden Fifth Cemetery (within the additional lands) be subject to a Stage 3 burial site investigation if any future developments are contemplated, 3) that the identified areas of archaeological potential along Lockridge Road (within the additional lands) be subject to a Stage 2 assessment if any future developments are contemplated and 4) that the remainder of the additional lands do not require further archaeological assessment.

It is requested that this report be entered into the Ontario Public Register of Archaeological Reports, as provided for in Section 65.1 of the Ontario Heritage Act.

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GLOSSARY OF ABBREVIATIONS

Alderville – Alderville First Nation

ARA - Archaeological Research Associates Ltd.

CDA – Construction Disturbance Area

CHVI – Cultural Heritage Value or Interest

CPR – Canadian Pacific Railway

CSP - Controlled Surface Pickup

IESO - Independent Electricity System Operator

LRP - Large Renewable Procurement

MBQ – Mohawks of the Bay of Quinte

MTC - (Former) Ministry of Tourism and Culture

MTCS - Ministry of Tourism, Culture and Sport

O. Reg. - Ontario Regulation

PIF – Project Information Form

PTP – Positive Test Pit

PSW - Provincially Significant Wetland

REA – Renewable Energy Approval

RHF - Rural Historic Farmsteads Bulletin

ROW – Right-of-Way

S&Gs - Standards and Guidelines for Consultant Archaeologists

SD - Supplementary Documentation

PERSONNEL

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Material Culturalist: A. Carswell
Technical Writer: C.J. Gohm

1.0 PROJECT CONTEXT

1.1 Development Context

Under a contract awarded in April 2016, ARA carried out Stage 1 and Stage 2 archaeological assessments of lands with the potential to be impacted by the proposed Loyalist Solar Project in the Township of Stone Mills, Lennox & Addington County, Ontario. The assessments were completed as part of a REA application, in accordance with the requirements set out in Sections 21 and 22 of O. Reg. 359/09 under Part V.0.1 of the *Environmental Protection Act*. This report documents the background research and fieldwork involved in the assessments, and presents conclusions and recommendations pertaining to archaeological concerns within the assessed area.

Loyalist Solar LP, a partnership between BluEarth Renewables Inc. and the Mohawks of the Bay of Quinte, is proposing to develop a Class 3 Solar Facility with a maximum nameplate capacity of 54 MW AC. A proposal was submitted to the IESO under the LRP process, and a contract was awarded to generate electricity (Reference Number L-006345-SPV-001-054). The project will utilize both privately-owned leased lands and municipal road ROWs, and major components will include solar photovoltaic panels, racking systems, inverters, access roads, underground and/or overhead collector cables, a connection line to transmit the generated energy and a transformer substation adjacent to the existing 230 kV transmission line. A variety of other project components will be required during the construction, operation and decommissioning of the project, all of which will fall within the established project location/Construction Disturbance Area (Dillon Consulting Ltd. 2016).

The subject study area consists of 22 irregularly-shaped parcels/groupings of parcels with a total area of 326.14 ha located in the southwestern part of the Township of Stone Mills (see Map 1). These parcels are generally bounded by Howes Road to the north, Edges Road to the east, Nugent Road to the south and County Road 41 to the west. The assessments encompassed the entirety of the proposed project location and additional lands previously under consideration for development (i.e., areas removed from the project design and included in the subject report in fulfillment of archaeological licensing requirements). All of the additional lands were subject to Stage 1 and 2 assessments, save for the Lockridge Road ROW which was only subject to a Stage 1 property inspection. In legal terms, the study area falls on part of multiple lots and concessions in the Geographic Townships of Camden (also Camden East) and Sheffield (see Table 1).

Table 1. 1 after Elocations					
Parcel	Lot(s)	Concession(s)	Geographic Township		
NAP038	2	4	Camden		
NAP120/NAP030	4-5	4	Camden		
NAP118	8	4	Camden		
NAP023	9	4	Camden		
NAP768	2-12	4	Camden		
(Hinch Road)	2-12	5	Camden		
NAP021	4	5	Camden		
NAP022	5	5	Camden		
NAP010/011/022/124 (Rattie Road)	5-6	5	Camden		

Table 1: Parcel Locations

Parcel	Lot(s)	Concession(s)	Geographic Township
NAP013	8	5	Camden
NAP554 (Lockridge Road)	12-13	5	Camden
NAP011	6	5	Camden
NAP012/NAP553	7	5	Camden
NAP454/497/552/542	5-17	5	Camden
(Centreville Road)	5-17	6	Camden
NAP454	12-13	6	Camden
(North of Centreville Road)	12-13	7	Camden
NAP382/389/420	16-17	6	Camden
(County Road 27)	15-17	7	Camden
NAP284/361/370/377	12-16	7	Camden
(Teskey Road)	11-13	8	Camden
NAP251/252/320/323	17-19	7	Camden
(Marlin, Edges and Murphy Road)	18-19	8	Camden
NAP235/237/282/ 283/284/294	11	7	Camden
(North of Teskey Road)	11-14	8	Camden
	1	4	Sheffield
NAP163/165/175/199	1	5	Sheffield
(Miller Road)	14-15	8	Camden
	14-15	9	Camden
NAP185	15-18	8	Camden
(Haggerty Road East and West)	15-18	9	Camden
NAP162/175/725 + No Identifier	1	5	Sheffield
(Murphy and Sheffield Bridge Road)	17-19	7	Camden
NAP160	1	5	Sheffield

The Stage 1 and 2 assessments were conducted concurrently between April and October 2016 under PIF #P007-0744-2016. Legal permission to enter and conduct all necessary fieldwork activities within the assessed lands was granted by the property owners. In compliance with the objectives set out in Section 1.0 and Section 2.0 of the S&Gs (MTC 2011:13–41), these investigations were carried out in order to:

- Provide information concerning the geography, history and current land condition of the study area;
- Determine the presence of known archaeological sites in the study area;
- Evaluate in detail the archaeological potential of the study area;
- Empirically document all archaeological resources within the study area;
- Determine whether the study area contains archaeological resources requiring further assessment; and
- Recommend appropriate Stage 3 assessment strategies, if any archaeological resources requiring further assessment are identified.

The MTCS is asked to review the results and recommendations presented in this report and express their satisfaction with the fieldwork and reporting through a *Letter of Review and Entry into the Ontario Public Register of Archaeological Reports*.

1.2 Historical Context

After a century of archaeological work in southern Ontario, scholarly understanding of the historic usage of the area has become very well-developed. With occupation beginning in the Palaeo-Indian period approximately 11,000 years ago, the greater vicinity of the study area comprises a complex chronology of Pre-Contact and Euro-Canadian histories. Section 1.2.1 provides an overview of the region's settlement history, and Section 1.2.2 summarizes the past and present land use of the study area. No other archaeological reports containing relevant background information (influencing the choice of fieldwork strategy or recommendations) were identified during the research component of the study.

1.2.1 Settlement History

1.2.1.1 Pre-Contact

The Pre-Contact history of the region is lengthy and rich, and a variety of Aboriginal groups inhabited the landscape. Archaeologists generally divide this vibrant history into three main periods: Palaeo-Indian, Archaic and Woodland. Each of these periods comprises a range of discrete sub-periods characterized by identifiable trends in material culture and settlement patterns, which are used to interpret indigenous lifeways. The principal characteristics of these sub-periods are summarized in Table 2.

Sub-Period	Timeframe	Characteristics		
Early Palaeo-Indian	9000–8400 BC	Gainey, Barnes and Crowfield traditions; Small bands; Mobile hunters and gatherers; Utilization of seasonal resources and large territories; Fluted projectiles		
Late Palaeo-Indian	8400–7500 BC	Holcombe, Hi-Lo and Lanceolate biface traditions; Continuing mobility; Campsite/Way-Station sites; Smaller territories are utilized; Non-fluted projectiles		
Early Archaic	7500–6000 BC	Side-notched, Corner-notched (Nettling, Thebes) and Birfurcate Base traditions; Growing diversity of stone tool types; Heavy woodworking tools appear (e.g., ground stone axes and chisels)		
Middle Archaic	6000–2500 BC	Stemmed (Kirk, Stanly/Neville), Brewerton side- and corner-notched traditions Reliance on local resources; Populations increasing; More ritual activities; Fully ground and polished tools; Net-sinkers common; Earliest copper tools		
Late Archaic	2500–900 BC	Narrow Point (Lamoka), Broad Point (Genesee) and Small Point (Crawford Knoll) traditions; Less mobility; Use of fish-weirs; True cemeteries appear; Stone pipes emerge; Long-distance trade (marine shells and galena)		
Early Woodland	900–400 BC	Meadowood tradition; Crude cord-roughened ceramics emerge; Meadowood cache blades and side-notched points; Bands of up to 35 people		
Middle Woodland	400 BC-AD 600	Point Peninsula tradition; Vinette 2 ceramics appear; Small camp sites and seasonal village sites; Influences from northern Ontario and Hopewell area to the south; Hopewellian influence can be seen in continued use of burial mounds		
Middle/Late Woodland Transition	AD 600–900	Gradual transition between Point Peninsula and Iroquoian lifeways; Princess Point tradition emerges elsewhere (i.e., in the vicinity of the Grand and Credit Rivers)		
Late Woodland (Early Iroquoian)	AD 900–1300	Glen Meyer tradition; Settled village-life based on agriculture; Small villages (0.4 ha) with 75–200 people and 4–5 longhouses; Semi-permanent settlements		
Late Woodland (Middle Iroquoian)	AD 1300–1400	Uren and Middleport traditions; Classic longhouses emerge; Larger villages (1.2 ha) with up to 600 people; More permanent settlements (30 years)		

 Table 2: Pre-Contact Settlement History

 (Wright 1972; Ellis and Ferris 1990; Warrick 2000; Munson and Jamieson 2013)

Sub-Period	Timeframe	Characteristics	
Late Woodland (Late Iroquoian)	AD 1400–1600	Huron-Petun tradition; Globular-shaped ceramic vessels, ceramic pipes, bone/antler awls and beads, ground stone celts and adzes, chipped stone tools, and even rare copper objects; Large villages (often with palisades), temporary hunting and fishing camps, cabin sites and small hamlets; Territorial contraction in early 16 th century; Fur trade begins ca. 1580; European trade goods appear	

1.2.1.2 Post-Contact

The arrival of the European explorers and traders at the beginning of the 17th century triggered widespread shifts in Aboriginal lifeways and set the stage for the ensuing Euro-Canadian settlement process. Documentation for this period is abundant, ranging from the first sketches of Upper Canada and the written accounts of early explorers to detailed township maps and lengthy histories. The Post-Contact period can be effectively discussed in terms of major historical events, and the principal characteristics associated with these events are summarized in Table 3.

Table 3: Post-Contact Settlement History (Smith 1846; J.H. Meacham & Co. 1878; Coyne 1895; Herrington 1913; Lajeunesse 1960; Burns 1967; Hughes 1970; Ellis and Ferris 1990; Surtees 1994; AO 2011)

Historical Event	Timeframe	Characteristics			
Early Contact	Early 17 th century	Brûlé explores the area in 1610; Champlain visits in 1613 and 1615/1616; Iroquoian-speakers (Huron, Petun and Neutral) and Algonkian-speakers (Anishinabeg) encountered; European goods begin to replace traditional tools			
Five Nations Invasion	Mid-17 th century	Haudenosaunee (Five Nations) invade ca. 1650; Neutral, Huron and Petun Nations are defeated/removed; vast Iroquoian hunting territory established in the second half of the 17 th century; Explorers continue to document the area			
Anishnabeg Influx	Late 17 th and early 18 th century	Ojibway, Odawa and Potawatomi expand into Haudenosaunee lands in the late 17 th century; Nanfan Treaty between Haudenosaunee and British in 1701; Anishnabeg occupy the area and trade directly with the French and English			
Fur Trade Development	Early and mid- 18 th century	Growth and spread of the fur trade; Peace between the French and English with the Treaty of Utrecht in 1713; Ethnogenesis of the Métis; Hostilities between French and British lead to the Seven Years' War in 1754; French surrender in 1760			
British Control	Mid-18 th century	<i>Royal Proclamation</i> of 1763 recognizes the title of the First Nations to the land; Numerous treaties arranged by the Crown; First acquisition is the Seneca surrender of the west side of the Niagara River in August 1764			
Loyalist Influx	Late 18 th century	United Empire Loyalist influx after the American Revolutionary War (1775– 1783); British develop interior communication routes and acquire additional lands; Crawford Purchase I completed in 1783; Governor Haldimand sets aside one full township (Tyendinaga) for the Mohawks who moved there with Captain Deserontyon in 1784; 'Land Drawings' were conducted in 1784 to facilitate the settlement of Loyalists in Ernestown, Fredericksburgh and Adolphustown; <i>Constitutional Act</i> of 1791 creates Upper and Lower Canada			
County Development Late 18 th and early 19 th century		Lennox and Addington established as separate counties in 1792; Lennox and Addington 'merged' in 1800 and were united for the purposes of representation in the House of Assembly; Townships of Kaladar and Anglesea added to Addington in 1821 and 1845, respectively; Lennox and Addington were united with Frontenac for judicial purposes after the abolition of the district system in 1849; Lennox was incorporated with Addington in 1860, and additional townships were added in the north; Frontenac was severed in 1863			

Historical Event	Timeframe	Characteristics		
Tourship Formation	Late 18 th and	Camden: The date of the order of the first survey was 1787; Potentially surveyed by Lewis Kotte as part of the Mecklenburg District in 1789; Samuel Wilmot's survey map dates to 1808; Most of the first settlers were the sons and daughters of pioneers from the front townships; Albert Williams arrived in 1804 and was likely the first settler; David Perry was an early settler in Newburgh; Settlement was less difficult than in the front townships, as better equipment and facilities were available		
Township Formation	early 19 th century	 Sheffield: Surveyed by Samuel Benson in 1822 and first organized in 1826; The rate of settlement in Sheffield was slow in comparison to townships to the south; The first settlers had to pay for their land (the practice of United Empire Loyalists receiving free land grants from the crown ceased in 1825); James Huffman was one of the first settlers; most pioneers settled on 100-acre parcels and began building a log house; 90% of the settlers were from Ireland; Calvin Wheeler built a saw and grist mill in Tamworth ca. 1830 		
Township Development	Mid-19 th and early 20 th century	Camden: The population reached 4,788 by mid-19 th century; 4 grist mills and 14 saw mills in operation in 1846, with a marble quarry near the centre; 28,412 ha taken up at that time, with 7,789 ha under cultivation; Traversed by the Bay of Quinte Railway (1881) in the east and the CPR's Campbellford, Lake Ontario and Western Railway (ca. 1911) in the northwest; Communities at Napanee Mills, Newburgh, Clark's Mills (Camden East), Yarker, Colebrook, Desmond, Hinch, Moscow, Overton, Centreville, Croydon and Enterprise Sheffield: Population reached 1,334 by the mid-19 th century; 1 grist mill and 1 saw mill in operation in 1846; 8,049 ha taken up at that time, with 1,566 ha under cultivation; Settlement began to accelerate in the 1870s, but was still slow in comparison to the south; Traversed by Bay of Quinte Railway in the southwest (1881); Communities at Tamworth, Ballatra (Balentra), Erinsville and Clarville (Clareview)		

1.2.2 Past and Present Land Use

During Pre-Contact and Early Contact times, the vicinity of the study area would have comprised a mixture of coniferous trees, deciduous trees and open areas. It seems clear that the First Nations managed the landscape to some degree, but the extent of such management is unknown. During the late 18th and early 19th centuries, Euro-Canadian settlers arrived in the area and began to clear the forests for agricultural and settlement purposes. Communities in the vicinity of the project location include Hinch in the south and Croydon in the north. The vicinity of the study area was well-settled for the remainder of the Euro-Canadian period.

Croydon was first settled in the early 1830s, and the site was chosen due to the presence of the Salmon River and the available waterpower it offered. Most of the settlers came from Ireland, although some moved in from farther south in the township and county, and they likely arrived via a foot-path from Clark's Mills (Camden East). The first school was established in 1835, and a post office was opened in 1853 (Hughes 1970:289). The community of Hinch was established in the second half of the 19th century, and a post office was opened in 1873. William Hinch served as the first postmaster, and other members of the Hinch family held the position until 1912, when the post office closed (Hughes 1970:91). In addition to the post office, Hinch once contained a Presbyterian church with an associated cemetery and an Orange Hall.

In an attempt to reconstruct the historic land use of the study area, ARA examined three historical maps documenting past residents, structures (e.g., homes, businesses and public buildings) and features during the 19th century. Specifically, the following resources were consulted:

- Putnam and Walling's *Map of the United Counties of Frontenac, Lennox and Addington, Canada West* (1860) at a scale of 400 rods (100 chains) to 1 inch (OHCMP 2016);
- Camden from J.H. Meacham & Co.'s Illustrated Historical Atlas of the Counties of Frontenac, Lennox and Addington, Ontario (1878) at a scale of 50 chains to 1 inch (McGill University 2001); and
- Sheffield from J.H. Meacham & Co.'s Illustrated Historical Atlas of the Counties of Frontenac, Lennox and Addington, Ontario (1878) at a scale of 50 chains to 1 inch (McGill University 2001).

The limits of the study area are shown on georeferenced versions of the consulted historical resources in Map 3–Map 5. These resources indicate that subject parcels and the surrounding lands were well-settled during the second half of the 19th century. A variety of agricultural properties are visible, and numerous Euro-Canadian landowners and/or features are documented in the vicinity of the study area (see Table 4).

Parcel	1860	1878
NAP038	Part of R. Grange's property and allowance for Craigen Road; Grange farmhouse in the centre	Part of Robert Grange and John Nelson's properties, as well as allowance for Craigen Road; Grange farmhouse in the centre and Nelson farmhouse in the southeast
NAP120/NAP030	Part of R. Thompson and W. Thompson's properties; one potential farmhouse in the northwest, with additional Thompson farmhouses to the southeast	Part of William & Thomas Penney's property; Penney farmhouse to the west; wetland to the southeast
NAP118	Part of L & J.F. Baker and R. Hermiston's properties; Baker farmhouse to south	Part of Joseph Baker's property; wetland to the southwest
NAP023	Part of W. Hinch's property; Hinch farmhouse to the northwest	Part of William Hinch's property; no farmhouse depicted
NAP768 (Hinch Road)	Allowance for Hinch Road; multiple farmhouses to the north and south	Allowance for Hinch Road; multiple farmhouses to the north and south; Hinch Post Office and Presbyterian church to the north at the east end; community of Hinch in the east
NAP021	Part of W. Houston property; Houston farmhouse in the southwest	Part of James Hawkins property; Hawkins's farmhouse in the southwest
NAP022	Part of L.L. Price's property; Price farmhouse to the south	Part of Lawrence Price's property; Price farmhouse to the south
NAP010/011/022/124 (Rattie Road)	Property line between L.L. Price, A. Jennings and A. Dyce's properties; two farmhouses to the east	Allowance for Rattie Road; one farmhouse to the east
NAP013	Part of J. Vair and J. Cockburn's properties; farmhouses to the southeast; traversed by Mud Creek	Part of John Vair and John Cockburn's properties; farmhouses to the southeast; traversed by Mud Creek
NAP554 (Lockridge Road)	Allowance for Lockridge Road; several farmhouses to the west and east	Allowance for Lockridge Road; several farmhouses to the west and east

 Table 4: Occupational History and Past Land Uses

Parcel	1860	1878
NAP011	Part of A. Dyce's property; two	Part of Joseph Harben's property;
	farmhouses to the northwest	Harben farmhouse to the northwest
NAP012/NAP553	Part of J. Taylor's property; no	Part of John Starring and David Taylor's
	farmhouse depicted	properties; farmhouses to northwest
NAP454/497/552/542 (Centreville Road)	Allowance for Centreville Road; multiple farmhouses to the north and south	Allowance for Centreville Road; multiple farmhouses to the north and south; traversed by tributaries of Mud Creek
NAP454 (North of Centreville Road)	Allowance for Teskey (?) Road in the north and property line between R. Black and A. McMullan's properties in the south; several farmhouses to the west and east	Allowance for Teskey (?) Road in the north and unopened allowance for Lockridge (?) Road in the south; several farmhouses to the west and east
NAP382/389/420 (County Road 27)	Allowance for County Road 27 with one minor variance; several farmhouses to north, west and east	Allowance for County Road 27 with one minor variance; several farmhouses to north, west and east; traversed by a tributary of the Salmon River
NAP284/361/370/377 (Teskey Road)	Allowance for Teskey Road with one minor variance; several adjacent farmhouses to the north and south	Allowance for Teskey Road with one minor variance; several adjacent farmhouses to the north and south; traversed by tributary of the Salmon River
NAP251/252/320/323 (Marlin, Edges and Murphy Road)	Allowance for Marlin, Edges and Murphy Road with one minor variance; multiple adjacent farmhouses to the west and east; traversed by Black Creek	Allowance for Marlin, Edges and Murphy Road with one minor variance; multiple adjacent farmhouses to the west and east; traversed by Black Creek and a tributary of the Salmon River
NAP235/237/282/ 283/284/294 (North of Teskey Road)	Part of T. Dewey and M. Dowling's properties, as well as allowances for Holden and Teskey Road; Dewey farmhouse to the southwest and Dowling farmhouse to the northwest	Part of Thomas Dewey, Joseph Dowling and J. Milton Williams's properties, as well as allowances for Holden and Teskey Road; Dewey farmhouse to the west and Dowling farmhouse to the northwest
NAP163/165/175/199 (Miller Road)	Allowance for Miller Road; several farmhouses to the west and east; community of Croydon in south	Allowance for Miller Road; several farmhouses to the west and east; community of Croydon in south
NAP185	Allowance for Haggerty Road; multiple	Allowance for Haggerty Road; multiple
(Haggerty Road East and West)	farmhouses to the north and south	farmhouses to the north and south
NAP162/175/725 + No Identifier (Murphy and Sheffield Bridge Road)	Allowance for Sheffield Bridge Road and Murphy Road with minor variances; traversed by the Salmon River	Allowance for Sheffield Bridge Road and Murphy Road with minor variances; traversed by the Salmon River
NAP160	Part of D. Beard's property; Beard farmhouse in the west; traversed by Pennell's Creek	Part of David Beard's property; Beard farmhouse in the west; traversed by Pennell's Creek

The current land use can be generally classified as a mixture of agricultural (fields and pasture), residential (homesteads) and infrastructural (roadways).

1.3 Archaeological Context

The Stage 1 and 2 assessments were conducted between April 2016 and October 2016 under PIF #P007-0744-2016. The specific field and environmental conditions are summarized in Appendix A. ARA utilized a Garmin GPSMAP 62s high-sensitivity WAAS-enabled GPS receiver with an accuracy of +/- 5 m (UTM17/NAD83) and a Hemisphere S320 GNSS receiver without localization adjustment providing a network-corrected accuracy of +/- 50 cm (UTM17/NAD83)

during the investigation. The limits of the study area were confirmed using project-specific GIS data translated into GPS points for reference in the field, in combination with georeferenced aerial imagery showing natural formations in relation to the project lands.

The archaeological context of a given study area must be informed by the general condition of the property (Section 1.3.1), summaries of any previous archaeological work conducted within 50 m (Section 1.3.2) and whether there are any registered or known archaeological sites within 1 km (Section 1.3.3).

1.3.1 Condition of the Property

The study area lies within the Great Lakes–St. Lawrence forest, which is a transitional zone between the southern deciduous forest and the northern boreal forest. This forest extends along the St. Lawrence River across central Ontario to Lake Huron and west of Lake Superior along the border with Minnesota, and its southern portion extends into the more populated areas of Ontario. This forest is dominated by hardwoods, featuring species such as maple, oak, yellow birch, white and red pine. Coniferous trees such as white pine, red pine, hemlock and white cedar commonly mix with deciduous broad-leaved species, such as yellow birch, sugar and red maples, basswood and red oak (MNRF 2015).

Physiographically, the central and southern portions of the study area (south of Croydon) lie within the region known as the Napanee Plain, whereas the northern portion (north of Croydon) is split between the Dummer Moraines and the Georgian Bay Fringe. The characteristics of these regions are summarized in Table 5.

Physiographic Region	Description			
Napanee Plain	The Napanee Plain comprises a flat-to-undulating plain of limestone that has been largely stripped of overburden through glacial action. Centered on Napanee, this plain covers an area of approximately 1,812 sq. km and is characterized by shallow soils and scattered drumlins, although soils increase in depth towards the north along the Drummer Moraines. The Salmon and Napanee River Valleys show the greatest relief within the region, and contain a wide variety of alluvial deposits compared to the surrounding landscape (Chapman and Putnam 1984;186).			
Dummer Moraines	The Dummer Moraines comprise an area of rough stony land bordering the Canadian Shield from the Kawartha Lakes eastward. The underlying bedrock consists of sedimentary limestones, and there is an irregular boundary between the moraines and the drumlinized till plain on the south. The moraines are characterized by angular fragments and blocks of limestone with Precambrian rocks, and the surface is extremely rough (even though the ridges are quite low). Areas of shallow drift and even bare limestone occur among the moraines (Chapman and Putnam 1984:185–186).			
Georgian Bay Fringe	The Georgian Bay Fringe consists of a broad belt of very shallow soil and bare rock knobs and ridges bordering Georgian Bay. In Parry Sound and Muskoka, the bare rock ridges are due partly to the fact that they were washed by the waves when glacial Lake Algonquin inundated this area (although the covering of drift was scanty before that). The few farms in the area are mostly based on narrow strips of fine sand, silt and clay loams in valleys. Overall, both forestry and agriculture are restricted by the limited amount of good soil (Chapman and Putnam 1984:214).			

Table 5: Physiographic Regions

In terms of local watersheds, the subject lands fall within the Salmon River and Napanee Region drainage basins, both of which comprise part of the Quinte Conservation Authority (QCA 2016). The study area is traversed by a wide variety of water sources, including the Hinch Swamp

Complex (NAP120), Mud Creek and the Mud Creek Provincially Significant Wetland (NAP013), tributaries of Mud Creek (Centreville Road), a tributary of the Salmon River (County Road 27), Black Creek (Murphy Road), the Salmon River (Teskey Road, Haggerty Road East and Sheffield Bridge Road), Biddy's Lake Provincially Significant Wetland (Murphy Road) and Pennell's Creek (Miller Road). The study area is 219 m east of Perry's Lake, 1.5 km west of Dry Lake, 1.6 km west of Biddy's Lake, 3.3 km southeast of White Lake, 3.6 km south of Beaver Lake, 4.8 km west of Camden Lake and 8.7 km west of Varty Lake.

A variety of soil types occur within the subject parcels (see Map 6), including Farmington loam (Fl), Emily loam (El), Marsh (Ma), Otonabee loam (Ol), Muck (M), Dummer loam – shallow phase (Dl), Moscow clay (Mc), an Otonabee loam and Moscow clay soil complex (Ol-Mc), Rockland (RL) and White Lake gravelly sandy loam (WLs). Marshes are flooded areas that support water-loving plants but have not yet developed into organic bogs, whereas Rockland comprises areas with over 50% of rock outcrop together with shallow Monteagle soils, muck and peat (there may also be small areas of Wendigo sand in these areas). The specific characteristics of the remaining soil types are summarized in Table 6 (Gillespie et al. 1963:South Sheet).

Soil Code	Soil Type	Great Soil Group Parent Materials		Drainage
F1	Farmington loam	Brown Forest Shallow till over limestone bedrock		Good
El	Emily loam	Brown Forest	Calcareous, moderately stony loam till	Imperfect
Ol	Otonabee loam	Brown Forest	Calcareous, moderately stony loam till	Good
М	Muck	Organic	Organic	Very poor
Dl-sh	Dummer loam – shallow phase	Brown Forest	Brown Forest Very stony loam till	
Mc	Moscow clay	Dark Grey Gleysolic	Stonefree, calcareous till	Poor
Ol Ma	Otonabee loam	Brown Forest	Calcareous, moderately stony loam till Good	
Moscow clay		Dark Grey Gleysolic	Stonefree, calcareous till	Poor
WLs	White Lake gravelly sandy loam	Grey-Brown Podzolic	ic Coarse gravel G	

Table 6: Soil Types

At the time of assessment, the study area comprised a mixture of agricultural fields, pasture, grassed areas and wooded areas, as well as a variety of municipal roadways (e.g., Hinch Road, Rattie Road, Centreville Road, County Road 27, Teskey Road, Miller Road, Sheffield Bridge Road) and their associated embankments and ditches. Field conditions were ideal during the investigation, with well-weathered soils in the ploughed lands during the pedestrian survey, dry soils for screening during the test pit survey, and high ground surface visibility throughout the investigation. Numerous physical features were encountered that affected fieldwork strategy decisions, including pockets of exposed bedrock, wet alvar (depressional areas with extremely shallow soils), dry moss covered alvar and dry thin alvar (usually grading off to areas of exposed limestone). Standard survey intervals could not be maintained in these areas; accordingly, they were assessed at a modified interval to ensure optimal survey coverage. No other features were recognized that affected fieldwork strategy decisions or the identification of archaeological remains.

1.3.2 Previous Archaeological Work

The Ontario Archaeological Sites Database and the Ontario Public Register of Archaeological Reports were consulted to determine whether any archaeological assessments had been previously conducted within the limits of, or immediately adjacent to the study area. Specifically, reports documenting 1) assessments previously conducted within the project lands and 2) assessments that resulted in the discovery of archaeological sites that could extend onto the project lands were sought. As a result of this investigation, it was determined that there are no reports on record documenting previous archaeological fieldwork within a 50 m radius.

1.3.3 Registered or Known Archaeological Sites

The Ontario Archaeological Sites Database and the Ontario Public Register of Archaeological Reports were also consulted to determine whether any registered or known archaeological resources occur in the greater vicinity of the study area. As a result of this investigation, it was determined that there is one previously identified archaeological site located within a 1 km radius. The characteristics of this site are summarized in Table 7.

Borden No.	Site Name (Identifier)	Time Period	Site Type	Assessment History	Assessment Results
BcGf-5	Cordoroy Road [sic]	Unknown	Possible Burial Site	1979 (Roberts)	1.8 km north of Croydon where the road crosses a small stream, local residents reported that a large number of human bones were found during road construction

Table 7: Registered or Known Archaeological Sites within 1 km

According to the Ontario Archaeological Sites Database, BcGf-5 is located southwest of the Miller Road and Haggerty Road West intersection (adjacent to the project location). Although the site extent is unknown, the description suggests that it could traverse the study area; accordingly, the site may constitute an archaeological concern for the project (see SD Map 1). The presence of one previously identified site in the vicinity of the study area demonstrates the desirability of this locality for early settlement.

2.0 STAGE 1 BACKGROUND STUDY

2.1 Background

The Stage 1 assessment involved background research to document the geography, history, previous archaeological fieldwork and current land condition of the study area. This desktop examination included research from both archival sources as well as current academic/archaeological publications. It also included the analysis of modern topographic maps, aerial photographs, satellite imagery, and historical maps/atlases of the most detailed scale available. The results of the research conducted for the background study are summarized below.

With occupation beginning approximately 11,000 years ago, the greater vicinity of the study area comprises a complex chronology of Pre-Contact and Post-Contact histories (see Section 1.2). Artifacts associated with Palaeo-Indian, Archaic, Woodland and Early Contact traditions are well-attested in Lennox & Addington County, and Euro-Canadian archaeological sites dating to pre-1900 and post-1900 contexts are likewise common. The presence of one registered archaeological site in the vicinity of the study area demonstrates the desirability of this locality for early settlement (see Section 1.3.3).

The natural environment of the study area would have been attractive to both Pre-Contact and Euro-Canadian populations as a result of proximity to a wide variety of water sources (e.g., Mud Creek and its tributaries, the Salmon River and its tributaries, Black Creek and Pennell's Creek). The areas of relatively well-drained soils would have been acceptable for agriculture, and the diverse local vegetation would also have encouraged settlement throughout Ontario's lengthy history. Euro-Canadian populations would have been particularly drawn to Craigen Road, Hinch Road, Lockridge Road, Rattie Road, Centreville Road, County Road 27, Marlin Road, Edges Road, Murphy Road, Teskey Road, County Road 14, Miller Road, Haggerty Road and Sheffield Bridge Road, all of which were historically-surveyed thoroughfares, as well as the CPR's Campbellford, Lake Ontario and Western Railway and the early communities of Hinch and Croydon.

In summary, the Stage 1 assessment included an up-to-date listing of sites from the MTCS's Ontario Archaeological Sites Database (within at least a 1 km radius), the consideration of previous local archaeological fieldwork (within at least a 50 m radius), the analysis of topographic and historic maps (at the most detailed scale available), and the study of aerial photographs/satellite imagery. In this manner, the standards for background research set out in Section 1.1 of the S&Gs (MTC 2011:14–15) were met.

2.2 Field Methods (Property Inspection)

Since the Stage 1 and 2 archaeological assessments were carried out concurrently, a separate property inspection was not completed as part of the Stage 1 background study. Instead, the visual inspection was conducted over the course of the Stage 2 property survey, in keeping with the concepts set out in Section 2.1 Standards 2a–b of the S&Gs (MTC 2011:28). The specific field methods utilized during the visual inspection are summarized in Section 3.1, and the weather and lighting conditions at the time of assessment appear in Appendix A.

2.3 Analysis and Conclusions

In addition to relevant historical sources and the results of past archaeological assessments, the archaeological potential of a property can be assessed using its soils, hydrology and landforms as considerations. Section 1.3.1 of the S&Gs (MTC 2011:17–18) recognizes the following features or characteristics as indicators of archaeological potential: previously identified sites, water sources (past and present), elevated topography, pockets of well-drained sandy soil, distinctive land formations, resource areas, areas of Euro-Canadian settlement, early transportation routes, listed or designated properties, historic landmarks or sites, and areas that local histories or informants have identified with possible sites, events, activities or occupations.

The Stage 1 assessment resulted in the identification of numerous features of archaeological potential in the vicinity of the study area. The closest and most relevant indicators of archaeological potential (i.e., those that would directly affect survey interval requirements) include multiple primary water sources (e.g., Mud Creek and its tributaries, the Salmon River and its tributaries, Black Creek and Pennell's Creek), multiple secondary water sources (e.g., the Hinch Swamp Complex, Mud Creek PSW and Biddy's Lake PSW), one registered archaeological site (BcGf-5), at least one physiographic feature (an esker on NAP160, possibly extending along Sheffield Bridge Road), multiple historic roadways (e.g., Craigen Road, Hinch Road, Lockridge Road, Rattie Road, Centreville Road, County Road 27, Marlin Road, Edges Road, Murphy Road, Teskey Road, County Road 14, Miller Road, Haggerty Road and Sheffield Bridge Road), one historic railway (the CPR's the Campbellford, Lake Ontario and Western Railway), two early historic communities (Hinch and Croydon) and a variety of historic structure localities visible in Putnam and Walling's Map of the United Counties of Frontenac, Lennox and Addington, Canada West (1860), Camden from J.H. Meacham & Co.'s Illustrated Historical Atlas of the Counties of Frontenac, Lennox and Addington, Ontario (1878) and Sheffield from J.H. Meacham & Co.'s Illustrated Historical Atlas of the Counties of Frontenac, Lennox and Addington, Ontario (1878).

Although proximity to a feature of archaeological potential is a significant factor in the potential modelling process, current land conditions must also be considered. Section 1.3.2 of the S&Gs (MTC 2011:18) emphasizes that 1) quarrying, 2) major landscaping involving grading below topsoil, 3) building footprints and 4) sewage/infrastructure development can result in the removal of archeological potential, and Section 2.1 of the S&Gs (MTC 2011:28) states that 1) permanently wet areas, 2) exposed bedrock and 3) steep slopes (> 20°) can also be considered as having no archaeological potential.

ARA's visual inspection, coupled with the analysis of aerial photographs, satellite imagery, topographic mapping and digital environmental data, resulted in the identification of several areas of no archaeological potential within the assessed lands. Since all of the areas of no archaeological potential were identified over the course of the Stage 2 property survey, they are fully discussed in Section 3.1. The remainder of the assessed area either had potential for Pre-Contact and Euro-Canadian archaeological materials or required test pit survey to confirm the presence/extent of any subsurface disturbances. Background research did not identify any features indicating that the study area had potential for deeply buried archaeological materials, save for the easternmost portion of the Hinch Road parcel which is adjacent to the Camden Fifth Cemetery.

The Stage 1 assessment determined that the assessed area comprised a mixture of areas of archaeological potential and areas of no archaeological potential. A Stage 2 assessment was therefore required.

3.0 STAGE 2 PROPERTY ASSESSMENT

3.1 Field Methods

The Stage 2 assessment involved 1) visual inspection to evaluate archaeological potential, 2) pedestrian survey and test pit survey in all identified areas of archaeological potential, 3) combination survey to confirm the extent of several disturbed areas and 4) combination survey to confirm the extent of several wet areas. Environmental conditions were ideal during the investigation, permitting good visibility of land features and providing an increased chance of finding evidence of archaeological resources (see Appendix A). ARA therefore confirms that fieldwork was carried out under weather and lighting conditions that met the requirements set out in Section 1.2 Standard 2 and Section 2.1 Standard 3 of the *S&Gs* (MTC 2011:16, 29). A breakdown of the specific fieldwork activities appears in Table 8, many of which were informed by the results of requests for advice to the MTCS (see SD Appendix A–SD Appendix D).

Parcel	Survey Method	Rationale	Image(s)
	Pedestrian survey at an interval of ≤ 5 m	Cultivated fields	Image 1– Image 4
	Test pit survey at an interval of ≤ 5 m	Mixed cedar and maple forest in north; brush on either side of Craigen Road in south	Image 5– Image 8
NAP038	Test pit survey at a modified interval	Standard survey intervals could not be maintained due to areas of exposed limestone bedrock and open alvar with sparse juniper and prickly ash	Image 9– Image 12
	Combination survey to confirm permanently wet	Limits of areas of shallow and poorly drained soils needed to be clarified	Image 13– Image 14
	Not surveyed	Sloped area in west-central part of property	Image 15
NAP120/NAP030	Pedestrian survey at an interval of ≤ 5 m	Cultivated fields	Image 16– Image 19
	Test pit survey at an interval of ≤ 5 m	Stunted forest of cedars in northern part of the property; two fields in southern part that could not be ploughed (eastern one was planted with coniferous saplings and western one was overgrown and reverting to forest)	Image 20– Image 22
	Test pit survey at a modified interval	Test pit survey at a modified intervalStandard survey intervals could not be maintained due to an area of shallow soils, alvar and cedar/juniper bush adjacent to Hinch Road	
	Not surveyed	Permanently wet areas associated with the Hinch Swamp Complex in the centre and south, as well as adjacent sloped lands in the south	Image 24– Image 26
	Test pit survey at an interval of ≤ 5 m	Rough pasture with shallow soils and areas of cedar and juniper; portions of two hay fields that could not be ploughed due to shallow soils	Image 27– Image 28
NAP118	Test pit survey at a modified interval	Standard survey intervals could not be maintained due to areas of exposed bedrock or extremely shallow soils	Image 29– Image 31
	Not surveyed	Permanently wet area associated with the Hinch Swamp Complex to the west and south	Image 32
NAP023Test pit survey at an interval of ≤ 5 mGrassed area south of Hinch Road; hay field in northeast that could not be ploughed due to shallow soils; mixed forest with some large hardwood trees towards the centre of the property		Image 33– Image 35	

Table 8: Fieldwork Activities

Parcel	Survey Method	Rationale	Image(s)	
	Test pit survey at a modified interval	Open alvar/pasture that could not be ploughed due to shallow soils directly over limestone bedrock; standard survey intervals could not be maintained due to exposed bedrock and areas of shallow, waterlogged soil entirely disturbed to bedrock by cattle; the area beyond 100 m from the wetland in the south and Hinch Road in the north was considered for a reduction of survey coverage	Image 36– Image 37	
Not surveyed Permanently wet area		Permanently wet area associated with the Hinch Swamp Complex to the south	Image 38	
NAP768 (Hinch Road)	Combination survey to confirm disturbance	The area had been significantly affected by road construction and ditching, which have disturbed (or removed) the natural soil cover; the limits of disturbance needed to be clarified	Image 39– Image 44	
	Not surveyed	Disturbed areas consisting of the roadway platform and ditches	See above	
	Pedestrian survey at an interval of ≤ 5 m	Cultivated fields in northwest, northeast and east-centre	Image 45– Image 48	
NAP021	Test pit survey at an interval of ≤ 5 m	Pasture and hay fields within 100 m of a farmhouse and Hinch Road could not be ploughed due to shallow soils (many have been used for hay and have not be ploughed for decades, if ever); Testing around the farm house revealed that no natural or cultural soil zones remained	Image 49– Image 54	
	Test pit survey at an interval of ≤ 10 m	Pasture and hay fields could not be ploughed due to shallow soils (many have been used for hay and have not be ploughed for decades, if ever); these areas were considered for a reduction of survey coverage as they were beyond 100 m from the farmhouse and Hinch Road	Image 55– Image 56	
	Test pit survey at a modified interval	Standard survey intervals could not be maintained within a broad strip of alvar, forested land with numerous areas of exposed bedrock and open, slightly depressional areas with shallow soils over bedrock in the north; narrow sloping bands of ground with bedrock at or close to the surface were tested where possible between the fields; area with bedrock outcrops tested where possible near Hinch Road	Image 57– Image 59	
	Combination survey to confirm permanently wet	Limits of an area of shallow and poorly drained soil in the east needed to be clarified	Image 60	
N/4 D022	Test pit survey at an interval of \leq 5 m	Rough pasture in south that could not be ploughed due to shallow soils, rocks and stumps from tree cutting (it is unlikely that any of these areas were ever ploughed in the past)	Image 61– Image 63	
NAP022	Test pit survey at a modified interval	Standard survey intervals could not be maintained within an area of mixed shallow pasture and exposed bedrock in the north	Image 64– Image 65	
	Not surveyed	Permanently low-lying and wet pasture in west-centre	Image 66	
	Test pit survey at an interval of ≤ 5 m	Deeper soils permitted test pit survey at a set interval south of the Mud Creek PSW	Image 67	
NAP010/011/022/124 (Rattie Road)	Test pit survey at a modified interval	Standard survey intervals could not be maintained due to areas of exposed bedrock, past ditching and road embankments throughout the ROW	Image 68– Image 69	
	Not surveyed	Disturbed roadway platform and ditch along Rattie Road; permanently wet lands along the Mud Creek PSW; area of exposed bedrock in centre	Image 70– Image 72	
NAP013	Pedestrian survey at an interval of ≤ 5 m	Cultivated fields in centre	Image 73– Image 74	

Parcel	Survey Method	Rationale	Image(s)
	Test pit survey at an interval of ≤ 5 m	Forest dominated by spindly cedar trees with a few maple, poplar, birch and spruce in the north; more mature forest closer to the wetland; belt of mixed forest south of wetland; pastures and one hay field in south that could not be ploughed due to shallow soils (the farmer advised that ploughing these lands was not feasible)	Image 75– Image 80
	Test pit survey at an interval of ≤ 10 m	Pasture that could not be ploughed due to shallow soils; this area was considered for a reduction of survey coverage as it was beyond 100 m from Hinch Road	Image 81
	Test pit survey at a modified interval	Standard survey intervals could not be maintained due to exposed bedrock or where soils were nothing more than a skim of moss in the north	Image 82– Image 83
	Combination survey to confirm permanently wet	Limits of an area of shallow and poorly drained soil needed to be clarified in the west, including the northern part of a pasture	Image 84
	Not surveyed	Permanently wet area in centre associated with the Mud Creek PSW; large open areas of exposed bedrock and areas of slightly depressional wet alvar in the north; area of exposed bedrock adjacent to cultivated field in south	Image 85– Image 88
NAP554 (Lockridge Road)	Not surveyed (Stage 1 only)	Areas of archaeological potential within 300 m of the Mud Creek PSW; disturbed roadway platform and ditch along remainder of Lockridge Road	Image 89– Image 92
NAP011	Pedestrian survey at an interval of ≤ 5 m	Cultivated field in northwest	Image 93
	Test pit survey at an interval of ≤ 5 m Two hay fields in north could not be ploughed due to shallow soils over bedrock (informed by current landowner)		Image 94– Image 96
	Test pit survey at an interval of ≤ 10 m	Third hay field in northeast could not be ploughed due to shallow soils over bedrock (informed by the current landowner); this area was considered for a reduction of survey coverage as it was beyond 300 m from the Mud Creek PSW	Image 97
	Test pit survey at a modified interval	Standard survey intervals could not be maintained in a band of rocky, partially forested pasture between the cultivated field and the hay fields in the northwest due to exposed bedrock, as well as a large area in the south consisting of patches of open alvar with extremely thin soils and areas of exposed bedrock	Image 98– Image 100
	Pedestrian survey at an interval of ≤ 5 m	Cultivated field in east (very shallow soils, disking exposed bedrock exposed in a number of places but visibility was over 80%)	Image 101
	Test pit survey at an interval of ≤ 5 m	Hay fields in north could not be ploughed due to shallow soils over bedrock (informed by current landowner); linear field in south parallel to the Mud Creek PSW could not be ploughed due to shallow soils and exposed bedrock	Image 102– Image 104
NAP012/NAP553	Test pit survey at an interval of ≤ 10 m	Pasture in the northwest could not be ploughed due to shallow soils over bedrock; this area was considered for a reduction of survey coverage as it was beyond 300 m from the Mud Creek PSW	Image 105
	Test pit survey at a modified interval	Standard survey intervals could not be maintained in the bands of brush and exposed bedrock between the northern hay fields as well as a large cattle pasture with shallow soils and areas of exposed bedrock in the southwest (the cattle have compacted and disturbed many of pockets of soil)	Image 106– Image 108
	Not surveyed	Permanently wet area in the south associated with the Mud Creek PSW; areas of exposed bedrock in the west	Image 109– Image 110
NAP454/497/552/542 (Centreville Road)Test pit survey at a modified intervalStandard survey intervals could not be maintained at the eastern end of Centreville Road due to pockets of disturbance and exposed bedrock within the road allowance		Image 111– Image 112	

Parcel	Survey Method	Rationale	Image(s)
	Not surveyed	Disturbed roadway platform, embankments and ditches along Centreville Road, south side generally has a steep bank and downslope berm, north side is cut back into bedrock in several locations	Image 113– Image 116
	Test pit survey at an interval of ≤ 5 m	Possible old pasture or hay field that was not plough- accessible in the north-centre	Image 117
NAP454 (North of Centreville Road)	Test pit survey at a modified interval	Standard survey intervals could not be maintained due to extremely shallow soils over bedrock, exposed bedrock with junipers and stunted cedars, forested till with mature trees and an under canopy of saplings and prickly ash growing on rolling till with numerous rocks and boulders, and areas of seasonal wetland forest	Image 118– Image 119
	Not surveyed	Area of exposed bedrock in the centre	Image 120
	Pedestrian survey at an interval of ≤ 5 m	Although disturbed, sections of stripped soils along the edges of the road allowance were examined using the pedestrian survey method (visibility was over 80%)	Image 121– Image 122
NAP382/389/420	Test pit survey at a modified interval	Standard survey intervals could not be maintained due to pockets of disturbance and exposed bedrock within the road allowance	Image 123
(County Road 27)	Combination survey to confirm permanently wet	Limits of an area of shallow and poorly drained soil needed to be clarified in the south	Image 124
	Not surveyed	Disturbed areas consisting of the roadway platform, ditches and adjacent cut banks; major roadway realignments in northwestern intersections; several permanently wet areas	Image 125– Image 130
NAP284/361/370/377 (Teskey Road)	Test pit survey at an interval of ≤ 5 m	Grassed areas/lawns near intersection of Teskey Road and County Road 14	Image 131– Image 132
	Combination survey to confirm disturbance The area had been significantly affected by road construction and ditching; the limits of disturbance new to be clarified along the edges of the road allowance in few instances		Image 133– Image 134
	Not surveyed	Disturbed areas consisting of the roadway platform and ditches; cut banks along County Road 14; disturbed areas at CPR crossings; several permanently wet areas	Image 135– Image 140
NAP251/252/320/323 (Marlin Edges and	Test pit survey at a modified interval	y at a erval Standard survey intervals could not be maintained due to pockets of disturbance and exposed bedrock within the road allowance	
Murphy Road)	Not surveyed	Disturbed areas consisting of the roadway platform and ditches; disturbed area at CPR crossing; several permanently wet areas	Image 143– Image 148
	Test pit survey at an interval of ≤ 5 m	Edges of hay fields/pasture in the south could not be ploughed due to shallow soils and areas of exposed bedrock	Image 149– Image 152
NAP235/237/282/	Test pit survey at a modified interval	Standard survey intervals could not be maintained due to exposed bedrock at or near the surface	Image 153– Image 157
283/284/294 (North of Teskey Road)	Combination survey to confirm permanently wet	Limits of a peat/muck bog needed to be clarified in the northwest	Image 158
	Not surveyed	Permanently wet area north of Teskey Road; sloped areas in east-centre	Image 159– Image 160
	Test pit survey at an interval of ≤ 5 m	Grassed areas on either side of Miller Road in the south and north	Image 161– Image 162
NAP163/165/175/199 (Miller Road)	Test pit survey at a modified interval	Standard survey intervals could not be maintained at the intersection of Haggerty Road West due to areas of disturbance, stumps and boulders associated with a cleared and cut bank	Image 163– Image 164
	Combination survey to confirm disturbance	Numerous areas along the edges of the road allowance had been significantly affected by road construction, filling and ditching; the limits of disturbance needed to be clarified	Image 165– Image 168
	Not surveyed Disturbed areas consisting of the roadway platform and ditches; several permanently wet areas		Image 169– Image 172

Parcel	Survey Method	Rationale	Image(s)
	Test pit survey at an interval of ≤ 5 m	Grassed areas on either side of Haggerty Road West	Image 173
NAP185 (Haggerty Road East	Test pit survey at a modified interval	Test pit survey at a modified interval Standard survey intervals could not be maintained east of the Salmon River due to areas of disturbance and boulders	
and West)	Not surveyedDisturbed areas consisting of the roadway platform, ditches, embankment for former bridge and cut banks; several permanently wet areas		Image 175– Image 178
NAP162/175/725 + No Identifier	Test pit survey at an interval of ≤ 5 m	Grassed areas on either side of Murphy and Sheffield Bridge Road	Image 179– Image 180
(Murphy and Sheffield Bridge Not surveyed Road)		Disturbed areas consisting of the roadway platforms, ditches and cut banks; permanently wet area along Murphy Road; sloped area adjacent to Salmon River	Image 181– Image 184
	Pedestrian survey at an interval of ≤ 5 m	Cultivated fields	Image 185– Image 188
NAP160	Test pit survey at an interval of ≤ 5 m	Forested area in the centre (part of the esker which traverses the property)	Image 189
	Not surveyed	Sloped area in southwest leading down to Pennell's Creek	Image 190

The study area was subjected to a systematic visual inspection (at an interval of ≤ 5 m) in accordance with the requirements set out in Section 1.2 of the *S&Gs* (MTC 2011:15–17). The visually inspected areas were examined under ideal weather and lighting conditions with high ground surface visibility. The inspection confirmed that all surficial features of archaeological potential (e.g., water sources, historically-surveyed roadways, etc.) were present where they were previously identified, and did not result in the identification of any additional features of archaeological potential not visible on mapping (e.g., relic water channels, patches of well-drained soils, etc.).

A variety of areas significantly disturbed by past construction activities were documented over the course of the visual inspection, including roadway platforms/embankments, shoulders, ditches and deeply landscaped formations (e.g., shaped berms and cuts). Natural areas of no archaeological potential were also identified throughout the study area, including permanently wet lands, lands sloped $> 20^{\circ}$ and areas of exposed bedrock. One significant built feature that would affect assessment strategies was identified within lands that have since been removed from the project design at the eastern end of the Hinch Road ROW: the Camden Fifth Cemetery (1433 Hinch Road). The cemetery was immediately adjacent to the assessed lands, and its boundary was not clearly delineated by a fence or plantings. Grave markers suggested that burials could be located within 2.5 m of the roadway. No other features (e.g., overgrown vegetation, heavier soils than expected, etc.) or other significant built features (e.g., heritage structures, landscapes, plaques, monuments, etc.) that would affect assessment strategies were identified.

The pedestrian survey method was utilized to complete the property assessment within the agricultural fields that were viable candidates to be ploughed. Section 2.1.1 of the S&Gs (MTC 2011:30) provides clear requirements for the condition of such lands prior to the commencement of fieldwork: all fields must be recently ploughed; all soils must be well-weathered; and at least 80% of the ploughed ground surface must be visible. These conditions were met during the pedestrian survey. The pedestrian survey method was also utilized to investigate several stripped areas along County Road 27, which were clearly disturbed by recent roadway

construction but had at least 80% ground surface visibility. Given the degree of soil exposure, this method was determined to be more effective than a more limited test pit survey.

Following the standard strategy for pedestrian survey outlined in Section 2.1.1 of the *S&Gs* (MTC 2011:30–31), ARA crewmembers traversed the fields along parallel transects established at an interval of ≤ 5 m, yielding at least 20 survey transects per hectare. The hedgerows between the agricultural fields were < 5 m wide in all cases and contained a variety of discarded boulders and bush; accordingly, transects were established immediately adjacent to each side of the hedgerows to ensure complete survey coverage.

Twelve locations of archaeological materials were encountered during the pedestrian survey: Findspots 1–7 and Findspots 12–16. The survey transect interval was decreased to 1 m and a close inspection of the ground was conducted over a minimum of a 20 m radius around each find. This interval was continued within the field until the full extent of each scatter was defined. Collection strategies were dependent on the CHVI of the site and the likelihood that further assessment would be needed prior to construction. The artifact collection strategies utilized at each site and the associated rationale are summarized in Table 9.

Tuble / Documentation Strategies Teacstrain Survey				
Site	Collection Strategy	Rationale		
Findspot 1	39 of approximately 100 artifacts were retained. No artifact stations were recorded.	The site appeared to be of further CHVI at the time of fieldwork. All diagnostic categories were sampled, and a sufficient sample of refined ceramic sherds was collected to form a basis for accurate dating. The majority of the scatter was left in the field for a CSP and to assist in site relocation.		
Findspot 22 of 2 artifacts were retained. All artifact stations were recorded using a GPS unit.		The site appeared to be of no further CHVI at the time of fieldwork. All of the artifacts were retained in order to fully document the deposit. Site relocation could be achieved using GIS data (if required).		
Findspot 3	2 of 2 artifacts were retained. All artifact stations were recorded using a GPS unit.	The site appeared to be of no further CHVI at the time of fieldwork. All of the artifacts were retained in order to fully document the deposit. Site relocation could be achieved using GIS data (if required).		
Findspot 4	1 of 1 artifact was retained. The artifact station was recorded using a GPS unit.	The site appeared to be of no further CHVI at the time of fieldwork. The artifact was retained in order to fully document the deposit. Site relocation could be achieved using GIS data (if required).		
Findspot 5 1 of 1 artifact was retained. The artifact station was recorded using a GPS unit.		The site appeared to be of no further CHVI at the time of fieldwork. The artifact was retained in order to fully document the deposit. Site relocation could be achieved using GIS data (if required).		
Findspot 6	3 of 3 artifacts were retained. All artifact stations were recorded using a GPS unit.	The site appeared to be of no further CHVI at the time of fieldwork. All of the artifacts were retained in order to fully document the deposit. Site relocation could be achieved using GIS data (if required).		
Findspot 7	1 of 1 artifact was retained. The artifact station was recorded using a GPS unit.	The site appeared to be of no further CHVI at the time of fieldwork. The artifact was retained in order to fully document the deposit. Site relocation could be achieved using GIS data (if required).		
Findspot 12	1 of 1 artifact was retained. The artifact station was recorded using a GPS unit.	The site appeared to be of no further CHVI at the time of fieldwork. The artifact was retained in order to fully document the deposit. Site relocation could be achieved using GIS data (if required).		

Table 9: Documentation Strategies – Pedestrian Survey

Site	Collection Strategy	Rationale
Findspot 13	1 of 1 artifact was retained. The artifact station was recorded using a GPS unit.	The site appeared to be of no further CHVI at the time of fieldwork. The artifact was retained in order to fully document the deposit. Site relocation could be achieved using GIS data (if required).
Findspot 14	89 of approximately 425 artifacts were retained. No artifact stations were recorded.	The site appeared to be of further CHVI at the time of fieldwork. All diagnostic categories were sampled, and a sufficient sample of refined ceramic sherds was collected to form a basis for accurate dating. The majority of the scatter was left in the field for a CSP and to assist in site relocation.
Findspot 15	50 of approximately 150 artifacts were retained. No artifact stations were recorded.	The site appeared to be of further CHVI at the time of fieldwork. All diagnostic categories were sampled, and a sufficient sample of refined ceramic sherds was collected to form a basis for accurate dating. The majority of the scatter was left in the field for a CSP and to assist in site relocation.
30 of 30 artifacts were retained. All artifact stations were recorded using a GPS unit.		The site appeared to be of further CHVI at the time of fieldwork. All of the artifacts were retained in order to obtain a better understanding of this diffuse deposit. Site relocation can be achieved using GIS data.

Although not required under Section 2.1.1 of the S&Gs (MTC 2011:30–31), a variety of one-metre test units were stratigraphically excavated during the assessment in order to further investigate Findspot 3 (1 unit), Findspot 4 (1 unit), Findspot 12 (1 unit) and Findspot 16 (8 units). Each test unit was excavated stratigraphically into at least the first 5 cm of subsoil, and the resultant profiles were examined for potential features and/or evidence of fill (see Image 191–Image 200). The soils from each test unit were screened through mesh with an aperture of no greater than 6 mm and examined for archaeological materials (no artifacts were recovered from these test units). All test units were backfilled upon completion.

A number of unusual circular formations ('mystery circles') were observed during a review of satellite imagery and lidar imagery for the southern part of NAP013. Given their location relative to Findspot 16, test excavations were conducted within one of the northernmost circles (the excavations were at least 109 m northeast of the site). Specifically, a series of 11 adjacent one-metre test units were excavated across the circular formation as a trench (Units 0N:6W to 0N:4E), and additional excavations were conducted in the northwest (50 cm units extending north from Unit 2N:2W) and southwest (Unit 5S:2W and 4S:2W) to provide sections and profiles (see Map 7–Map 9). Each test unit was excavated into at least the first 5 cm of subsoil, and the resultant profiles were examined for potential features and/or evidence of fill (see Image 201–Image 204). The soils from each test unit were screened through mesh with an aperture of no greater than 6 mm and examined for archaeological materials (no artifacts were recovered from these test units).

No archaeological materials or cultural features were found, and subsurface features consisted solely of patches of gravel and a small pit (Feature 1) excavated through the ploughzone (see Map 10). The pit, located in Units 0N:4W and 0N:5W, was sectioned and determined to be modern and of no CHVI (see Image 205–Image 206). All test units were backfilled upon completion. The 'mystery circles' are not archaeological, but instead seem to represent fairy rings (a naturally occurring ring or arc of mushrooms that become stable over time and seek food underground, resulting in uneven grass growth).

The test pit survey method was utilized to complete the property assessment within the grassed areas, treed areas, narrow areas along the edges of agricultural fields, and agricultural fields with shallow soils/bedrock outcrops. These areas were either not plough-accessible or were not viable candidates to be ploughed (the specific rationale for the survey methods appear in Table 8). Using the test pit survey method, ARA crewmembers hand-excavated small regular test pits with a minimum diameter of 30 cm at prescribed intervals. In accordance with Section 2.1.2 of the *S&Gs* (MTC 2011:31–32), all lands < 300 m from any feature of archaeological potential were assessed at an interval of ≤ 5 m, save for select areas that were determined to have limited potential. These select areas were located > 300 m from any previously identified sites, water sources and areas of Euro-Canadian settlement and > 100 m from any early historic transportation routes, and they did not contain any notable physiographic features or significant built features/landmarks; accordingly, they were considered for a reduction of test pit survey coverage in accordance with the concepts set out in Section 1.4.1 of the *S&Gs* (MTC 2011:20–21). Test pit survey at an interval of ≤ 10 m was conducted for these areas of limited potential.

As mentioned in Section 1.3.1, numerous physical features were encountered that affected fieldwork strategy decisions, including pockets of exposed bedrock, wet alvar (depressional areas with extremely shallow soils), dry moss covered alvar and dry thin alvar (usually grading off to areas of exposed limestone). Standard survey intervals could not be maintained in these areas; accordingly, they were assessed at a modified interval to ensure optimal survey coverage. In all cases, every effort was made to maintain a survey interval of ≤ 5 m (or ≤ 10 m, if the area was considered for a reduction of survey coverage), but this was generally not possible given the terrain. One or more transects in these areas would invariably need to be modified to avoid a physical feature, and differentiating the specific parts that required modifications in the mapping was simply not feasible. The specific intervals that were achievable were varied; accordingly, these areas were documented and mapped simply as having been assessed at a modified interval.

A combination of visual inspection and test pit survey was utilized to confirm the extents of several disturbed areas in accordance with Section 2.1.8 of the S&Gs (MTC 2011:38). Given that the parcels had already been subjected to visual inspection, test pits were excavated throughout each area according to professional judgement to confirm that it had been completely disturbed. In accordance with the concepts set out in Section 2.1.8 of the S&Gs (MTC 2011:38), the extents of several permanently wet areas were similarly confirmed using a combination of visual inspection and test pit survey.

Each test pit was excavated into at least the first 5 cm into subsoil (or to bedrock), and the resultant pits were examined for stratigraphy, potential features and/or evidence of fill. No potential features were encountered during the test pit survey. The soils from each test pit were screened through mesh with an aperture of no greater than 6 mm and examined for archaeological materials. All test pits were backfilled upon completion.

Four locations of archaeological materials were encountered during the test pit survey: Findspots 8–11. In every case, each PTP was documented and all of the artifacts were collected according to their associated test pit. No trace of BcGf-5 was identified north of Croydon, and the portions of the project location located in the vicinity of the area described in the Site Record form currently comprise wet areas and disturbed slopes along Miller Road. Test pit survey at a modified interval was conducted in the accessible areas, but no archaeological materials were recovered.

When archaeological resources are found during a test pit survey and the initial finds are insufficient to make it clear whether a Stage 3 assessment is warranted, Section 2.1.3 of the S&Gs sets out two strategies (Options A and B) that can be used to intensify the survey coverage (MTC 2011:33–34). Option A involves the excavation of eight additional test pits every 2.5 m around the PTP and at least one one-metre test unit over the PTP, whereas Option B involves the excavation of additional one-metre test units within 5 m of an isolated PTP or within areas of interest amongst multiple PTPs (MTCS 2014:9). In the case of Option B, intensified test pitting is not required if three or more test units are excavated. The specific intensification strategies utilized at each site (if applicable) and the associated rationale are summarized in Table 10.

Site	Intensification Strategy	Rationale
		The site appeared to be of further CHVI
Findspot 8	Neither Option A or B – Additional test pits were excavated	at the time of fieldwork, but a larger
1 maspor o	within 2.5 m of select PTPs	artifact sample was desired to better
		inform the analysis.
	Option B – Additional test pits were excavated within 2.5 m of	The CHVI of the site was initially
Findspot 9	the PTP, one test unit was excavated over the PTP and three	unclear; accordingly, intensification
	additional test units were excavated within 2 m of the PTP	was required.
	Option B – Additional test pits were excavated within 2.5 m of	The CHVI of the site was initially
Findspot 10	the PTP, one test unit was excavated over the PTP and three	unclear; accordingly, intensification
	additional test units were excavated within 2 m of the PTP	was required.
	Option B – Additional test pits were excavated within 2.5 m of	
Findspot 11	the PTP, one test unit was excavated over the PTP, two	The CHVI of the site was initially
	additional test units were excavated within 2 m of the PTP and	unclear; accordingly, intensification
	one test unit was excavated on the opposite side of	was required.
	Sheffield Bridge Road	

Table 10: Documentation Strategies – Test Pit Survey

Each test unit was excavated into at least the first 5 cm of subsoil, and the resultant profiles were examined for potential features and/or evidence of fill (see Image 207–Image 214). One potential feature was encountered at Findspot 11 (see Section 3.12.1). In accordance with the requirements set out in Section 3.2.2 of the S&Gs (MTC 2011:49), the exposed plan of the feature was recorded and geotextile fabric was placed over the unit floor prior to backfilling. The soils from each test unit were screened through mesh with an aperture of no greater than 6 mm and examined for archaeological materials. All artifacts from the test units were retained for review in the lab. All test units were backfilled upon completion.

The combined results of the Stage 1 and 2 assessments are presented in Map 11–Map 28. The project location/CDA is depicted as a layer in these maps, and the available development maps are included in the submission package. A breakdown of the survey methods appears in Table 11.

Category	Study Area
Property assessed by pedestrian survey at an interval of ≤ 5 m	18.11% (59.06 ha)
Property assessed by test pit survey at an interval of ≤ 5 m	20.16% (65.75 ha)
Property assessed by test pit survey at an interval of ≤ 10 m	3.67% (11.97 ha)
Property assessed by combination of visual inspection and test pit survey to confirm disturbance	2.12% (6.92 ha)
Property assessed by combination of visual inspection and test pit survey to confirm permanently wet	4.37% (14.26 ha)
Property assessed with a modified survey interval due to a physical or cultural constraint	32.32% (105.42 ha)
Property not assessed because of permanently wet areas	8.76% (28.57 ha)
Property not assessed because of exposed bedrock	1.24% (4.03 ha)
Property not assessed because of sloped areas	0.60% (1.96 ha)
Property not assessed because of disturbed areas	8.65% (28.20 ha)
Total	100% (326.14 ha)

As required by Section 2.1 Standard 4 of the S&Gs (MTC 2011:29), GPS coordinates were recorded for at least one local fixed reference landmark (e.g., a Land Surveyor benchmark, Hydro pole, standard iron bar, etc.). The GPS co-ordinates for the documented landmarks appear in Table 12, and the fixed reference landmark locations are shown in Map 14.

Fixed Reference Landmark ID	Landmark Type	UTM Zone	Easting (m)	Northing (m)
FRL 1	Pole	18	342,472	4,912,954
FRL 2	Pole	18	342,518	4,913,002

Table 12: Fixed Reference Landmarks

All of the archaeological resources identified during the survey were recorded on georeferenced field maps with aerial imagery, described in field notes and documented with a GPS unit in accordance with Section 5.0 Standard 2 of the S&Gs (MTC 2011:93). In order to protect the location of the sites, all maps and data revealing detailed site location information have been restricted to the accompanying SD (see SD Map 2-SD Map 8; SD Table 1). Distinct Record of Finds and Analysis and Conclusions write-ups are presented in Section 3.2–Section 3.17.

During the laboratory processing of the retained artifacts and other archaeological materials, ARA's Material Culturalist carried out detailed documentation and analyses in order to provide 1) a record of the artifacts and other materials, 2) a basis for all recommendations and 3) enough basic information to help future researchers determine relevancy to their studies (MTC 2011:97). All of the artifacts were classified using ARA's devised typological system, which is an adaptation of the Parks Canada Database Artifact Inventory Coding Guide (Parks Canada 2002). In this system, chert types are determined in accordance with the Cherts of Southern Ontario (Eley and von Bitter 1989), and lithics are classified using the definitions set out in the Field Manual for Avocational Archaeologists in Ontario (Adams et al. 1995) and Archaeological Laboratory Methods: An Introduction (Sutton and Arkush 2002). Euro-Canadian artifacts are classified into groups, materials, object types and object names using a variety of reference aids (e.g., Adams et

al. 1995; Kenyon and Kenyon 2008; Miller 2000; Lindsey 2016). A glossary discussing relevant Euro-Canadian diagnostic types (with references) appears in Appendix B.

The artifacts and other archaeological materials from the Stage 2 assessment are housed in polyethylene bags that are stored in Archive Box A255. This is a 10"(H) x 12"(W) x 15"(D) light duty, double bottom corrugated cardboard box, and is labelled with its Archive Box designation. Box numbers are assigned in numerical order, and all associated information is entered into a digital catalogue for accurate tracking. All collection information is kept on a secure server. Archive Boxes are stored on steel storage shelves at 1480 Sandhill Drive in Ancaster.

3.2 Findspot 1 (BcGf-7)

3.2.1 Record of Finds

Findspot 1 was identified during pedestrian survey on a low ridge near the centre of a field in the northwestern part of the project location on NAP120 (see SD Map 4). The site consisted of a 33 x 15 m (NE-SW) scatter of Euro-Canadian archaeological materials, and approximately 100 artifacts were observed on the surface. The initial field designation for the site was NAP120-001.

A total of 39 artifacts were collected for laboratory analysis. A quantitative summary of the retained artifacts by group appears in Table 13, and the finds are fully documented in Appendix C, Records 1–17 (see Image 215). Materials left in the field included approximately 61 artifacts (predominantly ceramics but also glass, metal and miscellaneous items).

Group	Object Type	Object Name	Freq.	% of Assemblage	% of Group
	Window Glass	Sheet	3	7.69%	100.00%
Architectural	Archit	ectural Total	3	7.69%	100.00%
	Storage Container	Storage (Unidentifiable)	1	2.56%	3.23%
		Cup	1	2.56%	3.23%
Ceramic Food Related	Tableware	Tableware (Unidentifiable)	29	74.36%	93.55%
	Ceramic F	31	79.49%	100.00%	
	Apparel	Button	1	2.56%	33.33%
Commis New Food Deleted	Curralain a	Pipe Bowl	1	2.56%	33.33%
Cerannic Non-Food Related	Smoking	Pipe Stem	1	2.56%	33.33%
	Ceramic Non-Food Related Total		3	7.69%	100.00%
	Storage Container	Alcohol Beverage Bottle	2	5.13%	100.00%
Glass Food Related	Glass Food Related Total		2	5.13%	100.00%
	39	100.00%			

Table 13: Findspot 1 – Quantitative Summary of Artifacts

The assemblage consisted primarily of fragmentary ceramic vessels (79.49%), sheet glass (7.69%) and pipe fragments (5.13%). None of the artifacts exhibited evidence of burning or heat alteration. A total of 34 artifacts (87.17%) could be at least marginally dated based on the presence of recognizable diagnostic characteristics. The chronological significance of the diagnostic artifacts is summarized in Table 14.

Group	Material	Object Name	Datable Attribute	Freq.	Date Range
	Pearlware	Tableware (Unidentifiable)	Plain	8	ca. 1780–1830s
	Porcelain	Cup	Plain	1	ca. 1768-present
			Annular (Marbleized)	3	ca. 1830-late 1800s
			Painted (Late Palette)	2	ca. 1830–1870
			Plain	2	ca. 1830-present
Ceramic Food Related	Whiteware	Tableware (Unidentifiable)	Shell-Edge (Even- Scalloped-Curved Lines)	2	ca. 1830s
			Shell-Edge (General)	2	ca. 1830–1890s
			Shell-Edge (Non- Impressed)	2	1860s–1890s
			Sponge (All-Over)	4	ca. 1840–1900s
			Transfer (Blue)	2	ca. 1830-present
	Valloumara	Tableware	Annular (Mocha)	1	ca. 1842–1939
	renowware	(Unidentifiable)	Plain	1	ca. 1842-present
Coromic Non Food	Porcelain	Button	Prosser Button	1	post-1840
Related	White Clay	White Clay Pipe Stem		1	1830–1861
Glass Food Related	Glass	Alcohol Beverage Bottle	Mould Blown	2	19th century-1920
Total					

Table 14: Findspot 1 – Analysis of Diagnostic Artifacts

The diagnostic assemblage included a variety of artifacts common in the first half of the 19th century, and relatively minor quantities of late 19th century materials were encountered. Both pearlware and decorated whiteware were recovered, as well as a Prosser button and a pipe dating between 1830 and 1861. Glass artifacts were relatively rare. Based on the consideration of the assemblage as a whole, the artifacts generally date from the early 1800s to the mid-1800s, with some overlap into the second half of the 19th century. The relative frequency of artifacts common in that period (e.g., pearlware and shell-edged whiteware), the absence of artifacts common in later dating assemblages (e.g., ironstone), and the limited evidence of earlier dating artifacts (e.g., creamware) supports this dating.

No cultural features or structural elements of potential CHVI were identified at Findspot 1. No distinct artifact concentrations were discernable. The inventory of the documentary record for this site is included in the overall inventory presented in Appendix D. This inventory includes a quantitative summary of the field notes, photographs and mapping materials associated with the project.

3.2.2 Analysis and Conclusions

The results of the Stage 2 assessment indicate that Findspot 1 comprises a deposit of Euro-Canadian artifacts generally dating from the early 1800s to the mid-1800s. The assemblage consisted primarily of fragmentary ceramic vessels (79.49%), sheet glass (7.69%) and pipe fragments (5.13%). Stratigraphy suggests that the site has a relatively moderate level of integrity, as there was no evidence of significant disturbance since the deposition of the materials save for ploughing. Preliminary background research suggests that Findspot 1 fell within an agricultural property occupied by W. Thompson and R. Thompson in 1860 and William and Thomas Penney in 1878. The Thompsons appear to have had two farmhouses on the property, both located northwest of Craigen Road. A possible structure symbol appears in the northwestern part of the property (i.e., in the vicinity of Findspot 1), which may be associated with the site. The Penney farmhouse, on the other hand, was located just south of Hinch Road, and is therefore likely unrelated to Findspot 1.

Based on the diagnostic artifacts mentioned above, coupled with the results of the background research, ARA proposes that the principal time frame of occupation for the site is from ca. 1800–1860. Site formation appears to have occurred in the second half of the 19th century. The available evidence suggests that Findspot 1 represents remains associated with a cabin, potentially owned by the Thompsons or an earlier undocumented occupant.

When evaluated against the criteria set out in Section 2.2 of the S&Gs (MTC 2011:40–41) and the additional guidance provided in Section 2.0 of the *RHF* (MTCS 2014:8–10), the available evidence indicates that Findspot 1 is of further CHVI. Specifically, at least 20 artifacts were recovered that when analyzed as an assemblage can date the period of occupation of the site at least in part to before 1900. Findspot 1 warrants a Stage 3 site-specific assessment, and it seems likely that the site will also require a Stage 4 mitigation of development impacts.

3.3 Findspot 2

3.3.1 Record of Finds

Findspot 2 was identified during pedestrian survey in the northeastern part of the project location on NAP021 (see SD Map 5). The site consisted of a 15 x 1 m (NW-SE) scatter of Pre-Contact archaeological materials, and a total of 2 artifacts were observed on the surface. The initial field designation for the site was NAP021 Field 21 Flk 1 & Flk 2.

All of the artifacts were collected for laboratory analysis (no materials were left in the field). The retained artifacts included a secondary flake of Kettle Point chert and a utilized secondary flake of Kettle Point chert, and the finds are fully documented in Appendix C, Records 18–19 (see Image 216). None of the artifacts exhibited evidence of burning or heat alteration. None of the artifacts were diagnostic.

No cultural features or structural elements of potential CHVI were identified at Findspot 2. No distinct artifact concentrations were discernable. The inventory of the documentary record for this site is included in the overall inventory presented in Appendix D. This inventory includes a quantitative summary of the field notes, photographs and mapping materials associated with the project.

3.3.2 Analysis and Conclusions

The results of the Stage 2 survey indicate that Findspot 2 comprises a small plough disturbed deposit of Pre-Contact lithic artifacts. None of the finds possessed any significant diagnostic value; accordingly, a specific determination of the age and cultural affiliation of the site is not possible. The function of the site is unclear at this point, but it could represent a small chipping station used

When evaluated against the criteria set out in Section 2.2 of the S&Gs (MTC 2011:40–41), the available evidence indicates that Findspot 2 is of no further CHVI. Specifically, less than ten nondiagnostic artifacts were found within a 10 x 10 m pedestrian survey area. Findspot 2 does not warrant a Stage 3 site-specific assessment, and it is also clear that the site will not require a Stage 4 mitigation of development impacts.

3.4 Findspot 3

3.4.1 Record of Finds

Findspot 3 was identified during pedestrian survey in the northeastern part of the project location on NAP021 (see SD Map 5). The site consisted of a $2 \times 1 \text{ m}$ (NW-SE) scatter of Pre-Contact and Euro-Canadian archaeological materials, and a total of 2 artifacts were observed on the surface (no additional artifacts were encountered during the excavation of one test unit). The initial field designation for the site was NAP021 Field 21 Point 1.

All of the artifacts were collected for laboratory analysis (no materials were left in the field). The retained artifacts included an incomplete corner-notched projectile point of Onondaga chert and a white clay pipe stem, and the finds are fully documented in Appendix C, Records 20–21 (see Image 217). The projectile point exhibited evidence of burning or heat alteration. None of the artifacts were diagnostic.

No cultural features or structural elements of potential CHVI were identified at Findspot 3. No distinct artifact concentrations were discernable. The inventory of the documentary record for this site is included in the overall inventory presented in Appendix D. This inventory includes a quantitative summary of the field notes, photographs and mapping materials associated with the project.

3.4.2 Analysis and Conclusions

The results of the Stage 2 survey indicate that Findspot 3 comprises a small plough disturbed deposit of Pre-Contact and Euro-Canadian artifacts. The Pre-Contact component consisted an isolated projectile point with no significant diagnostic value. The artifact could represent a hunting loss. The Euro-Canadian component consisted of an isolated pipe stem with no significant diagnostic value. Preliminary background research suggests that the property was occupied by W. Houston in 1860 and James Hawkins in 1878, but the associated homestead is located closer to Hinch Road. The artifact could have been discarded or lost during farming activities associated with either occupant, or with a later undocumented occupant. Stratigraphy suggests that the site has a relatively moderate level of integrity, as there was no evidence of significant disturbance since the deposition of the materials save for ploughing.

When evaluated against the criteria set out in Section 2.2 of the S&Gs (MTC 2011:40–41) and the additional guidance provided in Section 2.0 of the *RHF* (MTCS 2014:8–10), the available evidence indicates that Findspot 3 is of no further CHVI. Specifically, less than ten non-diagnostic Pre-Contact artifacts were found within a 10 x 10 m pedestrian survey area and less than 20 Euro-Canadian artifacts were recovered that when analyzed as an assemblage can date the period of occupation of the site at least in part to before 1900. Findspot 3 does not warrant a Stage 3 site-specific assessment, and it is also clear that the site will not require a Stage 4 mitigation of development impacts.

3.5 Findspot 4

3.5.1 Record of Finds

Findspot 4 was identified during pedestrian survey in the northeastern part of the project location on NAP021 (see SD Map 5). The site consisted of an isolated Pre-Contact artifact on the surface (no additional artifacts were encountered during the excavation of one test unit). The initial field designation for the site was NAP021 Field 21 Point 2.

The artifact was collected for laboratory analysis (no materials were left in the field). The retained artifact consisted of a biface fragment of Onondaga chert, which is fully documented in Appendix C, Record 22 (see Image 218). The artifact did not exhibit evidence of burning or heat alteration. The biface fragment was not diagnostic.

No cultural features or structural elements of potential CHVI were identified at Findspot 4. No distinct artifact concentrations were discernable. The inventory of the documentary record for this site is included in the overall inventory presented in Appendix D. This inventory includes a quantitative summary of the field notes, photographs and mapping materials associated with the project.

3.5.2 Analysis and Conclusions

The results of the Stage 2 survey indicate that Findspot 4 comprises an isolated Pre-Contact biface fragment in a plough disturbed context. The artifact did not possess any significant diagnostic value; accordingly, a specific determination of the age and cultural affiliation of the site is not possible. The function of the site is unclear at this point. Stratigraphy suggests that the site has a relatively moderate level of integrity, as there was no evidence of significant disturbance since the deposition of the artifact save for ploughing.

When evaluated against the criteria set out in Section 2.2 of the S&Gs (MTC 2011:40–41), the available evidence indicates that Findspot 4 is of no further CHVI. Specifically, less than ten nondiagnostic artifacts were found within a 10 x 10 m pedestrian survey area. Findspot 4 does not warrant a Stage 3 site-specific assessment, and it is also clear that the site will not require a Stage 4 mitigation of development impacts.

3.6 Findspot 5

3.6.1 Record of Finds

Findspot 5 was identified during pedestrian survey in the northwestern part of the project location on NAP021 (see SD Map 5). The site consisted of an isolated Euro-Canadian artifact on the surface. The initial field designation for the site was NAP021 Field 21B 1.

The artifact was collected for laboratory analysis (no materials were left in the field). The retained artifact consisted of a fragment of pearlware, which is fully documented in Appendix C, Record 23 (see Image 219). The artifact did not exhibit evidence of burning or heat alteration. Pearlware dates from ca. 1780–1830s.

No cultural features or structural elements of potential CHVI were identified at Findspot 5. No distinct artifact concentrations were discernable. The inventory of the documentary record for this site is included in the overall inventory presented in Appendix D. This inventory includes a quantitative summary of the field notes, photographs and mapping materials associated with the project.

3.6.2 Analysis and Conclusions

The results of the Stage 2 survey indicate that Findspot 5 comprises an isolated Euro-Canadian pearlware fragment dating from ca. 1780–1830s. Preliminary background research suggests that the property was occupied by W. Houston in 1860 and James Hawkins in 1878, but the associated homestead is located closer to Hinch Road. The artifact could have been discarded or lost over the course of any number of local land uses, and may be associated with either the Houston occupation or an earlier undocumented occupation. Stratigraphy suggests that the site has a relatively moderate level of integrity, as there was no evidence of significant disturbance since the deposition of the materials save for ploughing.

When evaluated against the criteria set out in Section 2.2 of the S&Gs (MTC 2011:40–41) and the additional guidance provided in Section 2.0 of the *RHF* (MTCS 2014:8–10), the available evidence indicates that Findspot 5 is of no further CHVI. Specifically, less than 20 Euro-Canadian artifacts were recovered that when analyzed as an assemblage can date the period of occupation of the site at least in part to before 1900. Findspot 5 does not warrant a Stage 3 site-specific assessment, and it is also clear that the site will not require a Stage 4 mitigation of development impacts.

3.7 Findspot 6 (BcGf-14)

3.7.1 Record of Finds

Findspot 6 was identified during pedestrian survey in the northwestern part of the project location on NAP021 (see SD Map 5). The site consisted of a 1 x 1 m (N-S) scatter of Euro-Canadian archaeological materials, and a total of 3 artifacts were observed on the surface. The initial field designation for the site was NAP021 Field 21B 2.

All of the artifacts were collected for laboratory analysis (no materials were left in the field). The retained artifacts consisted of three fragments of pearlware, and the finds are fully documented in Appendix C, Records 24 (see Image 220). None of the artifacts exhibited evidence of burning or heat alteration. Pearlware dates from ca. 1780–1830s.

No cultural features or structural elements of potential CHVI were identified at Findspot 6. No distinct artifact concentrations were discernable. The inventory of the documentary record for this site is included in the overall inventory presented in Appendix D. This inventory includes a quantitative summary of the field notes, photographs and mapping materials associated with the project.

3.7.2 Analysis and Conclusions

The results of the Stage 2 survey indicate that Findspot 6 comprises a small plough disturbed deposit of Euro-Canadian pearlware fragments dating from ca. 1780–1830s. Preliminary background research suggests that the property was occupied by W. Houston in 1860 and James Hawkins in 1878, but the associated homestead is located closer to Hinch Road. The artifacts could have been discarded or lost over the course of any number of local land uses, and may be associated with either the Houston occupation or an earlier undocumented occupation. Stratigraphy suggests that the site has a relatively moderate level of integrity, as there was no evidence of significant disturbance since the deposition of the materials save for ploughing.

When evaluated against the criteria set out in Section 2.2 of the S&Gs (MTC 2011:40–41) and the additional guidance provided in Section 2.0 of the *RHF* (MTCS 2014:8–10), the available evidence indicates that Findspot 6 is of no further CHVI. Specifically, less than 20 Euro-Canadian artifacts were recovered that when analyzed as an assemblage can date the period of occupation of the site at least in part to before 1900. Findspot 6 does not warrant a Stage 3 site-specific assessment, and it is also clear that the site will not require a Stage 4 mitigation of development impacts.

3.8 Findspot 7

3.8.1 Record of Finds

Findspot 7 was identified during pedestrian survey in the northwestern part of the project location on NAP021 (see SD Map 5). The site consisted of an isolated Euro-Canadian artifact on the surface. The initial field designation for the site was NAP021 Field 21B 3.

The artifact was collected for laboratory analysis (no materials were left in the field). The retained artifact consisted of a fragment of ironstone, which is fully documented in Appendix C, Record 25 (see Image 221). The artifact did not exhibit evidence of burning or heat alteration. Ironstone dates from ca. 1820–present, but was most common from ca. 1875–1900.

No cultural features or structural elements of potential CHVI were identified at Findspot 7. No distinct artifact concentrations were discernable. The inventory of the documentary record for this site is included in the overall inventory presented in Appendix D. This inventory includes a quantitative summary of the field notes, photographs and mapping materials associated with the project.

3.8.2 Analysis and Conclusions

The results of the Stage 2 survey indicate that Findspot 7 comprises an isolated Euro-Canadian ironstone fragment dating from ca. 1875–1900. Preliminary background research suggests that the property was occupied by W. Houston in 1860 and James Hawkins in 1878, but the associated homestead is located closer to Hinch Road. The artifact could have been discarded or lost over the course of any number of local land uses, and may be associated with either the Houston or Hawkins occupations or an earlier undocumented occupation. Stratigraphy suggests that the site has a relatively moderate level of integrity, as there was no evidence of significant disturbance since the deposition of the materials save for ploughing.

When evaluated against the criteria set out in Section 2.2 of the S&Gs (MTC 2011:40–41) and the additional guidance provided in Section 2.0 of the *RHF* (MTCS 2014:8–10), the available evidence indicates that Findspot 7 is of no further CHVI. Specifically, less than 20 Euro-Canadian artifacts were recovered that when analyzed as an assemblage can date the period of occupation of the site at least in part to before 1900. Findspot 7 does not warrant a Stage 3 site-specific assessment, and it is also clear that the site will not require a Stage 4 mitigation of development impacts.

3.9 Findspot 8 (BcGf-13)

3.9.1 Record of Finds

Findspot 8 was identified during test pit survey just south of the field containing Findspots 5, 6 and 7 in the northwestern part of the project location on NAP021 (see SD Map 5). The site consisted of a 22 x 11 m (NW-SE) scatter of Euro-Canadian archaeological materials, and 175 artifacts were observed within 18 PTPs. The initial field designation for the site was NAP021-3.

All of the artifacts were collected for laboratory analysis (no materials were left in the field). A quantitative summary of the retained artifacts by group appears in Table 15, and the finds are fully documented in Appendix C, Records 26–105 (see Image 222).

10010 1	Quantitative Summary of the unders				
Group	Object Type	Object Name	Freq.	% of Assemblage	% of Group
	Construction	Brick (Unglazed)	3	1.71%	6.98%
	Material	Foundation Material	3	1.71%	6.98%
A makita atawa I	Hardware	Nail	8	4.57%	18.60%
Architectural	Miscellaneous	Scrap Metal	2	1.14%	4.65%
	Window Glass	Sheet	27	15.43%	62.79%
	Archit	43	24.57%	100.00%	
	Storage Container	Storage (Unidentifiable)	6	3.43%	10.17%
Ceramic Food Related	Tableware	Tableware (Unidentifiable)	53	30.29%	89.83%
	Ceramic F	ood Related Total	59	33.71%	100.00%
Ceramic Non-Food Related	Apparel	Button	1	0.57%	25.00%
	Smoking	Pipe Stem	2	1.14%	50.00%
	Storage Container	Bottle (Unidentifiable)	1	0.57%	25.00%

 Table 15: Findspot 8 – Quantitative Summary of Artifacts

Group	Object Type Object Name		Freq.	% of Assemblage	% of Group
	Ceramic Non	-Food Related Total	4	2.29%	100.00%
Class Faad Dalatad	Storage Container	Bottle (Unidentifiable)	3	1.71%	100.00%
Glass Food Kelated	Glass Foo	od Related Total	3	1.71%	100.00%
	Barn Equipment	Horseshoe Nail	4	2.29%	28.57%
	Hardware	Nail	4	2.29%	28.57%
	Miscellaneous	Scrap Metal	1	0.57%	7.14%
Non-Architectural Metal		Strapping	3	1.71%	21.43%
		Wire	1	0.57%	7.14%
	Tableware	Flatware	1	0.57%	7.14%
	Non-Archite	14	8.00%	100.00%	
	Equal Demains	Faunal (Unidentifiable)	10	5.71%	19.61%
Organia	raunai Kemains	Mammal	40	22.86%	78.43%
Organics	Floral Remains	Charcoal	1	0.57%	1.96%
	Org	Organics Total		29.14%	100.00%
0.0	Miscellaneous	Scrap Material	1	0.57%	100.00%
Other	Other Total		1	0.57%	100.00%
Grand Total				100.00%	

The assemblage consisted primarily of fragmentary ceramic vessels (34.29%), faunal remains (28.57%) and sheet glass (15.43%). A total of 23 artifacts exhibited evidence of burning or heat alteration, including mammal bones (n=15), unidentifiable faunal remains (n=5), ceramic tableware (n=2) and charcoal (n=1). A total of 66 artifacts (37.71%) could be at least marginally dated based on the presence of recognizable diagnostic characteristics. The chronological significance of the diagnostic artifacts is summarized in Table 16.

Group	Material	Object Name	Datable Attribute	Freq.	Date Range
Architectural	Ferrous	Nail	Cut Nail	5	ca. 1830–1890
	Coarse Red Earthenware	Storage (Unidentifiable)	Lead Glaze	1	pre-1900
Ceramic Food	Ironstone	Tableware (Unidentifiable)	Plain	8	ca. 1820s– present
	Pearlware	Tableware (Unidentifiable)	Annular (Cable Slipware)	6	ca. 1811–1830s
	Stoneware (Coarse)	Storage (Unidentifiable)	North American	1	1840–1900
	Stoneware (Redware)	Tableware (Unidentifiable)	Jackfield Ware-Type	1	1740–1790
			Annular (Blue Banded)	2	1840–early 1900s
Related			Flow Transfer (Black)	1	ca. 1845–early 1900s
			Flow Transfer (Blue)	3	ca. 1845–early 1900s
	Whiteware	Tableware (Unidentificable)	Painted (Late Palette)	1	ca. 1830–1870
		(Unidentifiable)	Painted (Sprig)	1	ca. 1830–1875
			Plain	23	ca. 1830– present
			Sponge (All-Over)	1	ca. 1840–1900s
			Stamped	1	ca. 1840s–early 20th century

 Table 16: Findspot 8 – Analysis of Diagnostic Artifacts

Group	Material	Object Name	Datable Attribute	Freq.	Date Range
			Transfer (Blue)	1	ca. 1830– present
	Valloumara	Storage (Unidentifiable)	Rockingham	2	ca. 1850–1930
	Y ellowware	Tableware (Unidentifiable)	Plain	2	ca. 1842– present
Ceramic Non-Food Related	Porcelain	Button	Prosser Button	1	post-1840
Glass Food Related	Glass	Bottle (Unidentifiable)	Mould Blown	1	19th century– 1920
Non-Architectural Metal	Ferrous	Nail	Cut Nail	4	ca. 1830–1890
	66				

The diagnostic assemblage included a variety of artifacts common in the 19th century. Annular (cable slipware) pearlware was encountered, as well as a variety of mid-19th century decorative styles such as flow transfer whiteware (black and blue), painted whiteware, sponge (all-over) whiteware, blue transfer whiteware, Rockingham yellowware, ironstone and North American stoneware. The presence of pearlware and Jackfield-type ware suggests that the period of occupation includes a pre-1830 component. Cut nails, a Prosser button and a mould blown bottle fragment also support a 19th century date. Based on the consideration of the assemblage as a whole, the artifacts generally date from the early 1800s to the mid-1800s, with some overlap into the second half of the 19th century. The presence of cut nails, the relative frequency of artifacts common in later dating assemblages (e.g., wire nails and solarized glass), and the limited evidence of earlier dating artifacts (e.g., creamware) supports this dating.

3.9.2 Analysis and Conclusions

The results of the Stage 2 assessment indicate that Findspot 8 comprises a deposit of Euro-Canadian artifacts generally dating from the early 1800s to the mid-1800s, with some overlap into the second half of the 19th century. The assemblage consisted primarily of fragmentary ceramic vessels (34.29%), faunal remains (28.57%) and sheet glass (15.43%). Stratigraphy suggests that the site has a relatively high level of integrity, as there was no evidence of significant disturbance since the deposition of the materials.

Preliminary background research suggests that Findspot 8 fell within a property occupied by W. Houston in 1860 and James Hawkins in 1878. The associated homestead is located closer to Hinch Road (in the vicinity of the extant farmhouse), so it seems possible that the site is associated with an earlier structure that is not depicted in the historical maps.

Based on the diagnostic artifacts mentioned above, coupled with the results of the background research, ARA proposes that the principal time frame of occupation for the site is from ca. 1800–1860. Site formation appears to have occurred in the second half of the 19th century. The available evidence suggests that Findspot 8 represents remains associated with a cabin (possibly a hunting cabin given the presence of numerous mammal bones in the assemblage), potentially owned by the Houstons or an earlier undocumented occupant.

When evaluated against the criteria set out in Section 2.2 of the S&Gs (MTC 2011:40–41) and the additional guidance provided in Section 2.0 of the *RHF* (MTCS 2014:8–10), the available evidence indicates that Findspot 8 is of further CHVI. Specifically, at least 20 artifacts were recovered that when analyzed as an assemblage can date the period of occupation of the site at least in part to before 1900. Findspot 8 warrants a Stage 3 site-specific assessment, and it seems likely that the site will also require a Stage 4 mitigation of development impacts.

3.10 Findspot 9 (BcGf-8)

3.10.1 Record of Finds

Findspot 9 was identified during test pit survey along the edge of well-drained land in the southern part of the additional lands on NAP022 (see SD Map 6). Findspot 9 was avoided through a project redesign associated with the identification of a Loggerhead Shrike nest (the site is currently 80 m south of the project location). The site consisted of a 7 x 7 m (N-S) scatter of Pre-Contact archaeological materials, and a total of 28 artifacts were observed within one PTP and five test units. The initial field designation for the site was NAP022-001.

All of the artifacts were collected for laboratory analysis (no materials were left in the field). A quantitative summary of the retained artifacts by material appears in Table 17, and the finds are fully documented in Appendix C, Records 106–118 (see Image 223).

Material	Object Type	Object Name	Freq.	% of Assemblage
	Lithic Debitage	Secondary Flake	1	3.57%
Kettle Point Chert	Ket	tle Point Chert Total	1	3.57%
Kitabiaginni Chart	Lithic Debitage	Secondary Flake	2	7.14%
Kitchissippi Chert	Kite	chissippi Chert Total	2	7.14%
	Formal Lithic	Side-Notched Projectile Point	1	3.57%
		Flake Fragment	1	3.57%
Onondaga Chert	Lithic Debitage	Retouch Flake	3	10.71%
		Secondary Flake	20	71.43%
	Onondaga Chert Total		25	89.29%
Grand Total				100.00%

Table 17: Findspot 9 – Quantitative Summary of Artifacts

The assemblage consisted primarily of artifacts of Onondaga chert (89.29%), although artifacts of Kitchissippi chert (7.14%) and Kettle Point chert (3.57%) were also encountered. The majority of these artifacts (n=27, 96.43%) comprised fragments of lithic debitage associated with tool production. Only one formal lithic was recovered during the assessment. A total of 15 fragments of Onondaga chert debitage exhibited evidence of burning or heat alteration. The formal lithic comprised a Nanticoke Notched projectile point, which dates from ca. AD 1400–1550 in the Late Woodland period (OAS 2016).

No cultural features or structural elements of potential CHVI were identified at Findspot 9. The primary area of artifact concentration appears to be in the vicinity of Unit 0N:0E (i.e., in the centre of the scatter). The inventory of the documentary record for this site is included in the overall

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inventory presented in Appendix D. This inventory includes a quantitative summary of the field notes, photographs and mapping materials associated with the project.

3.10.2 Analysis and Conclusions

The results of the Stage 2 survey indicate that Findspot 9 comprises a small deposit of Pre-Contact lithic artifacts (plough disturbed at some point in the past). The presence of a Nanticoke Notched projectile point indicates that the site dates from ca. AD 1400–1550 in the Late Woodland period. The site appears to represent an activity area or small campsite. Stratigraphy suggests that the site has a relatively moderate level of integrity, as there was no evidence of significant disturbance since the deposition of the materials save for ploughing.

When evaluated against the criteria set out in Section 2.2 of the S&Gs (MTC 2011:40–41), the available evidence indicates that Findspot 9 is of further CHVI. Specifically, at least one diagnostic artifact as well as at least five non-diagnostic artifacts were found within a 10 x 10 m test pit survey area. Findspot 9 warrants a Stage 3 site-specific assessment, and it is also clear that the site will require a Stage 4 mitigation of development impacts if future impacts become a concern.

3.11 Findspot 10 (BcGf-15)

3.11.1 Record of Finds

Findspot 10 was identified during test pit survey in the northeastern part of the project location on NAP022 (see SD Map 6). The site consisted of a 4 x 1 m (NW-SE) scatter of Pre-Contact archaeological materials, and a total of 3 artifacts were observed within one PTP and one test unit. The initial field designation for the site was NAP022-002.

All of the artifacts were collected for laboratory analysis (no materials were left in the field). The retained artifacts included three secondary flakes of Onondaga chert, and the finds are fully documented in Appendix C, Records 125–127 (see Image 224). Only one secondary flake of Onondaga chert exhibited evidence of burning or heat alteration. None of the artifacts were diagnostic.

No cultural features or structural elements of potential CHVI were identified at Findspot 10. No distinct artifact concentrations were discernable. The inventory of the documentary record for this site is included in the overall inventory presented in Appendix D. This inventory includes a quantitative summary of the field notes, photographs and mapping materials associated with the project.

3.11.2 Analysis and Conclusions

The results of the Stage 2 survey indicate that Findspot 10 comprises a small deposit of Pre-Contact lithic artifacts (plough disturbed at some point in the past). None of the finds possessed any significant diagnostic value; accordingly, a specific determination of the age and cultural affiliation of the site is not possible. The function of the site is unclear at this point, but it could represent a small chipping station used for lithic modification. Stratigraphy suggests that the site has a

relatively moderate level of integrity, as there was no evidence of significant disturbance since the deposition of the materials save for ploughing.

When evaluated against the criteria set out in Section 2.2 of the S&Gs (MTC 2011:40–41), the available evidence indicates that Findspot 10 is of no further CHVI. Specifically, less than five non-diagnostic artifacts were found within a 10 x 10 m test pit survey area. Findspot 10 does not warrant a Stage 3 site-specific assessment, and it is also clear that the site will not require a Stage 4 mitigation of development impacts.

3.12 Findspot 11 (BcGf-9)

3.12.1 Record of Finds

Findspot 11 was identified during test pit survey within the project location along the southern side of Sheffield Bridge Road (see SD Map 7). In this area, the road appears to have been built along the top of an esker, presumably by grading and flattening its upper surface (unfortunately, this esker is not visible in the available environmental mapping and could not be accurately reproduced in the report). The land drops off abruptly to wetlands on either side of the road, leaving a 5 m wide area of grass and trees between the roadway and the slope to the south and a 3 m wide area of grass and trees to the north. The site consisted of a 4 x 1 m (E-W) scatter of Pre-Contact archaeological materials, and a total of 45 artifacts were observed within one PTP and two test units. The initial field designation for the site was Sheffield Bridge Road.

All of the artifacts were collected for laboratory analysis (no materials were left in the field). A quantitative summary of the retained artifacts by material appears in Table 17, and the finds are fully documented in Appendix C, Records 119–124 (see Image 225).

Material	Object Type	Object Name	Freq.	% of Assemblage
G	Vessel Body Sherd	Fragmentary Sherd	40	88.89%
Ceramic		Ceramic Total	40	88.89%
	Formal Lithic	Concave Projectile Point	1	2.22%
Kitchissippi Chert	Lithic Debitage	Secondary Flake	1	2.22%
	Kito	chissippi Chert Total	2	4.44%
	Lithic Debitage	Flake Fragment	1	2.22%
Milky Quartz		Primary Flake	1	2.22%
	Ν	filky Quartz Total	2	4.44%
Onondaga Chert	Lithic Debitage	Secondary Flake	1	2.22%
	On	ondaga Chert Total	1	2.22%
Grand Total			45	100.00%

Table 18	8: Finds	not 11 –	Ouantitative	Summary	of Artifacts
Table I	J. Pinus	μυίπ	Quantitative	Summary	of marcis

The assemblage consisted primarily of extremely small fragments of Aboriginal ceramic (88.89%), although artifacts of Kitchissippi chert (4.44%), Milky quartz (4.44%) and Onondaga chert (2.22%) were also encountered. Little can be said about the ceramic fragments beyond the fact that they represent body sherds from one or more vessels, as the pieces were too deteriorated for further identification and were all undecorated (most measured less than 2 x 2 cm). None of

the artifacts exhibited evidence of burning or heat alteration. One Stanly concave projectile point was recovered, which dates from ca. 6000–5500 BC in the Middle Archaic period (OAS 2016). The Aboriginal pottery is much later, and could date anywhere from ca. 900 BC–AD 1600 AD in the Woodland period.

The investigation resulted in the identification of one potential feature (Feature 1). Feature 1 was located in the northeast corner of Unit D2, and appears to extend beyond the unit to the north and east (i.e., only the southwestern corner of the feature was exposed). The feature appears to have a circular or oval plan, and the exposed portion measures $0.4 \times 0.4 \text{ m}$. No noticeable colour change or outline was apparent (partly due to the dryness of the soil), but all of the ceramics were found in this area, suggesting the presence of a cultural feature. The primary area of artifact concentration appears to be in the vicinity of Unit D2 (i.e., in the vicinity of Feature 1). The inventory of the documentary record for this site is included in the overall inventory presented in Appendix D. This inventory includes a quantitative summary of the field notes, photographs and mapping materials associated with the project.

3.12.2 Analysis and Conclusions

The results of the Stage 2 survey indicate that Findspot 11 comprises a small deposit of Pre-Contact lithic artifacts and ceramics. The presence of a Stanly concave projectile point dating from ca. 6000–5500 BC in the Middle Archaic period and Aboriginal ceramics dating from ca. 900 BC– AD 1600 AD in the Woodland period indicates that the site has multiple components. The function of the site is unclear, but could represent the remains of a campsite on the crest of an esker that may have been partially destroyed by the construction of the roadway. Stratigraphy suggests that the site has mixed integrity, with high integrity along the edges of the roadway and unknown (but likely little) integrity beneath the roadway.

When evaluated against the criteria set out in Section 2.2 of the S&Gs (MTC 2011:40–41), the available evidence indicates that Findspot 11 is of further CHVI. Specifically, at least one diagnostic artifact was found within a 10 x 10 m test pit survey area and Aboriginal ceramics were encountered. Findspot 11 warrants a Stage 3 site-specific assessment, and it is also clear that the site will require a Stage 4 mitigation of development impacts if future impacts.

3.13 Findspot 12

3.13.1 Record of Finds

Findspot 12 was identified during pedestrian survey in the northwestern part of the project location on NAP038 (see SD Map 4). The site consisted of an isolated Pre-Contact artifact on the surface (no additional artifacts were encountered during the excavation of one test unit). The initial field designation for the site was NAP038-1.

The artifact was collected for laboratory analysis (no materials were left in the field). The retained artifact consisted of a biface fragment of Onondaga chert, which is fully documented in Appendix C, Record 128 (see Image 226). The artifact did not exhibit evidence of burning or heat alteration. The biface fragment was not diagnostic.

No cultural features or structural elements of potential CHVI were identified at Findspot 12. No distinct artifact concentrations were discernable. The inventory of the documentary record for this site is included in the overall inventory presented in Appendix D. This inventory includes a quantitative summary of the field notes, photographs and mapping materials associated with the project.

3.13.2 Analysis and Conclusions

The results of the Stage 2 survey indicate that Findspot 12 comprises an isolated Pre-Contact biface fragment in a plough disturbed context. The artifact did not possess any significant diagnostic value; accordingly, a specific determination of the age and cultural affiliation of the site is not possible. The function of the site is unclear at this point. Stratigraphy suggests that the site has a relatively moderate level of integrity, as there was no evidence of significant disturbance since the deposition of the artifact save for ploughing.

When evaluated against the criteria set out in Section 2.2 of the S&Gs (MTC 2011:40–41), the available evidence indicates that Findspot 12 is of no further CHVI. Specifically, less than ten nondiagnostic artifacts were found within a 10 x 10 m pedestrian survey area. Findspot 12 does not warrant a Stage 3 site-specific assessment, and it is also clear that the site will not require a Stage 4 mitigation of development impacts.

3.14 Findspot 13

3.14.1 Record of Finds

Findspot 13 was identified during pedestrian survey in the northwestern part of the project location on NAP038 (see SD Map 4). The site consisted of an isolated Euro-Canadian artifact on the surface. The initial field designation for the site was NAP038-2.

The artifact was collected for laboratory analysis (no materials were left in the field). The retained artifact consisted of a copper-alloy token, which is fully documented in Appendix C, Record 129 (see Image 227). The artifact did not exhibit evidence of burning or heat alteration. The token is a Bank of Upper Canada One Penny dating from 1852–1857.

No cultural features or structural elements of potential CHVI were identified at Findspot 13. No distinct artifact concentrations were discernable. The inventory of the documentary record for this site is included in the overall inventory presented in Appendix D. This inventory includes a quantitative summary of the field notes, photographs and mapping materials associated with the project.

3.14.2 Analysis and Conclusions

The results of the Stage 2 survey indicate that Findspot 13 comprises an isolated Euro-Canadian Bank of Upper Canada One Penny dating from 1852–1857. Preliminary background research suggests that the property was occupied R. Grange in 1860 and 1878, but the associated homestead is located further to the southeast. The artifact could have been discarded or lost over the course of any number of local land uses, and may be associated with either the Grange occupation or an

earlier undocumented occupation. Stratigraphy suggests that the site has a relatively moderate level of integrity, as there was no evidence of significant disturbance since the deposition of the materials save for ploughing.

When evaluated against the criteria set out in Section 2.2 of the S&Gs (MTC 2011:40–41) and the additional guidance provided in Section 2.0 of the *RHF* (MTCS 2014:8–10), the available evidence indicates that Findspot 13 is of no further CHVI. Specifically, less than 20 Euro-Canadian artifacts were recovered that when analyzed as an assemblage can date the period of occupation of the site at least in part to before 1900. Findspot 13 does not warrant a Stage 3 site-specific assessment, and it is also clear that the site will not require a Stage 4 mitigation of development impacts.

3.15 Findspot 14 (BcGf-10)

3.15.1 Record of Finds

Findspot 14 was identified during pedestrian survey along the crest of a large gravelly ridge above a low lying area of waterlogged soils and exposed bedrock in the central part of the project location on NAP038 (see SD Map 4). The site consisted of a 111 x 52 m (NE-SW) scatter of Euro-Canadian archaeological materials, and approximately 425 artifacts were observed on the surface. The initial field designation for the site was NAP038-002.

A total of 89 artifacts were collected for laboratory analysis. A quantitative summary of the retained artifacts by group appears in Table 19, and the finds are fully documented in Appendix C, Records 130–179 (see Image 228). Materials left in the field included approximately 330 artifacts (including ceramics, glass, metal and miscellaneous items).

Tuble 17: 1 muspor 11 Quantitative Summary of Articlaeds								
Group	Object Type	Object Name	Freq.	% of Assemblage	% of Group			
	Storage Container	Storage (Unidentifiable)	9	10.11%	16.36%			
Ceramic Food Related	Tableware	Tableware (Unidentifiable)	46	51.69%	83.64%			
	Ceramic	Food Related Total	55	61.80%	100.00%			
	Leisure	Marble	1	1.12%	20.00%			
	Constaling a	Pipe Bowl	1	1.12%	20.00%			
Coromic Non Food Polated	Smoking	Pipe Stem	2	2.25%	40.00%			
Ceraniic Non-Food Kelateu	Storage Container	Storage (Unidentifiable)	1	1.12%	20.00%			
	Ceramic No	5	5.62%	100.00%				
	Storage	Bottle (Unidentifiable)	14	15.73%	77.78%			
Glass Food Related	Container	Bottle Finish	4	4.49%	22.22%			
	Glass F	18	20.22%	100.00%				
Glass Non-Food Related	Storage Container	Bottle (Unidentifiable)	1	1.12%	100.00%			
	Glass Non	-Food Related Total	1	1.12%	100.00%			
	Currency	Coin	1	1.12%	16.67%			
Non-Architectural Metal	Lighting	Oil Lamp	2	2.25%	33.33%			
	Miscellaneous	Miscellaneous (Unidentifiable)	2	2.25%	33.33%			
		Scrap Metal	1	1.12%	16.67%			

Group	Object Type	Object Name	Freq.	% of Assemblage	% of Group
	Non-Archi	6	6.74%	100.00%	
Organics	Faunal Remains	Mammal	3	3.37%	100.00%
	Organics Total		3	3.37%	100.00%
Other	Apparel	Button	1	1.12%	100.00%
	Other Total		1	1.12%	100.00%
Grand Total			89	100.00%	

The assemblage consisted primarily of fragmentary ceramic vessels (62.92%) and glass storage containers (21.35%). One fragment of ceramic tableware exhibited evidence of burning or heat alteration. A total of 67 artifacts (75.28%) could be at least marginally dated based on the presence of recognizable diagnostic characteristics. The chronological significance of the diagnostic artifacts is summarized in Table 20.

Group	Material	Object Name	Datable Attribute	Freq.	Date Range
	Bone China	Tableware (Unidentifiable)	Decal Transfer (Over- Glaze)	1	1890–present
	Coarse Red Earthenware	Storage (Unidentifiable)	Lead Glaze	1	pre-1900
			Plain	9	ca. 1820s-present
	Ironstone	Tableware	Stamped	1	ca. 1840s–early 20th century
		(Unidentifiable)	Transfer (Black)	1	ca.1830–1840s
			Transfer (Teal)	1	1840-present
	Pearlware	Tableware (Unidentifiable)	Plain	1	ca. 1780–1830s
	Dorcelain	Tableware	Plain	1	ca. 1768–present
	Torcelain	(Unidentifiable)	Transfer (Green)	1	1830-present
	G.	Storage	Albany Slip	3	1805-1920
Ceramic Food	(Coarse)	(Unidentifiable)	North American	2	1840-1900
Related	(000000)		Rockingham	2	ca. 1830–1930
	Stoneware (Fine)	Tableware (Unidentifiable)	Bristol-Style	1	1835–1900
	Stoneware (Redware)	Tableware (Unidentifiable)	Jackfield Ware-Type	2	1740–1790
			Flow Transfer (Blue)	1	ca. 1845-early 1900s
			Painted (Late Palette)	1	ca. 1830–1870
			Plain	12	ca. 1830-present
	Whiteware	Tableware (Unidentifiable)	Stamped	2	ca. 1840s–early 20th century
			Transfer (Blue)	7	ca. 1830-present
			Transfer (Green)	1	1830-present
			Transfer (Pink-Red)	1	ca.1830–1850
	Yellowware	Storage (Unidentifiable)	Rockingham	1	ca. 1850–1930
	Stoneware (Fine)	Storage (Unidentifiable)	Derbyshire	1	1800–ca. 1875
Related		Marble	Clay Marble (Plain)	1	1800–ca. 1948
Kelated	White Clay	White Clay Pipe Stem	(R.) Bannerman, Montreal	1	1858–1870

Table 20: Findspot 14 – Analysis of Diagnostic Artifacts

Group	Material	Object Name	Datable Attribute	Freq.	Date Range
Glass Food Related		Bottle (Unidentificable)	Press-and-Blow Machine Made	1	1900–1940
	Glass	(Unidentifiable)	Solarized	6	1880–ca.1920
		Bottle Finish	Applied Finish	1	ca. 1800–1880s
			Solarized	1	1880–ca.1920
Glass Non-Food Related	Glass	Bottle (Unidentifiable)	Press-and-Blow Machine Made	1	1900–1940
Non-Architectural Metal	Copper-Alloy	Coin	Coronet Head Penny	1	1816-1839 (1838)
Total					

The diagnostic assemblage included a variety of artifacts common between the mid-19th century and the early 20th century, and relatively minor quantities of early 19th century materials were encountered. Ceramic food related forms included decorated whiteware, porcelain, ironstone and yellowware. Pre-1830 ceramics (e.g., pearlware, Jackfield ware) were also present, albeit in much lesser quantities than later ceramic types. A Bannerman pipe dating from 1858–1870 and a coronet head penny dating to 1838 were also found. A variety of glass artifacts were present, including both late 19th century and early 20th century forms. Based on the consideration of the assemblage as a whole, the artifacts generally date from the early 1800s to the early 1900s. The relative frequency of artifacts common in that period (e.g., decorated whiteware and ironstone), the absence of artifacts common in later dating assemblages, and the limited evidence of earlier dating artifacts (e.g., pearlware and Jackfield-type ware) supports this dating.

3.15.2 Analysis and Conclusions

The results of the Stage 2 assessment indicate that Findspot 14 comprises a deposit of Euro-Canadian artifacts generally dating from the early 1800s to the early 1900s. The presence of minor quantities of pearlware and Jackfield-type ware should not be taken as evidence that the site has a distinct pre-1830 component, as they likely represent outliers or heirloom items. The assemblage consisted primarily of fragmentary ceramic vessels (62.92%) and glass storage containers (21.35%). Stratigraphy suggests that the site has a relatively moderate level of integrity, as there was no evidence of significant disturbance since the deposition of the materials save for ploughing.

Preliminary background research suggests that Findspot 14 fell within an agricultural property occupied by R. Grange in 1860 and 1878. The Grange farmhouse is depicted in the immediate vicinity of the site in the consulted historical maps, and therefore a clear correlation can be made between Findspot 14 and the Grange occupation.

Based on the diagnostic artifacts mentioned above, coupled with the results of the background research, ARA proposes that the principal time frame of occupation for the site is from ca. 1830–1920. Site formation appears to have occurred in the first half of the 20th century (relatives also suggest that the house was torn down early in 20th century). The available evidence suggests that Findspot 14 represents remains associated with the demolished Grange farmhouse.

When evaluated against the criteria set out in Section 2.2 of the *S&Gs* (MTC 2011:40–41) and the additional guidance provided in Section 2.0 of the *RHF* (MTCS 2014:8–10), the available evidence indicates that Findspot 14 is of further CHVI. Specifically, at least 20 artifacts were recovered that

when analyzed as an assemblage can date the period of occupation of the site at least in part to before 1900. Findspot 14 warrants a Stage 3 site-specific assessment, but it is unclear if the site will also require a Stage 4 mitigation of development impacts.

3.16 Findspot 15 (BcGf-11)

3.16.1 Record of Finds

Findspot 15 was identified during pedestrian survey in a field south of a wet area in the southern part of the project location on NAP038 (see SD Map 4). The site consisted of a 38 x 26 m (NW-SE) scatter of Euro-Canadian archaeological materials, and approximately 150 artifacts were observed on the surface. The initial field designation for the site was NAP038-003.

A total of 50 artifacts were collected for laboratory analysis. A quantitative summary of the retained artifacts by group appears in Table 21, and the finds are fully documented in Appendix C, Records 180–210 (see Image 229). Materials left in the field included approximately 100 artifacts (predominantly ceramics and glass, but also metal and miscellaneous items).

Table 21. 1 musple 15 Quantitative Summary of Artifacts					
Group	Object Type	Object Name	Freq.	% of Assemblage	% of Group
Architectural	Hardware	Nail	1	2.00%	100.00%
	Architectural Total		1	2.00%	100.00%
Ceramic Food Related	Storage Container	Storage (Unidentifiable)	4	8.00%	12.50%
	Tableware	Tableware (Unidentifiable)	28	56.00%	87.50%
	Ceramic Food Related Total		32	64.00%	100.00%
	Apparel	Button	1	2.00%	25.00%
	Smoking	Pipe Stem	2	4.00%	50.00%
Cerannic Non-roou Kelateu	Storage Container	Storage (Unidentifiable)	1	2.00%	25.00%
	Ceramic Non-Food Related Total		4	8.00%	100.00%
Glass Food Related	Storage Container	Bottle (Unidentifiable)	11	22.00%	91.67%
	Storage Container	Bottle Finish	1	2.00%	8.33%
	Glass Food Related Total		12	24.00%	100.00%
Glass Non-Food Related	Miscellaneous	Melted	1	2.00%	100.00%
	Glass Non-H	ood Related Total	1 2.00% 10		100.00%
Grand Total			50	100.00%	

Table 21: Findspot 15 – Quantitative Summary of Artifacts

The assemblage consisted primarily of fragmentary ceramic vessels (66.00%) and glass storage containers (24.00%). Five fragments of whiteware exhibited evidence of burning or heat alteration. A total of 34 artifacts (68.00%) could be at least marginally dated based on the presence of recognizable diagnostic characteristics. The chronological significance of the diagnostic artifacts is summarized in Table 22.

Group	Material	Object Name	Datable Attribute	Freq.	Date Range
Architectural	Ferrous	Nail Cut Nail		1	ca. 1830–1890
	Pearlware	Tablawara	Plain	4	ca. 1780–1830s
		(Unidentifiable)	Transfer (Willow Pattern)	1	1792–1830s
	Stoneware (Coarse)	Storage	North American	2	1840-1900
		(Unidentifiable)	Salt Glazed and Albany Slip 1		1849–1920
Ceramic Food	Whiteware		Annular (Banded)	1	ca. 1830–1900
Kelated			Painted (Late Palette)	1	ca. 1830–1870
		Tablawara	Plain	12	ca. 1830-present
		(Unidentifiable)	Sponge (All-Over)	1	ca. 1840–1900s
			Stamped	5	ca. 1840s–early 20th century
			Transfer (Blue)	2	ca. 1830-present
Ceramic Non-Food Related	Porcelain	Button	Prosser Button	1	post-1840
	White Clay	Pipe Stem	Henderson ('s), Montreal	1	1847–1876
Glass Food Related	Glass	Bottle (Unidentifiable)	Mould Blown	1	19th century-1920
Total				34	

Table 22: Findspot 15 – Analysis of Diagnostic Artifacts

The diagnostic assemblage included a variety of artifacts common between the mid- and late 19th century, and relatively minor quantities of early 19th century materials were encountered. Ceramic food related forms included both decorated and undecorated whiteware and stoneware, with plain whiteware being predominant. Pre-1830 ceramics (e.g., pearlware) were also present, albeit in much lesser quantities than later ceramic types. A Prosser button dating to post-1840 and a pipe dating from 1847–1876 were also found. Glass artifacts were rare, and the only datable form was a mould blown bottle from the late 19th century or early 20th century. Based on the consideration of the assemblage as a whole, the artifacts generally date from the early 1800s to the late 1800s. The relative frequency of artifacts common in that period (e.g., cut nails, decorated whiteware and stoneware), the absence of artifacts common in later dating assemblages (e.g., solarized glass), and the limited evidence of earlier dating artifacts (e.g., pearlware) supports this dating.

3.16.2 Analysis and Conclusions

The results of the Stage 2 assessment indicate that Findspot 15 comprises a deposit of Euro-Canadian artifacts generally dating from the early 1800s to the late 1800s. The presence of minor quantities of pearlware should not be taken as evidence that the site has a distinct pre-1830 component, as they likely represent outliers or heirloom items. The assemblage consisted primarily of fragmentary ceramic vessels (66.00%) and glass storage containers (24.00%). Stratigraphy suggests that the site has a relatively moderate level of integrity, as there was no evidence of significant disturbance since the deposition of the materials save for ploughing.

Preliminary background research suggests that Findspot 15 fell within an agricultural property occupied by J. Ackerman in 1860 and John Nelson in 1878. The associated farmhouse is depicted

in the immediate vicinity of the site in the consulted historical maps, and therefore a clear correlation can be made between Findspot 15 and the Ackerman/Nelson occupations.

Based on the diagnostic artifacts mentioned above, coupled with the results of the background research, ARA proposes that the principal time frame of occupation for the site is from ca. 1830–1890. Site formation appears to have occurred in either the late 19th century or the early 20th century. The available evidence suggests that Findspot 15 represents remains associated with the demolished Ackerman/Nelson farmhouse.

When evaluated against the criteria set out in Section 2.2 of the S&Gs (MTC 2011:40–41) and the additional guidance provided in Section 2.0 of the *RHF* (MTCS 2014:8–10), the available evidence indicates that Findspot 15 is of further CHVI. Specifically, at least 20 artifacts were recovered that when analyzed as an assemblage can date the period of occupation of the site at least in part to before 1900. Findspot 15 warrants a Stage 3 site-specific assessment, but it is unclear if the site will also require a Stage 4 mitigation of development impacts.

3.17 Findspot 16 (BcGf-12)

3.17.1 Record of Finds

Findspot 16 was identified during pedestrian survey close to the southern margins of the Mud Creek PSW in the southern part of the project location on NAP013 (see SD Map 8). The site consisted of a 400 x 192 m (E-W) scatter of Pre-Contact archaeological materials, and a total of 30 artifacts were observed on the surface (no additional artifacts were encountered during the excavation of eight test units). The initial field designation for the site was NAP013-004.

All of the artifacts were collected for laboratory analysis (no materials were left in the field). A quantitative summary of the retained artifacts by material appears in Table 17, and the finds are fully documented in Appendix C, Records 211–239 (see Image 230).

Table 25. Findspot 10 – Quantitative Summary of Arthaets				
Material	Object Type	Object Name	Freq.	% of Assemblage
Kitchissippi Chert	Lithic Debitage	Flake Fragment	1	3.33%
	Kit	tchissippi Chert Total	1	3.33%
Miller Orierte	Formal Lithic	Spokeshave	1	3.33%
Milky Quartz	1	Milky Quartz Total	1	3.33%
		Cache Blade	1	3.33%
Onondaga Chert	Formal Lithic	Corner-Notched Projectile Point	1	3.33%
		Drill	1	3.33%
		Side-Notched Projectile Point	3	10.00%
		Stemmed Projectile Point	1	3.33%
	Informal Lithic	Biface Fragment	1	3.33%
	Lithic Debitage	Flake Fragment	1	3.33%
		Primary Flake	1	3.33%
		Retouch Flake	2	6.67%
		Secondary Flake	14	46.67%
	Onondaga Chert Total		26	86.67%
Selkirk Chert	Formal Lithic	Projectile Point Preform	1	3.33%

Table 23: Findspot 16 – Quantitative Summary of Artifacts

Material	Object Type Object Name		Freq.	% of Assemblage
	Informal Lithic	Biface Fragment	1	3.33%
	Selkirk Chert Total		2	6.67%
Grand Total		30	100.00%	

The assemblage consisted primarily of artifacts of Onondaga chert (86.67%), although artifacts of Selkirk chert (6.67%), Kitchissippi chert (3.33%) and Milky quartz (3.33%) were also encountered. The majority of these artifacts (n=19, 63.33%) comprised fragments of lithic debitage associated with tool production, but formal lithics (n=9, 30.00%) were also very well represented. A total of 11 artifacts of Onondaga chert exhibited evidence of burning or heat alteration, including secondary flakes (n=7), retouch flakes (n=2), a flake fragment and a stemmed projectile point.

A variety of diagnostic formal lithics of Onondaga chert were encountered, including a nonspecific side-notched projectile point dating from 7500–900 BC in the Archaic period (Ellis and Ferris 1990:68, 80–81, 93); two Brewerton side-notched projectile points and one Brewerton corner-notched projectile point dating from ca. 3000–2500 BC in the Middle Archaic period (Ellis and Ferris 1990:72); and one Meadowood cache blade dating from 900–300 BC in the Early Woodland period (Ellis and Ferris 1990:128).

No cultural features or structural elements of potential CHVI were identified at Findspot 16. As noted in Section 3.1, the circular formations in and around the site are natural formations (fairy rings). Two areas of artifact concentration were noted within the otherwise incredibly diffuse scatter, including a cluster of flakes in the north (near Unit 016) and a cluster of flakes and tools in the south (near Unit 020). The inventory of the documentary record for this site is included in the overall inventory presented in Appendix D. This inventory includes a quantitative summary of the field notes, photographs and mapping materials associated with the project.

3.17.2 Analysis and Conclusions

The results of the Stage 2 survey indicate that Findspot 16 comprises a large and diffuse plough disturbed deposit of Pre-Contact lithic artifacts. The presence of a non-specific side-notched projectile point dating from 7500–900 BC in the Archaic period, three Brewerton projectile points dating from ca. 3000–2500 BC in the Middle Archaic period and one Meadowood cache blade dating from 900–300 BC in the Early Woodland period demonstrates that the site has multiple components. The site appears to represent a preferred campsite locality that was utilized on numerous occasions, likely as a base camp for hunting activities around the Mud Creek PSW (the location is ideal in this respect, being downwind of rich hunting grounds). Stratigraphy suggests that the site has a relatively moderate level of integrity, as there was no evidence of significant disturbance since the deposition of the materials save for ploughing.

When evaluated against the criteria set out in Section 2.2 of the S&Gs (MTC 2011:40–41), the available evidence indicates that Findspot 16 is of further CHVI. Specifically, at least one diagnostic artifact in addition to two or more non-diagnostic artifacts as well as at least five non-diagnostic artifacts were found within a 10 x 10 m pedestrian survey area. Findspot 16 warrants a Stage 3 site-specific assessment, but it is unclear if the site will require a Stage 4 mitigation of development impacts.

4.0 **RECOMMENDATIONS**

The Stage 1 assessment determined that the study area comprised a mixture of areas of archaeological potential and areas of no archaeological potential. The Stage 2 assessment of the identified areas of archaeological potential resulted in the identification of 16 locations of archaeological materials: Pre-Contact Findspot 2, Findspot 4, Findspot 9 (BcGf-8), Findspot 10 (BcGf-15), Findspot 11 (BcGf-9) and Findspot 12; Euro-Canadian Findspot 1 (BcGf-7), Findspot 5, Findspot 6 (BcGf-14), Findspot 7, Findspot 8 (BcGf-13), Findspot 11 (BcGf-9), Findspot 13, Findspot 14 (BcGf-10) and Findspot 15 (BcGf-12); and multi-component Findspot 3. Findspots 1, 8, 9, 11, 14, 15 and 16 were found to be of further CHVI, whereas Findspots 2, 3, 4, 5, 6, 7, 10, 12 and 13 were found to be of no further CHVI. All of the sites fall within the project location, save for Findspot 9 (BcGf-8). This site was avoided through a project redesign associated with the identification of a Loggerhead Shrike nest and is currently 80 m south of the project location.

Regarding the project location/Construction Disturbance Area, ARA recommends that 1) Findspots 1, 8, 9, 11, 14, 15 and 16 be subject to Stage 3 site-specific assessment in advance of construction, 2) Findspots 2, 3, 4, 5, 6, 7, 10, 12 and 13 do not require further archaeological assessment and 3) the remainder of the project location does not require further archaeological assessment. The associated recommendations are summarized in Table 24.

Location	Description	Further CHVI?	Recommendation/Strategy	
Findspot 1 (BcGf-7)	Euro-Canadian scatter (33 x 15 m)	Yes	Small Post-Contact site of unclear CHVI	
Findspot 2	Pre-Contact scatter (15 x 1 m)	No	No further assessment required	
Findspot 3	Pre-Contact and Euro-Canadian scatter (2 x 1 m)	No	No further assessment required	
Findspot 4	Isolated Pre-Contact find	No	No further assessment required	
Findspot 5	Isolated Euro-Canadian find	No	No further assessment required	
Findspot 6 (BcGf-14)	Euro-Canadian scatter (1 x 1 m)	No	No further assessment required	
Findspot 7	Isolated Euro-Canadian find	No	No further assessment required	
Findspot 8 (BcGf-13)	Euro-Canadian scatter (22 x 11 m)	Yes	Small Post-Contact site of unclear CHVI	
Findspot 10 (BcGf-15)	Pre-Contact scatter (4 x 1 m)	No	No further assessment required	
Findspot 11 (BcGf-9)	1 (BcGf-9) Middle Archaic and Woodland scatter (4 x 1 m)		Small Post-Contact site of unclear CHVI	
Findspot 12	Isolated Pre-Contact find	No	No further assessment required	
Findspot 13	ot 13 Isolated Euro-Canadian find		No further assessment required	
Findspot 14 (BcGf-10)	Euro-Canadian scatter (111 x 52 m)	Yes	Small Post-Contact site of clear CHVI	
Findspot 15 (BcGf-11)	Euro-Canadian scatter (38 x 26 m)	Yes	Small Post-Contact site of unclear CHVI	
Findspot 16 (BcGf-12)	Archaic, Middle Archaic and Early Woodland scatter (400 x 192 m)	Yes	Large plough-disturbed lithic scatter strategy	

Table 24: Project Location – Summary of Recommendations

As small or moderately sized deposits, an appropriate assessment method for Findspots 1, 8, 11 and 15 would comprise test unit excavation using the strategy for Pre-Contact or Post-Contact sites where it is not yet evident that the level of CHVI will result in a recommendation to proceed to

Stage 4. This would involve the excavation of grid test units at a 5 m interval across each site and additional test units amounting to at least 20% of the grid unit total in areas of interest. Given that Findspots 1 and 15 are located within agricultural fields, test unit excavation must be preceded by a complete CSP (with re-cultivation and weathering if ground surface visibility has decreased since the Stage 2 assessment).

In accordance with best practices for larger Euro-Canadian sites (MTCS 2014:13), an appropriate assessment method for Findspot 14 would comprise test unit excavation using the strategy for Pre-Contact or Post-Contact sites where it is clearly evident that the level of CHVI will result in a recommendation to proceed to Stage 4. This would involve the excavation of grid test units at a 10 m interval across the site and additional test units amounting to at least 40% of the grid unit total in areas of interest. If this strategy does not provide enough information on which to base a determination that the site should or should not proceed to Stage 4, then the strategy for Pre-Contact or Post-Contact sites where it is not yet evident that the level of CHVI will result in a recommendation to proceed to Stage 4 should be utilized. This would involve the excavation of grid test units at a 5 m interval across the site extent and additional test units amounting to at least 20% of the grid unit total in areas of interest. Given that Findspot 14 is located within an agricultural field, test unit excavation must be preceded by a complete CSP (with re-cultivation and weathering if ground surface visibility has decreased since the Stage 2 assessment).

As a large and diffuse lithic scatter, an appropriate assessment method for Findspot 16 would comprise test unit excavation using the strategy for plough-disturbed, large, multi- or single-component sites. This would involve the excavation of grid test units at a 5 m interval across the identified artifact concentrations, additional test units amounting to at least 20% of the grid unit total within the remainder of the site extent and further additional test units amounting to at least 10% of the grid unit total on the periphery of the scatter. Given that a complete CSP has already been conducted at Findspot 16, an additional CSP is not required.

Regardless of the specific strategy employed, all test units must be excavated stratigraphically into the first 5 cm of subsoil, and all soils must be screened through mesh with an aperture of no greater than 6 mm. If a potential cultural feature is uncovered, the exposed plan of the feature must be recorded and geotextile fabric must be placed over the unit floor prior to backfilling (MTC 2011:49). Section 3.2.2 Guideline 3 states that exposed cultural features may be excavated during a Stage 3 assessment only if the information is required to inform a recommendation for or against a Stage 4 mitigation of development impacts (MTC 2011:49).

Regarding the additional lands previously under consideration for development (i.e., areas removed from the project design and included in the subject report in fulfillment of archaeological licensing requirements), it is recommended that 1) Findspot 9 be subject to Stage 3 site-specific assessment if any future developments are contemplated, 2) the portion of the Hinch Road ROW adjacent to the Camden Fifth Cemetery (within the additional lands) be subject to a Stage 3 burial site investigation if any future developments are contemplated, 3) that the identified areas of archaeological potential along Lockridge Road (within the additional lands) be subject to a Stage 2 assessment if any future developments are contemplated and 4) that the remainder of the additional lands do not require further archaeological assessment. The associated recommendations are summarized in Table 25.

Tuble 2001 Tuditional Banas Summary of Recommendations				
Location Description		Further CHVI?	Recommendation/Strategy	
Findspot 9 (BcGf-8)	Late Woodland scatter (7 x 7 m)	Yes	Small Post-Contact site of unclear CHVI	
Hinch Road ROW	Lands adjacent to Camden Fifth Cemetery	Unknown	Burial Site Investigation	
Lockridge Road ROW	Areas of archaeological potential	Unknown	Test pit survey	

Table 25: Additional Lands – Summary of Recommendations

An appropriate assessment method for Findspot 9 would comprise test unit excavation using the strategy for Pre-Contact or Post-Contact sites where it is not yet evident that the level of CHVI will result in a recommendation to proceed to Stage 4. This would involve the excavation of grid test units at a 5 m interval across the site and additional test units amounting to at least 20% of the grid unit total in areas of interest. All test units must be excavated stratigraphically into the first 5 cm of subsoil, and all soils must be screened through mesh with an aperture of no greater than 6 mm. If a potential cultural feature is uncovered, the exposed plan of the feature must be recorded and geotextile fabric must be placed over the unit floor prior to backfilling (MTC 2011:49). Section 3.2.2 Guideline 3 states that exposed cultural features may be excavated during a Stage 3 assessment only if the information is required to inform a recommendation for or against a Stage 4 mitigation of development impacts (MTC 2011:49). Stage 4 avoidance and protection during construction for the Loyalist Solar Project will not be required as the 20 m protective buffer and 50 m monitoring buffer fall outside of the project location (see SD Map 9).

Regarding the portion of the Hinch Road ROW adjacent to the Camden Fifth Cemetery, the Stage 3 burial site investigation must be conducted in accordance with Section 3.3.3 (Assessment of Sites in Deeply Buried Conditions) of the S&Gs (MTC 2011:55-56). Although specific to Stage 4 excavations, the concepts set out in Section 4.2.3 (Excavation by Mechanical Topsoil Removal) of the S&Gs (MTC 2011:78–79) should also be considered. In order to confirm the extent of the cemetery, the deeply buried survey should comprise the mechanical excavation of the portion of the ROW to be impacted. An excavator or backhoe with an articulated wrist and a straight-bladed bucket must be utilized so that potential resources are not damaged. The mechanical excavation should continue until the subsoil interface is reached, and the interface must then be immediately subjected to a close examination for potential colour and texture changes that could be indicative of the tops of grave shafts or other cultural features. Shovel shining must be utilized to further clarify the interface. If any cultural features are encountered, they must be fully documented and mapped in order to satisfy the requirements and objectives set out in Funeral, Burial and Cremation Services Act, 2002, O. Reg. 30/11 Section 174 and the S&Gs (MTC 2011). Mechanical excavation must extend a minimum of 10 m beyond the outermost burial features, as required by Section 4.3 of the S&Gs (MTC 2011: Table 4.1). It is understood that the extension of mechanical excavation into the ROW would be limited by roadway stability and drainage requirements. It is recommended that the Bereavement Authority of Ontario be engaged throughout this process (if the investigation is ever required).

Regarding the identified areas of archaeological potential within the Lockridge Road ROW, the Stage 2 assessment must be conducted in accordance with Section 2.1 of the S&Gs (MTC 2011:28–39). Given that the areas of archaeological potential consist of non-agricultural lands, it is recommended that the test pit survey method be utilized to complete the assessment.

A test pit survey interval of ≤ 5 m will be required due to the proximity of the lands to the identified features of archaeological potential. Each test pit must be excavated into at least the first 5 cm of subsoil, and the resultant pits must be examined for stratigraphy, potential features and/or evidence of fill. The soil from each test pit must be screened through mesh with an aperture of no greater than 6 mm and examined for archaeological materials. If archaeological materials are encountered, all PTPs must be documented and intensification may be required.

It is requested that this report be entered into the Ontario Public Register of Archaeological Reports, as provided for in Section 65.1 of the Ontario Heritage Act.

5.0 ADVICE ON COMPLIANCE WITH LEGISLATION

Section 7.5.9 of the *S&Gs* requires that the following information be provided for the benefit of the proponent and approval authority in the land use planning and development process (MTC 2011:126–127):

- This report is submitted to the 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 MTCS, a letter will be issued by the ministry stating that there are no further concerns with regard to alterations to archaeological sites by the proposed development.
- It is an offence under Sections 48 and 69 of the *Ontario Heritage Act* for any party other than a licensed archaeologist to make any alteration to a known archaeological site or to remove any artifact or other physical evidence of past human use or activity from the site, until such time as a licensed archaeologist has completed archaeological fieldwork on the site, submitted a report to the Minister stating that the site has no further cultural heritage value or interest, and the report has been filed in the Ontario Public Register of Archaeology Reports referred to in Section 65.1 of the *Ontario Heritage Act*.
- Should previously undocumented archaeological resources be discovered, they may be a new archaeological site and therefore subject 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*.
- Archaeological sites recommended for further archaeological fieldwork or protection remain subject to Section 48 (1) of the *Ontario Heritage Act* and may not be altered, or have artifacts removed from them, except by a person holding an archaeological licence.
- The *Funeral, Burial and Cremation Services Act*, 2002, S.O. 2002, c.33 requires that any person discovering human remains must notify the police or coroner and the Registrar of Cemeteries at the Ministry of Consumer Services.