1.0 PROJECT REPORT COVER PAGE

LICENSEE INFORMATION:

Contact Information:	Michael B. Henry CD BA FRAI FRSA Southwestern District Office 553 Dufferin Avenue London, ON N6B 2A5 Phone: (419) 432-4435 Email: mhenry@amick.ca www.amick.ca
Licensee:	Michael B. Henry CD BA FRAI FRSA
Ontario Archaeology Licence:	P058

PROJECT INFORMATION:

Corporate Project Number:	2020086
MCM Project Number:	P058-1874-2020 (Stage 1) & P058-1889-2020 (Stage 2)
Investigation Type:	Stage 1-2 Archaeological Property Assessment
Project Name:	Carden Quarry
Project Location:	Part of Lots 11, 12 & 13, Concession 1 (Geographic Township of Mara, County of Ontario), Township of Ramara, County of Simcoe
Project Designation Number:	Not Currently Available

MCM FILING INFORMATION:

Site Record/Update Form(s):	Bruce (BdGt-26), Bruce Well I (BdGt-25), Bruce Well (BdGt-24), Corbill (BdGt23)
Date of Report Filing:	16 October 2023
Type of Report:	**ORIGINAL**

2.0 EXECUTIVE SUMMARY

This report describes the results of the 2020 Stage 1-2 Archaeological Assessment of Part of Lots 11, 12 & 13, Concession 1 (Geographic Township of Mara, County of Ontario), Township of Ramara, County of Simcoe, conducted by AMICK Consultants Limited. This study was conducted under Professional Archaeologist License #P058 issued to Michael Henry by the Minister of Citizenship and Multiculturalism for the Province of Ontario. This assessment was undertaken as a requirement under the Aggregate Resources Act (RSO 1990) and the Provincial Policy Statement (2020) in order to support a Pit License application as part of the pre-submission process. Within the land use planning and development context, Ontario Regulation 544/06 under the Planning Act (1990b) requires an evaluation of archaeological potential and, where applicable, an archaeological assessment report completed by an archaeologist licensed by the Ministry of Citizenship and Multiculturalism (MCM). Policy 2.6 of the Provincial Policy Statement (PPS 2020) addresses archaeological resources. All work was conducted in conformity with Ontario Ministry of Tourism and Culture (MTC) Standards and Guidelines for Consultant Archaeologists (MTC 2011), the Ontario Heritage Act (RSO 1990a).

AMICK Consultants Limited was engaged by the proponent to undertake a Stage 1-2 Archaeological Assessment of lands potentially affected by the proposed undertaking and was granted permission to carry out archaeological fieldwork. The entirety of the study area was subject to property inspection and photographic documentation concurrently with the Stage 2 Property Assessment by high intensity test pit methodology at a five-metre interval between individual test pits, as well as intensified test pit survey at 2.5 metre intervals and test unit excavation, on July 8, August 12-14, 17-21, 22, 24-29, 31, and September 3, 15-17 2020. All records, documentation, field notes, photographs and artifacts (as applicable) related to the conduct and findings of these investigations are held at the Lakelands District corporate offices of AMICK Consultants Limited until such time that they can be transferred to an agency or institution approved by the Ontario Ministry of Citizenship and Multiculturalism (MCM) on behalf of the government and citizens of Ontario.

STAGE 1-2 RECOMMENDATIONS:

As a result of the property Assessment of the study area, four sites were discovered, the Bruce (BdGt-26) Site, the Bruce Well I (BdGt-25) Site, the Bruce Well (BdGt-24) Site, and the Corbill (BdGt23) Site, as well as two positive outlier test pits, were identified.

The Cultural Heritage Value or Interest (CHVI) of the isolated test pits have been completely documented and the finds has been removed from the study area as a result of standard Stage 2 Property Assessment procedure. There is no remaining CHVI for these locations. No further archaeological assessment of the isolated test pit locations is warranted.

The Bruce (BdGt-26) Site and Bruce Well I (BdGt-25) Site have not yielded any evidence of potential CHVI which would warrant further assessment. No further archaeological assessment of the The Bruce (BdGt-26) Site and Bruce Well I (BdGt-25) Site is warranted.

The Cultural Heritage Value or Interest (CHVI) of the Corbill (BdGt-23) Site and Bruce Well (BdGt-24) Site have not been completely documented. There is potential for further CHVI for these locations. The Corbill (BdGt-23) Site and Bruce Well (BdGt-24) Site require Stage 3 Site-specific Assessment to gather further data to determine if Stage 4 Mitigation of Development Impacts will be required.

Partial Clearance is recommended for all portions of the study area where no further studies are warranted, subject to the requirements for partial clearance which are more fully detailed in the recommendations section of this report. The proponent must provide a letter on corporate letterhead committing to abide by all of the recommendations enumerated within the Recommendations Section of this report. The detailed recommendations for the sites are in the Recommendations section of this report.

3.0 TABLE OF CONTENTS

4.0 PROJECT PERSONNEL

AMICK CONSULTANTS LIMITED PARTNERS
Michael Henry (MCM Professional Archaeologist Licence #P058)
Marilyn Cornies (MCM Professional Archaeologist Licence #P038)

PROJECT COORDINATOR
Michael Henry (MCM Professional Archaeologist Licence #P058)

PROJECT LICENSEE ARCHAEOLOGIST
Michael Henry (MCM Professional Archaeologist Licence #P058)

PROJECT FIELD DIRECTORS
Norbert Stanchly (MCM Applied Research Archaeologist Licence #R149)
Tiffany McLellan (MCM Applied Research Archaeologist Licence #R494)
Katrina Mason (MCM Applied Research Archaeologist Licence #R1226)

PROJECT FIELD ASSISTANTS

Peter Zubryzcki	Richard Meadows	Lorena Stanchly	Thomas Hurdman
Rhan Ju Song	Bosco McLellan	Dimitri McLellan	Garrett Gribbin
Kelly Tremblay	Jamie Lilly	Ryan Crowe	Jessica Watson
Alissa Abbs	Alysia Gillham		

PROJECT REPORT PREPARATION
Katrina Mason (MCM Applied Research Archaeologist Licence #R1226)

PROJECT HISTORIC ARTIFACT ANALYSES
Norbert Stanchly (MCM Applied Research Archaeologist Licence #R149)
Katrina Mason (MCM Applied Research Archaeologist Licence #R1226)

PROJECT GRAPHICS
Katrina Mason (MCM Applied Research Archaeologist Licence #R1226)

PROJECT PHOTOGRAPHY
Norbert Stanchly (MCM Applied Research Archaeologist Licence #R149)
Katrina Mason (MCM Applied Research Archaeologist Licence #R1226)

5.0 PROJECT CONTEXT

5.1 DEVELOPMENT CONTEXT

This report describes the results of the 2020 Stage 1-2 Archaeological Assessment of Part of Lots 11, 12 & 13, Concession 1 (Geographic Township of Mara, County of Ontario), Township of Ramara, County of Simcoe, conducted by AMICK Consultants Limited. This study was conducted under Professional Archaeologist License #P058 issued to Michael Henry by the Minister of Citizenship and Multiculturalism for the Province of Ontario. This assessment was undertaken as a requirement under the Aggregate Resources Act (RSO 1990) and the Provincial Policy Statement (2020) in order to support a Pit License application as part of the pre-submission process. Within the land use planning and development context, Ontario Regulation 544/06 under the Planning Act (1990b) requires an evaluation of archaeological potential and, where applicable, an archaeological assessment report completed by an archaeologist licensed by the Ministry of Citizenship and Multiculturalism (MCM). Policy 2.6 of the Provincial Policy Statement (PPS 2020) addresses archaeological resources. All work was conducted in conformity with Ontario Ministry of Tourism and Culture (MTC) Standards and Guidelines for Consultant Archaeologists (MTC 2011), the Ontario Heritage Act (RSO 1990a).

AMICK Consultants Limited was engaged by the proponent to undertake a Stage 1-2 Archaeological Assessment of lands potentially affected by the proposed undertaking and was granted permission to carry out archaeological fieldwork. The entirety of the study area was subject to property inspection and photographic documentation concurrently with the Stage 2 Property Assessment by high intensity test pit methodology at a five-metre interval between individual test pits, as well as intensified test pit survey at 2.5 metre intervals and test unit excavation, on July 8, August 12-14, 17-21, 22, 24-29, 31, and September 3, 15-17 2020. All records, documentation, field notes, photographs and artifacts (as applicable) related to the conduct and findings of these investigations are held at the Lakelands District corporate offices of AMICK Consultants Limited until such time that they can be transferred to an agency or institution approved by the Ontario Ministry of Citizenship and Multiculturalism (MCM) on behalf of the government and citizens of Ontario.

A proposed development plan was not available at the date of filing.

5.2 HISTORICAL CONTEXT

5.2.1 PRE-CONTACT LAND-USE OUTLINE

What follows is an outline of Aboriginal occupation in the area during the Pre-Contact Era from the earliest known period, about 9000 B.C. up to approximately 1650 AD.

5.2.1.1 PALAEO-INDIAN PERIOD (APPROXIMATELY 9000-7500 B.C.)

North of Lake Ontario, evidence suggests that early occupation began around 9000 B.C. People probably began to move into this area as the glaciers retreated and glacial lake levels began to recede. The early occupation of the area probably occurred in conjunction with environmental conditions that would be comparable to modern Sub-Arctic conditions. Due to the great antiquity of these sites, and the relatively small populations likely involved, evidence of these early inhabitants is sparse and generally limited to tools produced from stone or to by-products of the manufacture of these implements.

5.2.1.2 ARCHAIC PERIOD (APPROXIMATELY 8000-1000 B.C.)

By about 8000 B.C. the gradual transition from a post glacial tundra-like environment to an essentially modern environment was largely complete. Prior to European clearance of the landscape for timber and cultivation, the area was characterized by forest. The Archaic Period is the longest and the most apparently stable of the cultural periods identified through archaeology. The Archaic Period is divided into the Early, Middle and Late Sub-Periods, each represented by specific styles in projectile point manufacture. Many more sites of this period are found throughout Ontario, than of the Palaeo-Indian Period. This is probably a reflection of two factors: the longer period of time reflected in these sites, and a greater population density. The greater population was likely the result of a more diversified subsistence strategy carried out in an environment offering a greater variety of abundant resources. (Smith 2002:58-59)

Current interpretations suggest that the Archaic Period populations followed a seasonal cycle of resource exploitation. Although similar in concept to the practices speculated for the big game hunters of the Palaeo-Indian Period, the Archaic populations utilized a much broader range of resources, particularly with respect to plants. It is suggested that in the spring and early summer, bands would gather at the mouths of rivers and at rapids to take advantage of fish spawning runs. Later in the summer and into the fall season, smaller groups would move to areas of wetlands to harvest nuts and wild rice. During the winter, they would break into yet smaller groups probably based on the nuclear family and perhaps some additional relatives to move into the interior for hunting. The result of such practices would be to create a distribution of sites across much of the landscape. (Smith 2002: 59-60).

The material culture of this period is much more extensive than that of the Palaeo-Indians. Stylistic changes between Sub-Periods and cultural groups are apparent, although the overall quality in production of chipped lithic tools seems to decline. This period sees the

introduction of ground stone technology in the form of celts (axes and adzes), manos and metates for grinding nuts and fibres, and decorative items like gorgets, pendants, birdstones, and bannerstones. Bone tools are also evident from this time period. Their presence may be a result of better preservation from these more recent sites rather than a lack of such items in earlier occupations. In addition, copper and exotic chert types appear during the period and are indicative of extensive trading (Smith 2002: 58-59).

5.2.1.3 WOODLAND PERIOD (APPROXIMATELY 1000 B.C.-1650 A.D.)

The primary difference in archaeological assemblages that differentiates the beginning of the Woodland Period from the Archaic Period is the introduction of ceramics to Ontario populations. This division is probably not a reflection of any substantive cultural changes, as the earliest sites of this period seem to be in all other respects a continuation of the Archaic mode of life with ceramics added as a novel technology. The seasonally based system of resource exploitation and associated population mobility persists for at least 1500 years into the Woodland Period. (Smith 2002: 61-62)

The Early Woodland Sub-Period dates from about 1000-400 B.C. Many of the artifacts from this time are similar to the late Archaic and suggest a direct cultural continuity between these two temporal divisions. The introduction of pottery represents and entirely new technology that was probably acquired through contact with more southerly populations from which it likely originates. (Smith 2002:62)

The Middle Woodland Sub-Period dates from about 400 B.C.-800 A.D. Within the region including the study area, a complex emerged at this time termed “Point Peninsula”. Point Peninsula pottery reflects a greater sophistication in pottery manufacture compared with the earlier industry. The paste and temper of the new pottery is finer and new decorative techniques such as dentate and pseudo-scallop stamping appear. There is a noted Hopewellian influence in southern Ontario populations at this time. Hopewell influences from south of the Great Lakes include a widespread trade in exotic materials and the presence of distinct Hopewell style artifacts such as platform pipes, copper or silver panpipe covers and shark’s teeth. The populations of the Middle Woodland participated in a trade network that extended well beyond the Great Lakes Region.

The Late Woodland Sub-Period dates from about 500-1650 A.D. The Late Woodland includes four separate phases: Princess Point, Early Ontario Iroquoian, Middle Ontario Iroquoian and Late Ontario Iroquoian.

The Princess Point phase dates to approximately 500-1000 A.D. Pottery of this phase is distinguished from earlier technology in that it is produced by the paddle method instead of coil and the decoration is characterized by the cord wrapped stick technique. Ceramic smoking pipes appear at this time in noticeable quantities. Princess Point sites cluster along major stream valleys and wetland areas. Maize cultivation is introduced by these people to Ontario. These people were not fully committed to horticulture and seemed to be experimenting with maize production. They generally adhere to the seasonal pattern of

occupation practiced by earlier occupations, perhaps staying at certain locales repeatedly and for a larger portion of each year (Smith 2002: 65-66)

The Early Ontario Iroquoian stage dates to approximately 950-1050 A.D. This stage marks the beginning of a cultural development that led to the historically documented Ontario Iroquoian groups that were first contacted by Europeans during the early 1600s (Petun, Neutral, and Huron). At this stage formal semi-sedentary villages emerge. The Early stage of this cultural development is divided into two cultural groups in southern Ontario. The areas occupied by each being roughly divided by the Niagara Escarpment. To the west were located the Glen Meyer populations, and to the east were situated the Pickering people (Smith 2002: 67).

The Middle Ontario Iroquoian stage dates to approximately 1300-1400 A.D. This stage is divided into two sub-stages. The first is the Uren sub-stage lasting from approximately 1300-1350 A.D. The second of the two sub-stages is known as the Middleport sub-stage lasting from roughly 1350-1400 A.D. Villages tend to be larger throughout this stage than formerly (Smith 2002: 67).

The Late Ontario Iroquoian stage dates to approximately 1400-1650 A.D. During this time the cultural divisions identified by early European explorers are under development and the geographic distribution of these groups within southern Ontario begins to be defined.

5.2.2 GENERAL HISTORICAL OUTLINE

Ontario County was created in 1852 from the East Riding of York County and was replaced by Regional Municipality of Durham effective January 1, 1974. In 1855 the Town of Whitby was incorporated in part of Whitby Township. Scugog Township was formed from a portion of Reach Township and Cartwright Township in adjoining Northumberland and Durham County in 1856. And in 1858, the Township of East Whitby was formed from the eastern portion of Whitby Township (Wikipedia *Ontario County*, Ontario, 2017). The people who lived around Oshawa, the ancestral Wendat, were agriculturists who grew maize, beans, sunflowers and tobacco in fields near the village. However, they did not rely totally on what they grew. Their diet was also supplemented by the wild roots and plants that they gathered. Along with plant remains, archaeological evidence also points to these people relying heavily on deer meat and fish to provide them with the necessary protein (Archaeology in Oshawa, 2017).

Mara Township was opened for settlement in 1821. The first settler in the Township of Mara was Patrick Corrigan, who settled on Lot 15 Concession 7 in 1823, after serving as the chain bearer for the township surveyor, J. G. Chewitt (RamaCardenDalton, 2008). The second settler, Arthur Kelly, took up his location in 1827, and died at the age of 106 (RamaCardenDalton, 2012). In 1836 the survey was completed by Mr. Robert Ross who was assisted by several of his Scotch neighbours who had settled in the northern and western part of the township. Pioneers started coming but for a number of years they were few and far between (RamaCardenDalton, 2008). Mara Township was largely settle by Scottish Highlanders from the Western islands of Scotland, the majority of whom were Roman

Catholic and by 1839 the population of Mara was 211 (RamaCardenDalton, 2012). In 1833 the first Scotsman, Alexander MacDonald, who was a blacksmith, settled in the northwest section of the township. He was followed by some other Scots in the early 1830's. Starting in 1846 and 1847 there was a big influx of Irish immigrants and also many Scots. In 1849, it became part of Ontario County. Ontario County was dissolved upon the formation of the Regional Municipality of Durham in 1974, and both townships were transferred to Simcoe County. As part of the municipal restructuring of Simcoe County, Mara and Rama Townships were reamalgamated to form Ramara municipality in 1994 (WikiTree 2019).

> *The first bridge over the Narrows at Atherley, where lakes Simcoe and Couchiching join was opened in 1853. The old Centre Road, now Highway No. 12, was completed to the Narrows in 1857. With the completion of the Centre Road a stage coach operated for a number of years between Beaverton and the Narrows and eventually to Orillia. A wheel of the original coach decorated the lawn of the Clitheroe family, near Atherley, for some time. It has since been made into a chandelier and hangs in the cottage of a Mr. Weber. In 1871 and 72 the Northern Railway was built from Barrie to Orillia, then over the Narrows and north to Washago. By 1875 the Grand Trunk railway had been extended from Beaverton to Waubaushene and later to Midland. Between 1890 and 1900 the Canadian Northern railway came from Toronto, through Beaverton and Brechin, to Washago and Muskoka. In 1910, the Canadian Pacific opened a line from Peterborough to Port McNicoll. With four railways operating in the township, Mara was really opened up and it become a prosperous township. Apart from farming there were many other things to occupy the settlers. There was much lumbering; there were stone quarries, potash plants, lime kilns, grist mills, sawmills and many other small industries.*
>
> (RamaCardenDalton, 2008).

Map 2 is a facsimile segment from Tremaine's Map of the County of Ontario (Shier, ed. G. Tremaine, 1860). Map 2 illustrates the location of the study area and environs as of 1860. The study area is not shown to belong to anyone and no structures are shown to be within the study area. The study area is bounded on the north, south, and east by settlement roads. These are the current Concession Road 2, Concession Road 1, and Highway 12/Trans-Canada Highway respectively.

Map 3 is a facsimile segment of the Township of Toronto map reproduced from The Illustrated Historical Atlas of the County of Ontario (J. H. Beers & Co., 1877). Map 3 illustrates the location of the study area and environs as of 1877. The study area is shown to belong to several owners. The northeastern corner of the study area is shown to belong to W. Dobble; one structure is shown to be within the eastern portion of W. Dobble's land. The southeastern corner is shown to belong to J. Graham; no structures are shown to be within the study area. The property to the west of J. Grahams is shown to belong to J. Corbill and three structures are shown to exist. The structures closest to the railway track are indicated as being associated with a lime kiln. The next property to the west is shown to belong to D. Bruce and one structure is shown within the area. The furthest property to the west is shown to belong to G. Bruce and one structure is shown here as well. This demonstrates that the original

property of which the study area is a part was settled by the time that the atlas data was compiled. Accordingly, it has been determined that there is potential for archaeological deposits related to early Post-Contact settlement within the study area. In addition, this map illustrates three settlement roads to the north, south, and east. These are the current Concession Road 2, Concession Road 1, and Highway 12/Trans-Canada Highway respectively. The Midland Railway is illustrated to run through the study area from north to south and splits the property between D. Bruce and J. Corbill.

It must be borne in mind that inclusion of names of property owners and depictions of structures and other features within properties on these maps were sold by subscription. Property owners paid to include information or details about their properties. While information included within these maps may provide information about the occupation of a property at a specific moment in time when the information was collected, the absence of such information does not necessarily indicate that the property was not occupied.

5.2.3 CURRENT CONDITIONS

The present use of the study area is mostly open grassland and meadow with some lightly wooded areas. The wooded areas were mixed vegetation and most were associated with low-lying and wet areas. The study area is roughly 161 hectares in area. The eastern and central portion of the study area consist mainly of meadow with some small wooded areas. The western portion of the study area consists of larger treed areas with some meadow. There are several structures within the study area that are no longer in use. These consist of two wells, a silo, and barn foundation, an unknown stone foundation, and two sheds. The low-lying and wet areas were interspersed throughout the study area. The study area is bounded on the north by Concession Road 2 and agricultural land, on the east by a Highway 12/Trans-Canada Highway, on the west by agricultural land, and on the south Concession Road 1. The study area is adjacent to the intersection of Highway 12 and Concession Road 2 as well as the intersection of Highway 12 and Concession Road 1. A plan of the study area was not available at the date of filing. Current conditions encountered during the Stage 1-2 Property Assessment are illustrated in Map 4.

5.2.4 SUMMARY OF HISTORICAL CONTEXT

The brief overview of readily available documentary evidence indicates that the study area is situated within an area that was close to historic transportation routes and in an area well populated during the nineteenth century and therefore has potential for sites relating to early Post-Contact settlement in the region. A brief overview of the current understanding of First Nations land use and occupation in the area indicates that the study area has low potential to produce sites relating to First Nation or Metis settlement in the region.

5.3 ARCHAEOLOGICAL CONTEXT

The Archaeological Sites Database administered by the Ministry of Citizenship and Multiculturalism (MCM) indicates that there are no (0) previously documented sites within 1

kilometre of the study area. However, it must be noted that this is based on the assumption of the accuracy of information compiled from numerous researchers using different methodologies over many years. AMICK Consultants Limited assumes no responsibility for the accuracy of site descriptions, interpretations such as cultural affiliation, or location information derived from the Archaeological Sites Database administered by MCM. In addition, it must also be noted that a lack of formerly documented sites does not indicate that there are no sites present as the documentation of any archaeological site is contingent upon prior research having been conducted within the study area.

Background research shows that one (1) previous study has taken place within 50m of the study area. For further information see:

AMICK Consultants Limited. (2020). *Stage 1-2 Archaeological Assessment of Brechin Highway 12 Quarry, Part of Lot 10, Concession 1 (Geographic Township of Mara, County of Ontario), Township of Ramara, County of Simcoe*. Lakelands District, Ontario. Archaeological License Report on File With the Ministry of Citizenship and Multiculturalism, Toronto, Ontario as PIF #P058-1873-2020.

Data contained in previous archaeological reports in close proximity to the study area that is relevant to Stage 1 Background Study is defined within the Standards and Guidelines for Consultant Archaeologists in Section 7.5.8 Standard 4 as follows:

> *"Provide descriptions of previous archaeological fieldwork carried out within the limits of, or immediately adjacent to the project area,* ***as documented by all available reports that include archaeological fieldwork carried out on the lands to be impacted by this project, or where reports document archaeological sites immediately adjacent (i.e., within 50 m) to those lands****."*
>
> (MTCS 2011: 126 Emphasis Added)

In accordance with data supplied by MCM for the purposes of completing this study, there are no previous reports detailing, *"archaeological fieldwork carried out on the lands to be impacted by this project"*, nor do any previous reports document known archaeological sites within 50 metres of the study area.

The Standards and Guidelines for Consultant Archaeologists stipulates that the necessity to summarize the results of previous archaeological assessment reports, or to cite MCM File Numbers in references to other archaeological reports, is reserved for reports that are directly relevant to the fieldwork and recommendations for the study area (S & Gs 7.5.7, Standard 2, MTC 2011: 125). This is further refined and elaborated upon in Section 7.5.8, Standards 4 & 5, MTC 2011:

> *"4. Provide descriptions of previous archaeological fieldwork carried out within the limits of, or immediately adjacent to the project area, as documented by all available* ***reports that include archaeological fieldwork carried out on the lands to be impacted by this project, or where reports document archaeological sites***

immediately adjacent (i.e., within 50m) to those lands."

"5. ***If previous findings and recommendations are relevant*** *to the current stage of work, provide the following:*

a. *a brief summary of previous findings and recommendations*
b. *documentation of any differences in the current work from the previously recommended work*
c. *rationale for the differences from the previously recommended work"*

(Emphasis Added)

There is one archaeological report conducted within 50 metres of the current study area; therefore, there is a requirement to summarize additional or relevant reports.

The study area is situated within an area subject to an archaeological master plan or a similar regional overview study. The *County of Simcoe Archaeological Master Plan* was endorsed by County Council on 4 December 2019. The study involved the delineation of areas of archaeological potential within the County of Simcoe. Table 1 describes the modelling criteria by which the Simcoe County regional archaeological potential was calculated.

Table 1 : Summary of Archaeological Site Potential Modelling Criteria

Environmental or Cultural Feature	Buffer Distance (metres)	Buffer Qualifier
Pre-contact Indigenous Site Potential		
rivers and streams	250	from top of bank for former; from centreline for latter; on well- or imperfectly drained soils only
lakes and ponds	250	on well or imperfectly drained soils only
Wetlands (including pre-settlement)	250	on well or imperfectly drained soils only
alluvial soils (former river courses)	250	on well or imperfectly drained soils only
registered archaeological sites	100	200 m for villages; if not completely excavated
slope > 20 degrees	0	removed from potential zone
Historical Site Potential		
historical settlement centres	polygon as mapped	no buffer, override integrity
domestic sites	100	None
breweries and distilleries	100	None
hotels/taverns	100	None
historical schools and churches	100	None
historic mills, forges, extraction industries	100	None
early settlement roads	100	both sides
early railways	50	both sides
cemeteries	100 for cemetery leads	10m around cemetery polygons
registered archaeological sites	100	if not completely excavated

It must be further noted that there are no relevant plaques associated with the study area, which would suggest an activity or occupation within, or in close proximity to, the study area that may indicate potential for associated archaeological resources of significant CHVI.

In addition, archaeological sites data is also used to determine if any archaeological resources had been formerly documented within or in close proximity to the study area and if these same resources might be subject to impacts from the proposed undertaking. This data was also collected in order to establish the relative significance of any resources that might be encountered during the conduct of the present study. For example, the relative rarity of a site can be used to assign an elevated level of significance to a site that is atypical for the immediate vicinity. The requisite archaeological sites data of previously registered archaeological sites was collected from the MCM and the corporate research library of AMICK Consultants Limited. The Stage 1 Background Research methodology also includes a review of the most detailed available topographic maps, historical settlement maps, archaeological management plans (where applicable) and commemorative plaques or monuments. When previous archaeological research documents lands to be impacted by the proposed undertaking or archaeological sites within 50 metres of the study area, the reports documenting this earlier work are reviewed for pertinent information. AMICK Consultants Limited will often modify this basic methodology based on professional judgment to include additional research (such as, local historical works or documents and knowledgeable informants).

5.3.1 PRE-CONTACT REGISTERED SITES

A summary of registered and/or known archaeological sites within a 1-kilometre radius of the study area was gathered from the Archaeological Sites Database, administered by MCM. As a result it was determined that no (0) archaeological sites relating directly to Pre-Contact habitation/activity had been formally registered within the immediate vicinity of the study area. However, the lack of formally documented archaeological sites does not mean that Pre-Contact people did not use the area; it more likely reflects a lack of systematic archaeological research in the immediate vicinity. Even in cases where one or more assessments may have been conducted in close proximity to a proposed landscape alteration, an extensive area of physical archaeological assessment coverage is required throughout the region to produce a representative sample of all potentially available archaeological data in order to provide any meaningful evidence to construct a pattern of land use and settlement in the past.

Table 2 illustrates the chronological development of cultures within southern Ontario prior to the arrival of European cultures to the area at the beginning of the 17th century. This general cultural outline is based on archaeological data and represents a synthesis and summary of research over a long period of time. It is necessarily generalizing and is not necessarily representative of the point of view of all researchers or stakeholders. It is offered here as a rough guideline and as a very broad outline to illustrate the relationships of broad cultural groups and time periods.

TABLE 2 PRE-CONTACT CULTURAL CHRONOLOGY FOR SOUTHERN ONTARIO

Years ago	Period	Southern Ontario
250	Terminal Woodland	Ontario and St. Lawrence Iroquois Cultures
1000 2000	Initial Woodland	Princess Point, Saugeen, Point Peninsula, and Meadowood Cultures
3000 4000 5000 6000	Archaic	Laurentian Culture
7000 8000 9000 10000 11000	Palaeo-Indian	Plano and Clovis Cultures
		(Wright 1972)

5.3.2 POST-CONTACT REGISTERED SITES

A summary of registered and/or known archaeological sites within a 1-kilometre radius of the study area was gathered from the Archaeological Sites Database, administered by MCM. As a result it was determined that no (0) archaeological sites relating directly to Post-Contact habitation/activity had been formally registered within the immediate vicinity of the study area.

5.3.3 LOCATION AND CURRENT CONDITIONS

AMICK Consultants Ltd. in 2019 completed a Stage 1-2 Archaeological Assessment on the lands adjacent to the study area to the northeast. During this assessment, no archaeological resources were encountered. Below is the executive summary of the assessment and the resulting recommendations:

> *This report describes the results of the 2019 Stage 1-2 Archaeological Assessment of Part of Lot 10, Concession 1 (Geographic Township of Mara, County of Ontario), Township of Ramara, County of Simcoe, conducted by AMICK Consultants Limited. This study was conducted under Professional Archaeologist License #P058 issued to Michael Henry by the Minister of Citizenship and Multiculturalism for the Province of Ontario. This assessment was undertaken as a requirement under the Aggregate Resources Act (RSO 1990) and the Provincial Policy Statement (2014) in order to support a Pit License application as part of the pre-submission process. Within the land use planning and development context, Ontario Regulation 544/06 under the Planning Act (1990b) requires an evaluation of archaeological potential and, where applicable, an archaeological assessment report completed by an archaeologist licensed by the Ministry of Citizenship and Multiculturalism (MCM). Policy 2.6 of the Provincial Policy Statement (PPS 2014) addresses archaeological resources. All work was conducted in conformity with Ontario Ministry of Tourism and Culture*

(MTC) Standards and Guidelines for Consultant Archaeologists (MTC 2011), the Ontario Heritage Act (RSO 1990a).

AMICK Consultants Limited was engaged by the proponent to undertake a Stage 1-2 Archaeological Assessment of lands potentially affected by the proposed undertaking and was granted permission to carry out archaeological fieldwork. The entirety of the study area was subject to property inspection and photographic documentation concurrently with the Stage 2 Property Assessment by high intensity test pit methodology at a five-metre interval between individual test pits and by test pit survey at a ten metre interval to confirm disturbance on 11-12, 17-18, 22-25, and 29 June 2020. All records, documentation, field notes, photographs and artifacts (as applicable) related to the conduct and findings of these investigations are held at the Lakelands District corporate offices of AMICK Consultants Limited until such time that they can be transferred to an agency or institution approved by the Ontario Ministry of Citizenship and Multiculturalism (MCM) on behalf of the government and citizens of Ontario.

STAGE 1-2 RECOMMENDATIONS:

As a result of the Stage 2 Property Assessment of the study area, no archaeological resources were encountered. Consequently, the following recommendations are made:

1. *No further archaeological assessment of the study area is warranted;*
2. *The Provincial interest in archaeological resources with respect to the proposed undertaking has been addressed;*
3. *The proposed undertaking is clear of any archaeological concern.*

5.3.4 LOCATION AND CURRENT CONDITIONS

The study area is described as Part of Lots 11, 12 & 13, Concession 1 (Geographic Township of Mara, County of Ontario), Township of Ramara, County of Simcoe. The study area was subject to this assessment as a requirement under the Aggregate Resources Act (RSO 1990) and the Provincial Policy Statement (2020) in order to support a Pit License application as part of the pre-submission process.

The present use of the study area is mostly open grassland and meadow with some lightly wooded areas. The wooded areas were mixed vegetation and most were associated with low-lying and wet areas. The study area is roughly 161 hectares in area. The eastern and central portion of the study area consist mainly of meadow with some small wooded areas. The western portion of the study area consists of larger treed areas with some meadow. There are several structures within the study area that are no longer in use. These consist of two wells, a silo, and barn foundation, an unknown stone foundation, and two sheds. The low-lying and wet areas were interspersed throughout the study area. The study area is bounded on the north by Concession Road 2 and agricultural land, on the east by a Highway 12/Trans-

Canada Highway, on the west by agricultural land, and on the south Concession Road 1. The study area is adjacent to the intersection of Highway 12 and Concession Road 2 as well as the intersection of Highway 12 and Concession Road 1. A plan of the study area was not available at the date of filing. Current conditions encountered during the Stage 1-2 Property Assessment are illustrated in Map 4.

5.3.5 PHYSIOGRAPHIC REGION

The study area is situated within the Simcoe Lowlands physiographic region (Chapman and Putnam 1984:177-182). For the most part, at one time, this restricted basin was part of the floor of glacial Lake Algonquin, and its surface beds are deposits of deltaic and lacustrine origin, and not glacial outwash. As a small basin shut in by the Edenvale Moraine, the Minesing flats represent an annex of the glacial Lake Nipissing plains. (Chapman and Putnam 1984: 177-182). The lowlands bordering Georgian Bay and Lake Simcoe may be termed the Simcoe lowlands. Together they cover an area of about 1,100 square miles. They fall naturally into two major divisions separated by the uplands of Simcoe County. To the west are the plains draining into Nottawasaga Bay mostly by way of the Nottawasaga River. This area is called the Nottawasaga basin. To the east is the lowland surrounding Lake Simcoe, referred to as the Lake Simcoe basin. These two basins are connected at Barrie by a flat-floored valley and by similar valleys among the upland plateaux farther north. Both the lowlands and transverse valleys were flooded by Lake Algonquin and are bordered by shorecliffs, beaches, and bouldery terraces. Thus they are floored by sand, silt, and clay. The study area is on Trenton-Black River bedrock, which is a limestone and dolostone formation. The soils are characterized by mainly imperfectly drained Tecumseth sandy loam. It is a sandy soil with good drainage. (Hoffman and Richards 1955).

5.3.6 SURFACE WATER

Sources of potable water, access to waterborne transportation routes, and resources associated with watersheds are each considered, both individually and collectively to be the highest criteria for determination of the potential of any location to support extended human activity, land use, or occupation. Accordingly, proximity to water is regarded as the primary indicator of archaeological resource potential. The Standards and Guidelines for Consultant Archaeologists stipulates that undisturbed lands within 300 metres of a water source are considered to have archaeological potential (MTC 2011: 21).

The study area contains no bodies of water but low-lying and wet areas are located throughout the study area in areas of lower elevation and poor drainage.

5.3.7 CURRENT PROPERTY CONDITIONS CONTEXT

Current characteristics encountered within an archaeological research study area determine if property Assessment of specific portions of the study area will be necessary and in what manner a Stage 2 Property Assessment should be conducted, if necessary. Conventional assessment methodologies include pedestrian survey on ploughable lands and test pit

methodology within areas that cannot be ploughed. For the purpose of determining where property Assessment is necessary and feasible, general categories of current landscape conditions have been established as archaeological conventions. These include:

5.3.7.1 BUILDINGS AND STRUCTURAL FOOTPRINTS

A building, for the purposes of this particular study, is a structure that exists currently or has existed in the past in a given location. The footprint of a building is the area of the building formed by the perimeter of the foundation. Although the interior area of building foundations would often be subject to property Assessment when the foundation may represent a potentially significant historic archaeological site, the footprints of existing structures are not typically assessed. Existing structures commonly encountered during archaeological assessments are often residential-associated buildings (houses, garages, sheds), and/or component buildings of farm complexes (barns, silos, greenhouses). In many cases, even though the disturbance to the land may be relatively shallow and archaeological resources may be situated below the disturbed layer (e.g. a concrete garage pad), there is no practical means of assessing the area beneath the disturbed layer. However, if there were evidence to suggest that there are likely archaeological resources situated beneath the disturbance, alternative methodologies may be recommended to study such areas.

The study area contains several structures. These consist of two wells, a silo, and barn foundation, an unknown stone foundation, and two sheds. There is also a stone foundation within the ground, which appears to be a cellar or basement, within the western portion of the study area. Map 4 of this report illustrates the locations of these features.

5.3.7.2 DISTURBANCE

Areas that have been subjected to extensive and deep land alteration that has severely damaged the integrity of archaeological resources are known as land disturbances. Examples of land disturbances are areas of past quarrying, major landscaping, and sewage and infrastructure development (MTC 2011: 18), as well as driveways made of gravel or asphalt or concrete, in-ground pools, and wells or cisterns. Surfaces paved with interlocking brick, concrete, asphalt, gravel and other surfaces meant to support heavy loads or to be long wearing hard surfaces in high traffic areas, must be prepared by the excavation and removal of topsoil, grading, and the addition of aggregate material to ensure appropriate engineering values for the supporting matrix and also to ensure that the installations shed water to avoid flooding or moisture damage. All hard surfaced areas are prepared in this fashion and therefore have no or low archaeological potential. Major utility lines are conduits that provide services such as water, natural gas, hydro, communications, sewage, and others. These major installations should not be confused with minor below ground service installations not considered to represent significant disturbances removing archaeological potential, such as services leading to individual structures which tend to be comparatively very shallow and vary narrow corridors. Areas containing substantial and deeply buried services or clusters of below ground utilities are considered areas of disturbance, and may be excluded from Stage 2 Property Assessment. Disturbed areas are excluded from Stage 2

Property Assessment due to no or low archaeological potential and often because they are also not viable to assess using conventional methodology.

> *"Earthwork is one of the major works involved in road construction. This process includes excavation, material removal, filling, compaction, and construction. Moisture content is controlled, and compaction is done according to standard design procedures. Normally, rock explosion at the road bed is not encouraged. While filling a depression to reach the road level,* ***the original bed is flattened after the removal of the topsoil.*** *The fill layer is distributed and compacted to the designed specifications. This procedure is repeated until the compaction desired is reached. The* ***fill material should not contain organic elements,*** *and possess a low index of plasticity. Fill material can include gravel and decomposed rocks of a particular size, but should not consist of huge clay lumps. Sand clay can be used. The area is considered to be adequately compacted when the roller movement does not create a noticeable deformation.* ***The road surface finish is reliant on the economic aspects, and the estimated usage."*** *[Emphasis Added]*
>
> (Goel 2013)

The supporting matrix of a hard paved surface cannot contain organic material, which is subject to significant compression, decay and moisture retention. Topsoil has no engineering value and must be removed in any construction application where the surface finish at grade requires underlying support.

Installation of sewer lines and other below ground services associated with infrastructure development often involves deep excavation that can remove archaeological potential. This consideration does not apply to relatively minor below ground services that connect structures and facilities to services that support their operation and use. Major servicing corridors will be situated within adjacent road allowances with only minor, narrow and relatively shallow underground services entering into the study area to connect existing structures to servicing mainlines. The relatively minor, narrow and shallow services buried within a residential property do not require such extensive ground disturbance to remove or minimize archaeological potential within affected areas.

The study area contains two gravel/dirt access roads off of Concession Road 1. The road in the western portion of the study area extends past the structures in a roundabout fashion and continues out past the study area to the agricultural fields. Portions of these roads have been unused for some time and grass has grown over these areas. Map 4 of this report illustrates the locations of these features.

5.3.7.3 Low-Lying and Wet Areas

Landscape features that are covered by permanently wet areas, such as marshes, swamps, or bodies of water like streams or lakes, are known as low-lying and wet areas. Low-lying and wet areas are excluded from Stage 2 Property Assessment due to inaccessibility.

Low-lying and wet areas are located throughout the study area in areas of lower elevation and poor drainage. The majority of these areas follow the border of the study area as well as through the middle of the meadows and lightly treed areas. These areas contain highly saturated soils that infilled with water approximately 5-10 cm into their excavation as well as standing water on the topsoil. The areas are permanently wet, characterized by swamp plants (dogwood, cattails, alder in the open western wet areas; tamarack, cedar, spruce in the forested wet areas) and surface water that cannot be assessed using conventional methodology and has therefore been excluded from the Stage 2 Property Assessment. Map 4 of this report illustrates the locations of these features.

5.3.7.4 STEEP SLOPE

Landscape which slopes at a greater than (>) 20 degree change in elevation, is known as steep slope. Areas of steep slope are considered uninhabitable, and are excluded from Stage 2 Property Assessment.

Generally, steep slopes are not assessed because steep slopes are interpreted to have low potential, not due to viability to assess, except in cases where the slope is severe enough to become a safety concern for archaeological field crews. In such cases, the Occupational Health and Safety Act takes precedence as indicated in the introduction to the Standards and Guidelines. AMICK Consultant Limited policy is to assess all slope areas whenever it is safe to do so. Assessment of slopes, except where safety concerns arise, eliminates the invariably subjective interpretation of what might constitute a steep slope in the field. This is done to minimize delays due to conflicts in such interpretations and to increase the efficiency of review.

The study area does not contain areas of steep slope.

5.3.7.5 WOODED AREAS

Areas of the property that cannot be ploughed, such as natural forest or woodlot, are known as wooded areas. These wooded areas qualify for Stage 2 Property Assessment, and are required to be assessed using test pit survey methodology.

Areas of a mixed deciduous and coniferous forest are located in the southwest corner of the study area. Smaller portions of wooded areas and small brush are interspersed within open meadow areas. Map 4 of this report illustrates the locations of these features.

5.3.7.6 PLOUGHABLE AGRICULTURAL LANDS

Areas of current or former agricultural lands that have been ploughed in the past are considered ploughable agricultural lands. Ploughing these lands regularly turns the soil, which in turn brings previously buried artifacts to the surface, which are then easily identified during visual inspection. Furthermore, by allowing the ploughed area to weather sufficiently through rainfall, soil is washed off of exposed artifacts at the surface and the

visibility of artifacts at the surface of recently worked field areas is enhanced markedly. Pedestrian survey of ploughed agricultural lands is the preferred method of physical assessment because of the greater potential for finding evidence of archaeological resources if present.

The study area does not contain any ploughable lands. The land within the study area is not ploughable due to the amount of large rocks and boulders throughout the meadow.

5.3.7.7 LAWN, PASTURE, MEADOW

Landscape features consisting of former agricultural land covered in low growth, such as lawns, pastures, meadows, shrubbery, and immature trees. These are areas that may be considered too small to warrant ploughing, (i.e. less than one hectare in area), such as yard areas surrounding existing structures, and land-locked open areas that are technically workable by a plough but inaccessible to agricultural machinery. These areas may also include open area within urban contexts that do not allow agricultural tillage within municipal or city limits or the use of urban roadways by agricultural machinery. These areas are required to be assessed using test pit survey methodology.

The majority of the study area consists of open meadow within the eastern and central portions. Map 4 of this report illustrates the locations of these features.

5.3.8 SUMMARY

Background research indicates the vicinity of the study area has potential for archaeological resources of Native origins based on proximity to glacial shorelines. Background research also suggests potential for archaeological resources of Post-Contact origins based on the proximity to a historic roadway.

Current conditions within the study area indicate that some areas of the property may have no or low archaeological potential and do not require Stage 2 Property Assessment or should be excluded from Stage 2 Property Assessment. These areas would include the footprint of existing structures, areas under gravel, areas that are low-lying and wet, and areas that are not accessible due to previously dumped soil covering the original surface of the ground. A significant proportion of the study area does exhibit archaeological potential and therefore a Stage 2 Property Assessment is required.

Archaeological potential does not indicate that there are necessarily sites present, but that environmental and historical factors suggest that there may be as yet undocumented archaeological sites within lands that have not been subject to systematic archaeological research in the past.

6.0 FIELD WORK METHODS AND WEATHER CONDITIONS

This report confirms that the study area was subject to Stage 2 Property Assessment by by high intensity test pit methodology at a five-metre interval between individual test pits, as well as intensified test pit survey at 2.5 metre intervals as well as test unit excavation on 11-12, 17-18, 22-25, and 29 June 2020.

The fieldwork undertaken as a component of this study was conducted according to the archaeological fieldwork standards and guidelines (including weather and lighting conditions). Weather conditions were appropriate for the necessary fieldwork required to complete the Stage 2 Property Assessment and to create the documentation appropriate to this study. The locations from which photographs were taken and the directions toward which the camera was aimed for each photograph are illustrated in Map 4 of this report. Upon completion of the property inspection of the study area, it was determined that select areas would require Stage 2 Property Assessment.

It must be noted that AMICK Consultants Limited has been retained to assess lands as specified by the proponent. As such, AMICK Consultants Limited is constrained by the terms of the contract in place at the time of the Archaeological Assessment and can only enter into lands for which AMICK Consultants Limited has received consent from the owner or their agent(s). The proponent has been advised that the entire area within the planning application must be subject to archaeological assessment and that portions of the planning application may only be excluded if they are of low potential, are not viable to assess, or are subject to planning provisions that would restrict any such areas from any form of ground altering activities.

6.1 PROPERTY INSPECTION

A detailed examination and photo documentation was carried out on the study area in order to document the existing conditions of the study area to facilitate the Stage 2 Property Assessment. All areas of the study area were visually inspected and select features were photographed as a representative sample of each area defined within Map 4. Observations made of conditions within the study area at the time of the inspection were used to inform the requirement for Stage 2 Property Assessment for portions of the study area as well as to aid in the determination of appropriate Stage 2 Property Assessment strategies. The locations from which photographs were taken and the directions toward which the camera was aimed for each photograph are illustrated in Map 4.

6.2 TEST PIT SURVEY

In accordance with the Standards and Guidelines for Consultant Archaeologists, test pit survey is required to be undertaken for those portions of the study area where deep prior disturbance had not occurred prior to assessment or which were accessible to survey. Test pit survey is only used in areas that cannot be subject to ploughing or cultivation. This report confirms that the conduct of test pit survey within the study area conformed to the following standards:

1. Test pit survey only on terrain where ploughing is not possible or viable, as in the following examples:

a. wooded areas
[All wooded areas were test pit surveyed at an interval of 5 m between individual test pits]

b. pasture with high rock content
[The study area contained a pasture with high rock content that was test pit surveyed at an interval of 5 m between individual test pits]

c. abandoned farmland with heavy brush and weed growth
[The study area contained abandoned farmland with heavy brush and weed growth that was test pit surveyed at an interval of 5m between individual test pits]

d. orchards and vineyards that cannot be strip ploughed (planted in rows 5 m apart or less), gardens, parkland or lawns, any of which will remain in use for several years after the survey
[Not Applicable - The study area does not contain any of the above-mentioned circumstances]

e. properties where existing landscaping or infrastructure would be damaged. The presence of such obstacles must be documented in sufficient detail to demonstrate that ploughing or cultivation is not viable.
[Not Applicable - The study area does not contain the above-mentioned circumstances]

f. narrow (10 m or less) linear survey corridors (e.g., water or gas pipelines, road widening). This includes situations where there are planned impacts 10 m or less beyond the previously impacted limits on both sides of an existing linear corridor (e.g., two linear survey corridors on either side of an existing roadway). Where at the time of fieldwork the lands within the linear corridor meet the standards as stated under the above section on pedestrian survey land preparation, pedestrian survey must be carried out. Space test pits at maximum intervals of 5 m (400 test pits per hectare) in areas less than 300 m from any feature of archaeological potential.
[Not Applicable – The study area does not contain any linear corridors]

2. *Space test pits at maximum intervals of 5 m (400 test pits per hectare) in areas less than 300 m from any feature of archaeological potential.*
[All test pits were spaced at an interval of 5m between individual test pits]

3. *Space test pits at maximum intervals of 10 m (100 test pits per hectare) in areas more than 300 m from any feature of archaeological potential.*

[The entirety of the test pitted areas of the study area were assessed using high intensity test pit methodology at an interval of 5 metres between individual test pits]

4. *Test pit to within 1 m of built structures (both intact and ruins), or until test pits show evidence of recent ground disturbance.*
   [Test pits were placed within 1m of all built structures]

5. *Ensure that test pits are at least 30 cm in diameter.*
   [All test pits were at least 30 cm in diameter]

6. *Excavate each test pit, by hand, into the first 5 cm of subsoil and examine the pit for stratigraphy, cultural features, or evidence of fill.*
   [Regardless of the interval between individual test pits, all test pits were excavated by hand into the first 5 cm of subsoil where possible and examined for stratigraphy, cultural features, or evidence of fill.]

7. *Screen soil through mesh no greater than 6 mm.*
   [All soil was screened through mesh no greater than 6 mm]

8. *Collect all artifacts according to their associated test pit.*
   [All artifacts were collected according to their associated test pit]

9. *Backfill all test pits unless instructed not to by the landowner.*
   [All test pits were backfilled]

(MTC 2011: 31-32)

"*A combination of property inspection and test pitting may be used when initial Stage 2 results determine that all or part of the project area may in fact be disturbed. The Stage 2 survey may then consists of a detailed inspection (equivalent to Stage 1), combined with test pitting."*

1. *If it was not done as part of Stage 1, inspect and document the disturbed areas according to the standards described for Stage 1 property inspections.*
   [The disturbed areas of the study area were inspected and documented as per the standards described for Stage 1 property inspections. These areas were limited to the gravel/dirt access roads.

   Standard archaeological survey methodologies employed in Ontario for Stage 2 Archaeological Property Assessment (i.e. pedestrian survey and test pit survey) cannot determine if deeply buried cultural remains are or are not present. The purpose of Stage 2 Property Assessment is not to test for deeply buried deposits. The Standards and Guidelines for Consultants Archaeologists recognize this fact and have a whole separate section covering this specific issue. The only way to determine if deeply buried remains are present is to follow those standards not via

a standard Stage 1-2 Archaeological Property Assessment.

In most cases, unless there is documentation or evidence to the contrary, areas where grading has exceeded topsoil depth are areas considered to have no or low archaeological potential because in most cases removal of the topsoil will remove archaeological sites. While archaeological sites are popularly thought of as being deeply buried, archaeological sites begin on the surface of the ground and for most of humanity's history involved no substantial excavations or significant landscape alterations. Only with the rise of urbanization and sedentary settlement do sites begin to accumulate depth. This is a result of continuous building and rebuilding over top of earlier settlements. Deep archaeological sites are created by adding to the surface of an area and building the landform up. Deeply buried archaeological deposits are relatively rare outside of urban environments in Ontario and even within urban contexts, this seldom occurs outside of the historic core of the community where redevelopment has occurred since initial settlement.

If an area was not occupied during a period of potential archaeological significance, there is no potential to locate deeply buried significant archaeological resources. There are only a few very rare exceptions related to historical significance that is not tied to the time period of activity or occupation of a site but to certain historical events and/or personalities.

Areas of suspected disturbance were not viable for test pit survey. Areas excluded from assessment included the low-lying wet areas as well as the gravel/dirt access roads off of Concession Road 1.

2. *Place Stage 2 test pits throughout the disturbed areas according to professional judgment (and where physically viable) as to confirm that these areas have been completely disturbed.*
   [An area of suspected disturbance was identified during the Property Inspection conducted as part of the Stage 2 Property Assessment. This area consisted of the gravel/dirt access roads off of Concession Road 1. Test pit survey was not viable in this area of disturbance and it is not likely that there is archaeological potential under the access road.]

(MTC 2011: 38)

6.3 INTENSIFIED TEST PIT SURVEY

According to the Standards and Guidelines for Consultant Archaeologists the initial finds of archaeological resources through test pitting may be insufficient to make it clear that a Stage 3 archaeological assessment is necessary, and it may therefore be desirable to carry out further work within Stage 2 rather than proceeding to Stage 3. If that is the case, the following requirements must be met in determining whether a Stage 3 should be carried out. This section of the report confirms that the following standards were met:

1. *Continue test pit excavation on the survey grid to determine whether there are further positive test pits. This may produce sufficient archaeological resources to meet the criteria for making a recommendation to carry out a Stage 3 assessment, in which case further Stage 2 fieldwork is not necessary.*

   [The Bruce Well I (BdGt-25) Site produced two positive test pits, however there were insufficient archaeological resources so further work was required in the form of additional test pits and test unit over a positive test pit. The Bruce (BdGt-26) Site produced five positive test pits, however it was clear based on the dates of the artifacts that further work would not be required. The Corbill (BdGt-23) Site and the Bruce Well (BdGt-24) Site produced sufficient archaeological resources to meet the criteria for making a recommendation to carry out a Stage 3 assessment.]

2. *When insufficient archaeological resources are found through continued survey on the grid to meet the criteria for continuing to Stage 3, intensify survey coverage around the positive test pit to determine whether a recommendation for a Stage 3 assessment can be supported.*
   a. *Excavate a maximum of eight additional test pits within this intensified area,* ***and***
   b. *one or more 1 m test units, placing at least one unit over the positive test pit*

   [For the Bruce Well I (BdGt-25) Site, a 1m square was excavated in addition to 8 test pits at an interval of 2.5m around the positive test pits, but no further archaeological resources were encountered during the intensified test unit survey.]

A detailed description of the location of the sites can be found in the supplementary documentation of this report filed under separate cover with the Ministry of Citizenship and Multiculturalism (MCM).

Approximately 80% of the study area consisted of unploughable meadow and pasture with high rock content that was test pit surveyed at an interval of 5 metres between individual test pits. Approximately 10% of the study area was wooded and test pit surveyed at 5 metre intervals. Approximately 5% of the study area was not viable to be assessed due to the presence of low-lying and wet areas. Approximately 5% of the study area was not assessable due to the presence of existing structures and disturbed gravel/dirt access roads.

7.0 RECORD OF FINDS

Section 7.8.2 of the Standards and Guidelines for Consultant Archaeologists (MTC 2011: 137-138) outlines the requirements of the Record of Finds component of a Stage 2 report:

1. *For all archaeological resources and sites that are identified in Stage 2, provide the following:*
   a. *a general description of the types of artifacts and features that were identified*

b. a general description of the area within which artifacts and features were identified, including the spatial extent of the area and any relative variations in density
c. a catalogue and description of all artifacts retained
d. a description of the artifacts and features left in the field (nature of material, frequency, other notable traits).

2. *Provide an inventory of the documentary record generated in the field (e.g. photographs, maps, field notes).*
3. *Submit information detailing exact site locations on the property separately from the project report, as specified in section 7.6. Information on exact site locations includes the following:*
a. table of GPS readings for locations of all archaeological sites
b. maps showing detailed site location information.

7.1 ARCHAEOLOGICAL RESOURCES

As a result of the property Assessment of the study area, four (4) Post-Contact Sites were encountered. These consist of the Bruce Well (BdGt-24) Site, the Bruce Well I (BdGt-25) Site, the Bruce (BdGt-26) Site, and the Corbill (BdGt-23) Site, as well as two positive outlier test pits. The number and types of artifacts collected from these sites are listed below in Table 3, Table 4, Table 5, and Table 6 respectively. Descriptions of the artifact types collected from the Bruce Well (BdGt-24) Site can be found below in section 7.1.1 and appended to this report in Appendix 1. Descriptions of the artifact types collected from the Bruce Well I (BdGt-25) Site can be found below in section 7.1.2 and appended to this report in Appendix 2. Descriptions of the artifact types collected from the Bruce (BdGt-26) Site can be found below in section 7.1.3 and appended to this report in Appendix 3. Descriptions of the artifact types collected from the Corbill (BdGt-23) Site can be found below in section 7.1.4 and appended to this report in Appendix 4. Descriptions of the artifact types collected from the positive outlier test pits can be found below in section 7.1.5 as Isolated Finds and appended to this report in Appendix 5.

7.1.1 BRUCE WELL (BDGT-24) SITE

The Bruce Well (BdGt-24) Site consists of 71 artifacts covering an area approximately 22 metres from north to south and 24 metres from west to east. The Bruce Well (BdGt-24) Site is a Post-Contact, Euro-Canadian site. The artifacts found within the site are a combination of ceramics, bone, metal, and glass. The ceramics within the assemblage are mostly refined white earthenware with some coarse red earthenware and ironstone. The bone found within the site is mammalian in nature. The metal within the assemblage consists of cut nails and fence staples as well as a key and other indeterminate corroded metals. The glass within the assemblage consists of colourless and coloured bottle glass as well as window glass. Most of these artifacts can be dated to the mid to late 19th century. The Bruce Well (BdGt-24) Site requires Stage 3 work due to the number of artifacts dated to the 19th century and further CHVI. There was a well located at this site and it should be noted that the location of this site appears to correspond to a structure depicted in historical mapping from 1877. The number

and types of artifacts collected from the Bruce Well (BdGt-24) Site are listed below in Table 3. Descriptions of these artifact types can be found appended to this report in Appendix 1.

TABLE 3 BRUCE WELL (BDGT-24) ARTIFACT COUNTS AND TYPES

DESCRIPTION	FREQUENCY	PERCENTAGE
Refined White Earthenware- Transferprinted	3	4.2%
Refined White Earthenware- Handpainted	1	1.4%
Refined White Earthenware- Undecorated	1	1.4%
Coarse Red Earthenware- Glazed	2	2.8%
Coarse Red Earthenware- Unglazed	2	2.8%
Coarse Red Earthenware- Exfloiated	1	1.4%
Yelloware- Undecorated	2	2.8%
Ironstone- Glazed	3	4.2%
Ironstone- Undecorated	9	12.7%
Faunal Remains- Mammalian	24	33.8%
Cut Nails	8	11.3%
Wire Fence Staple	1	1.4%
Roller Milled Glass	2	2.8%
Panel Bottle Glass	1	1.4%
Cylindrical Coloured Glass	2	2.8%
Cylindrical Colourless Glass	4	5.7%
Indeterminate Metal	4	5.7%
Iron Key	1	1.4%
TOTAL	**71**	**100%**

The collection of artifacts from this assessment is packaged in a single banker's box and housed at the Lakelands District office of AMICK Consultants Limited until such time as an appropriate permanent location, as approved by MCM, is located and appropriate arrangements for the transfer of the collection and associated responsibilities for the material is made.

7.1.2 BRUCE WELL I (BDGT-25) SITE

The Bruce Well I (BdGt-25) Site consists of 3 artifacts covering an area approximately 18 metres from north to south and 34 metres from west to east. A test unit was placed over one of the positive test pits as well as intensified survey of 8 additional test pits but no further artifacts or resources were encountered. The Bruce Well I (BdGt-25) Site is a Post-Contact, Euro-Canadian site. The artifacts found within the site consist of mammalian bone and a machine cut nail. Due to the small assemblage of artifacts and low integrity, no further work at the Bruce Well I (BdGt-25) Site is required as there is no further CHVI. It should be noted that there was a well located at this site. The number and types of artifacts collected from the Bruce Well I (BdGt-25) Site are listed below in Table 4. Descriptions of these artifact types can be found appended to this report in Appendix 2.

TABLE 4 BRUCE WELL I (BDGT-25) ARTIFACT COUNTS AND TYPES

DESCRIPTION	FREQUENCY	PERCENTAGE
Faunal Remains- Mammalian	2	66.7%
Cut Nail	1	33.3%
TOTAL	**3**	**100%**

The collection of artifacts from this assessment is packaged in a single banker's box and housed at the Lakelands District office of AMICK Consultants Limited until such time as an appropriate permanent location, as approved by MCM, is located and appropriate arrangements for the transfer of the collection and associated responsibilities for the material is made.

7.1.3 BRUCE (BDGT-26) SITE

The Bruce (BdGt-26) Site consists of 39 artifacts covering an area approximately 35 metres from north to south and 26 metres from east to west. The Bruce (BdGt-26) Site is a Post-Contact, Euro-Canadian site. The artifacts found within the site consist of bottle glass, animal bone, undecorated refined white earthenware, ironstone, porcelain, and wire and cut nails. The materials from this site were dated to the 20th century and therefore, no further work is recommended at the Bruce (BdGt-26) Site. It should be noted that the location of the site is in an area where a structure is depicted on historical mapping; the artifacts recovered however suggest low integrity. The number and types of artifacts collected from the Bruce (BdGt-26) Site are listed below in Table 5. Descriptions of these artifact types can be found appended to this report in Appendix 3.

TABLE 5 BRUCE (BDGT-25) ARTIFACT COUNTS AND TYPES

DESCRIPTION	FREQUENCY	PERCENTAGE
Refined White Earthenware- Undecorated	2	5.1%
Porcelain- Gilded	1	2.6%
Ironstone- Undecorated	6	15.3%
Faunal Remains- Mammalian	3	7.7%
Cylindrical Colourless Glass	13	33.4%
Cylindrical Coloured Glass	6	15.3%
Burnt Glass	1	2.6%
Mould Blown Glass	1	2.6%
Cut Nail	3	7.7%
Wire Nail	2	5.1%
Indeterminate Metal	1	2.6%
TOTAL	**39**	**100%**

The collection of artifacts from this assessment is packaged in a single banker's box and housed at the Lakelands District office of AMICK Consultants Limited until such time as an

appropriate permanent location, as approved by MCM, is located and appropriate arrangements for the transfer of the collection and associated responsibilities for the material is made.

7.1.4 CORBILL (BDGT-23) SITE

The Corbill (BdGt-23) Site consists of 668 artifacts covering an area approximately 55 metres from north to south and 69 metres from east to west. The Corbill (BdGt-23) Site is a Post-Contact, Euro-Canadian site. The artifacts found within the site consist of ceramics, metal, nails, mammalian bones, and glass. The assemblage has an approximate date of 1850-1920. There is a stone foundation of an unknown building that exists within the site. The Corbill (BdGt-23) site requires Stage 3 work due to the number of artifacts dated to the 19th century and exhibits further CHVI. It should be noted that there are two structures located within the area of the site, one of these being a limekiln, depicted on historical mapping from 1877. The number and types of artifacts collected from the Corbill (BdGt-23) Site are listed below in Table 6. Descriptions of these artifact types can be found appended to this report in Appendix 4.

TABLE 6 CORBILL (BDGT-23) ARTIFACT COUNTS AND TYPES

DESCRIPTION	FREQUENCY	PERCENTAGE
Coarse Red Earthenware- Glazed	13	1.9%
Coarse Red Earthenware- Unglazed	1	0.2%
Coarse Yellow Earthenware- Glazed	34	5.2%
Ironstone- Decal	11	1.7%
Ironstone- Handpainted	15	2.2%
Ironstone- Relief Mould	10	1.6%
Ironstone- Transferprint	42	6.3%
Ironstone- Undecorated	91	13.6%
Porcelain- Undecorated	14	2.1%
Porcelain- Decal	15	2.2%
Porcelain- Glazed	2	0.3%
Refined White Earthenware- Handpainted	2	0.3%
Refined White Earthenware- Spongeware	2	0.3%
Refined White Earthenware- Transferprint	19	2.8%
Refined White Earthenware- Undecorated	56	8.4%
Faunal Remains- Mammalian	29	4.3%
Cylindrical Colourless Glass	75	11.2%
Cylindrical Coloured Glass	6	0.9%
Embossed Glass	1	0.2%
Milk Glass	24	3.6%
Panel Bottle Colourless Glass	67	10%
Panel Bottle Coloured Glass	3	0.4%
Roller Milled Glass	22	3.3%

Globular Glass	8	1.2%
Brass	2	0.3%
Copper	3	0.4%
Cast Iron	7	1%
Cut Nails	32	4.8%
Sheet Metal	20	3%
Wire Fence Staple	2	0.3%
Wire Nails	27	4%
Flathead Screw	1	0.2%
Wire Spring	1	0.2%
Indeterminate Metal	2	0.3%
Silver Spoon	1	0.2%
Tin	5	0.7%
Slate (Chalkboard)	3	0.4%
TOTAL	**668**	**100%**

The collection of artifacts from this assessment is packaged in a single banker's box and housed at the Lakelands District office of AMICK Consultants Limited until such time as an appropriate permanent location, as approved by MCM, is located and appropriate arrangements for the transfer of the collection and associated responsibilities for the material is made.

The descriptions offered below are confined to datable historic artifacts typically recovered during field investigations. Although other materials are often found, they do not necessarily lend themselves to dating archaeological assemblages and are therefore not included in the following discussion. Additionally, the following represents a comprehensive reference guide for datable objects and is not limited to finds specific to a particular project or site assemblage.

Refined White Earthenware

The various forms of refined white earthenware which came into production during the 1820s remained in production for an extended period of time and do not lend themselves well to dating unless one has the advantage of makers' marks. This is not surprising since the ceramics from this ware category recovered from this site represent the cheapest types produced. The cheapest goods were often not marked since it was not considered worth the time and material.

Plain Refined White Earthenware

Lacking any definitive attributes, these sherds have been assigned a date of post 1825.

Sponge Decorated Refined White Earthenware

This decorative style is produced by applying pigment to the surface of vessels using sponges. This type of decoration enjoyed tremendous popularity during the middle of the 19th Century. Blue was the first colour used for this purpose and was most prevalent during the 1840s. Sponged wares were shipped to North America in quantity as cheap decorative kitchen and toiletry articles by mainly Scottish potteries until about 1890 (Collard 1984: 144-145). There are two forms of sponge decoration identified in the catalogue: sponge and cut sponge. Sponge decorated wares are decorated with closely spaced, repeating dabs used as background or borders with a lack of interstitial openings within the pattern (Majewski and O'Brien 1987: 162). These are the classic "spatter" patterns that were popular *circa* 1830-1860 (Robacker and Robacker 1978). Cut sponge decorated wares are decorated with a colour-filled sponge in repeating patterns using geometric shapes, leaving more interstitial openings than sponge decorated wares but still covering large portions of the vessel; they were popular from 1840-1870 (Miller 1991: 6; Earls 2004).

Transfer Printed Refined White Earthenware

Transfer printing was a method for transferring pictures to the surface of ceramic vessels which was developed during the late 18th Century. The use of colours other than cobalt blue for transfer printing was not attempted on any large scale until after 1828. The reason for this was that cobalt blue oxide was the only colouring agent which remained stable during the firing when used in conjunction with the transfer printing process. In 1828 a process was patented which allowed for the use of other colours. Immediately after this development colours such as red, brown, green, black and light blue were used on a popular level. Coloured transfers were popular in England by 1830 and had achieved similar appeal in North America by the early 1830s (Collard 1984: 117-118).

Ironstone

Ironstone is partially vitrified white earthenware. Plain ironstone was first produced in the 1840s and featured no decorative elements apart from ribs, scrolls, or panels which were an intrinsic part of the vessel design. Various designs in relief moulded decoration were patterned from 1848 onward. One pattern, known generally as the "wheat" Pattern has remained in production in various styles from 1848 up to the present day (Sussman 1985: 7). Ironstone is first mentioned on Ontario store records in 1847 (Kenyon 1988: 25). This ware gained popularity throughout the second half of the nineteenth century until by the 1880s it far outsold other ceramic types (Kenyon 1988: 20).

Ironstone was manufactured specifically for the North American market. In general, those potteries which produced this ceramic did so to the exclusion of all others (Sussman 1985: 8). During its early history, throughout the 1850s and early 1860s, ironstone was evidently as expensive as the costly transfer printed wares (Sussman 1985: 9). This ware was being advertised in London (Ontario) newspapers by the early 1860s and by the 1870s was one of the most popular ceramics available on the market (Kenyon 1988.: 11). By 1897 it was the cheapest ceramic sold by the T. Eaton Company. Prices charged for either plain or relief decorated ironstone were the same (Sussman 1985: 9).

Plain Ironstone

These pieces are not precisely datable and were most likely produced some time after 1840. Ironstone and a number of related vitrified and semi-vitrified wares were produced in great quantities during the second half of the 19th Century and into the 20th Century. These ceramics were a continuation of the development techniques and styles employed in the production of other earlier contemporary wares.

Relief Moulded Ironstone

The most common decorative technique identified with ironstone is relief moulding. Raised designs on the vessels were incorporated into the moulding of the objects themselves. Many of the early patterns produced in this medium persist to the present day. Many ceramics manufactured prior to the introduction of ironstone incorporated the use of embossed designs, but this form of decoration had never been so closely identified with a particular ceramic as it became with ironstone.

Transfer Printed Ironstone

Transfer printing was a method for transferring pictures to the surface of ceramic vessels which was developed during the late 18th Century. The use of colours other than cobalt blue for transfer printing was not attempted on any large scale until after 1828. The reason for this was that cobalt blue oxide was the only colouring agent which remained stable during the firing when used in conjunction with the transfer printing process. In 1828 a process was patented which allowed for the use of other colours. Immediately after this development colours such as red, brown, green, black and light blue were used on a popular level. Coloured transfers were popular in England by 1830 and had achieved similar appeal in North America by the early 1830s (Collard 1984: 117-118). The decorative technique of transfer printing on ironstone has no affect on the general date range of this type of ware as it was applied to ironstone throughout the history of the production of this ceramic type.

Soft Paste Porcelain

Porcelain was first produced in Europe at Meissen by the firm "Royal Saxon Porcelain Manufacture" in 1710, although it had been developed by Johann Friedrich Bottger two years previously in 1708 (Savage 1954:125). This development reflects the high regard Europeans had held for porcelain imported from China and Japan. Loved for their beauty and durability, European ceramic producers lost considerable revenue to this import and were determined to discover a means of duplicating the ware. In England the discovery of a formula for porcelain production was not achieved until probably 1743 when the "Chelsea" works went into production. A patent for soft paste porcelain was made the following year in the joint names of Edward Heylyn and Thomas Frye (Savage 1954: 210). Throughout the early period of European production these wares tended to be heavily ornamented with thick overglaze polychrome enamels and as processes were refined the decorative techniques of underglaze

painting and transfer patterns were used extensively. These decoration techniques predominated well into the 19th Century. It was not until the late 19th Century, and particularly, the 20th Century that porcelain became accessible as a standard household ware. By this time its decorative characteristics were substantially debased, with plain porcelain becoming increasingly common.

Soft paste porcelain is the lowest grade of this ware, and is different from the more costly hard paste porcelain in a number of ways. First, soft paste porcelain generally exhibits a greyish cast, whereas hard paste porcelain or true porcelain is white. When broken soft paste porcelain has a granular paste in appearance and a glassy glaze, which is visibly distinct from the body. Hard paste is entirely glassy in cross section and it is very difficult to assess where the body ends and the glaze begins. High firing in this case ensures a more complete fusion of body and glaze, which accounts for the difference in appearance of these two wares.

Yellow Ware

Yellow ware was generally used for kitchen crockery and utility bowls. Yellow ware which is decorated with coloured horizontal bands is often referred to as "banded ware". This is the most readily recognizable of the yellow ware products which became popular after 1840. Undecorated plain yellow ware is termed "common yellow" and dates from about 1830 onward. Yellow ware did not pass out of common usage in Canada until the 1930s (Lueger 1981: 141).

Coarse Red Earthenware

Coarse red earthenware refers to a class of ceramic which was used largely for general purpose utilitarian kitchen and household wares. It is very difficult to date with precision as this form of vessel manufacture was pursued in the main by small cottage industries supplying what was normally a local market. As a result, they appear in highly variant forms based upon the clays, glazes, and techniques of each potter. They are common on historic sites from the beginning of settlement in North America until 1900. Two of the earliest potteries to be established in Ontario both began production in 1849. Many other potteries were soon established which provided domestic and utilitarian wares to primarily local consumers.

Slip Lined Coarse Red Earthenware

This type of ceramic is decorated by applying slip in patterns to the exterior surface of the vessels.

Bottle Glass

Machine Made Bottle Glass

In the late 19th Century a trend started toward the manufacture of bottles with semi-automatic and fully automatic machines. Machine made bottles are hollowware containers shaped using air pressure supplied by a machine, both automatic and semi-automatic machines produce bottle with similar characteristics. The first workable semi-automatic machines were patented in 1881 in the United States and in 1886 in England, in the next few decades machine made containers become increasingly popular as they are cheaper to produce with continually refined techniques; by the early 20th Century hand blown bottle are becoming uncommon.

Undiagnostic Bottle Glass

These pieces are likely from two-piece moulded vessels or from vessels produced using two-or-more vertical body moulds with separate bases. However these pieces were too small or did not have any diagnostic traits needed to identify the technology used in there manufacture.

Contact Moulded Bottle Glass

Contact moulding is a process by which full-sized objects or portions of objects are formed in a mould using air pressure from a mouth or machine. Hot glass is introduced into a mould, that may or may not have had a design, and expanded by air pressure until it fills the mould, at which point the object or partial object is removed. This technique was used during Roman times extensively for containers. It was reintroduced in the 17th Century but did not come into wide use in containers until the 18th Century (Jones and Sullivan 1989: 23-24).

Nails

Cut Nails

Around 1800, machines for cutting nails began to be used. At first these were simple machines resembling a table with a guillotine-like knife at one end. Strips of metal which were as broad as the resulting nails were to be long were fed against the blade. The strip of metal was shifted from side-to-side following each cut. This produced the tapered shank of the nail. Nails made by this method remained square in cross section and still required heads to be fashioned by hand. Around 1820 improved machines were developed for the manufacture of cut nails which included mechanical headers (Rempel 1980: 369). In general terms, cut nails dominated the construction industry from roughly 1825 to 1890 when they were displaced by wire nails.

Forged Nails

Towards the end of the 18th Century all nails were made by the blacksmith out of nail stock. Nail stock was typically produced by a special mill on location at the iron works. Wrought iron strips were fed into the mill which cut it into sections which were square in cross-section. The resulting nail stock was cut into the required length by the smith, then heated, tapered and headed. These nails were not displaced by cut nails until around 1825 in developed areas. In more remote areas forged nails remained in use quite longer. This was

especially the case with larger spikes which were often required to meet very particular specifications and not required in quantity (Rempel 1980: 367). Blacksmiths continued to fill the void between accessibility to commercial products and the needs of their clients into the first three decades of the twentieth century. Forged nails most likely date to the first half of the 19th Century although it is possible that they were produced at a later date.

7.1.5 ISOLATED FINDS

Two outlier positive test pits were encountered. Both of these positive test pits contained fragments of glass bottles from the early 1900's. The number and types of artifacts collected from the positive test pits are listed below in Table 7. Descriptions of these artifact types can be found appended to this report in Appendix 5. Detailed description of the location of these sites can be found in the supplementary information package of this report filed under separate cover with the Ministry of Citizenship and Multiculturalism.

TABLE 7 ISOLATED FINDS ARTIFACT COUNTS AND TYPES

DESCRIPTION	FREQUENCY	PERCENTAGE
Cylindrical Coloured Glass	4	57.2%
Cylindrical Clear Glass	3	42.8%
TOTAL	**7**	**100%**

The collection of artifacts from this assessment is packaged in a single banker's box and housed at the Lakelands District office of AMICK Consultants Limited until such time as an appropriate permanent location, as approved by MCM, is located and appropriate arrangements for the transfer of the collection and associated responsibilities for the material is made.

7.2 ARCHAEOLOGICAL FIELDWORK DOCUMENTATION

The documentation produced during the field investigation conducted in support of this report includes: four sketch maps, two pages of photo log, five page of field notes, and 74 digital photographs.

8.0 ANALYSIS AND CONCLUSIONS

AMICK Consultants Limited was engaged by the proponent to undertake a Stage 1-2 Archaeological Assessment of lands potentially affected by the proposed undertaking and was granted permission to carry out archaeological fieldwork. The entirety of the study area was subject to property inspection and photographic documentation concurrently with the Stage 2 Property Assessment by high intensity test pit methodology at a five-metre interval between individual test pits, as well as intensified test pit survey at 2.5 metre intervals and test unit excavation, on July 8, August 12-14, 17-21, 22, 24-29, 31, and September 3, 15-17 2020. All records, documentation, field notes, photographs and artifacts (as applicable) related to the conduct and findings of these investigations are held at the Lakelands District

corporate offices of AMICK Consultants Limited until such time that they can be transferred to an agency or institution approved by the Ontario Ministry of Citizenship and Multiculturalism (MCM) on behalf of the government and citizens of Ontario.

8.1 STAGE 1 ANALYSIS AND CONCLUSIONS

As part of the present study, background research was conducted in order to determine the archaeological potential of the proposed project area.

"A Stage 1 background study provides the consulting archaeologist and Ministry report reviewer with information about the known and potential cultural heritage resources within a particular study area, prior to the start of the field assessment." (OMCzCR 1993)

The evaluation of potential is further elaborated Section 1.3 of the Standards and Guidelines for Consultant Archaeologist (2011) prepared by the Ontario Ministry of Tourism and Culture:

" The Stage 1 background study (and, where undertaken, property inspection) leads to an evaluation of the property's archaeological potential. If the evaluation indicates that there is archaeological potential anywhere on the property, the next step is a Stage 2 assessment." (MTC 2011: 17)

Features or characteristics that indicate archaeological potential when documented within the study area, or within close proximity to the study area (as applicable), include:

" - previously identified archaeological sites

- *water sources (It is important to distinguish types of water and shoreline, and to distinguish natural from artificial water sources, as these features affect site locations and types to varying degrees.):*
    - *primary water sources (lakes, rivers, streams, creeks)*
    - *secondary water sources (intermittent streams and creeks, springs, marshes, swamps)*
    - *features indicating past water sources (e.g., glacial lake shorelines indicated by the presence of raised sand or gravel beach ridges, relic river or stream channels indicated by clear dip or swale in the topography, shorelines of drained lakes or marshes, cobble beaches)*
    - *accessible or inaccessible shoreline (e.g., high bluffs, swamp or marsh fields by the edge of a lake, sandbars stretching into marsh)*
- *elevated topography (e.g., eskers, drumlins, large knolls, plateaux)*
- *pockets of well-drained sandy soil, especially near areas of heavy soil or rocky ground*
- *distinctive land formations that might have been special or spiritual places, such as waterfalls, rock outcrops, caverns, mounds, and promontories and their bases. There may be physical indicators of their use, such as burials, structures, offerings, rock paintings or carvings.*
- *resource areas, including:*

  - *food or medicinal plants (e.g., migratory routes, spawning areas, prairie)*
  - *scarce raw materials (e.g., quartz, copper, ochre or outcrops of chert)*
  - *early Post-contact industry (e.g., fur trade, logging, prospecting, mining)*
- *areas of early Post-contact settlement. These include places of early military or pioneer settlement (e.g., pioneer homesteads, isolated cabins, farmstead complexes), early wharf or dock complexes, pioneer churches and early cemeteries. There may be commemorative markers of their history, such as local, provincial, or federal monuments or heritage parks.*
- *Early historical transportation routes (e.g., trails, passes, roads, railways, portage routes)*
- *property listed on a municipal register or designated under the Ontario Heritage Actor that is a federal, provincial or municipal historic landmark or site*
- *property that local histories or informants have identified with possible archaeological sties, historical events, activities, or occupations"*

(MTC 2011: 17-18)

The evaluation of potential does not indicate that sites are present within areas affected by proposed development. Evaluation of potential considers the possibility for as yet undocumented sites to be found in areas that have not been subject to systematic archaeological investigation in the past. Potential for archaeological resources is used to determine if property assessment of a study area or portions of a study area is required.

> *"Archaeological resources not previously documented may also be present in the affected area. If the alternative areas being considered, or the preferred alternative selected, exhibit either high or medium potential for the discovery of archaeological remains an archaeological assessment will be required."*
>
> (MCC & MOE 1992: 6-7)

> *"The Stage 1 background study (and, where undertaken, property inspection) leads to an evaluation of the property's archaeological potential. If the evaluation indicates that there is archaeological potential anywhere on the property, the next step is a Stage 2 assessment."*
>
> (MTC 2011: 17)

In addition, archaeological sites data is also used to determine if any archaeological resources had been formerly documented within or in close proximity to the study area and if these same resources might be subject to impacts from the proposed undertaking. This data was also collected in order to establish the relative cultural heritage value or interest of any resources that might be encountered during the conduct of the present study. For example, the relative rarity of a site can be used to assign an elevated level of cultural heritage value or interest to a site that is atypical for the immediate vicinity. The requisite archaeological sites data of previously registered archaeological sites was collected from the MCM and the corporate research library of AMICK Consultants Limited. The Stage 1 Background Research methodology also includes a review of the most detailed available topographic maps, historical settlement maps, archaeological management plans (where applicable) and

commemorative plaques or monuments. When previous archaeological research documents lands to be impacted by the proposed undertaking or archaeological sites within 50 metres of the study area, the reports documenting this earlier work are reviewed for pertinent information. AMICK Consultants Limited will often modify this basic methodology based on professional judgment to include additional research (such as, local historical works or documents and knowledgeable informants).

Section 7.7.3 of the Standards and Guidelines for Consultant Archaeologists (MTC 2011: 132) outlines the requirements of the Analysis and Conclusions component of a Stage 1 Background Study.

1) *"Identify and describe areas of archaeological potential within the project area.*
2) *Identify and describe areas that have been subject to extensive and deep land alterations. Describe the nature of alterations (e.g., development or other activity) that have severely damaged the integrity of archaeological resources and have removed archaeological potential."*

CHARACTERISTICS INDICATING ARCHAEOLOGICAL POTENTIAL

Section 1.3.1 of the Standards and Guidelines for Consultant Archaeologists specifies the property characteristics that indicate archaeological potential (MTC 2011: 17-18). Factors that indicate archaeological potential are features of the local landscape and environment that may have attracted people to either occupy the land or to conduct activities within the study area. One or more of these characteristics found to apply to a study area would necessitate a Stage 2 Property Assessment to determine if archaeological resources are present. These characteristics are listed below together with considerations derived from the conduct of this study.

1) *Previously Identified Archaeological Sites*
   Previously registered archaeological sites have not been documented within 300 metres of the study area.

2) *Water Sources*
   Primary water sources are described as including lakes, rivers streams and creeks. Close proximity to primary water sources (300 metres) indicates that people had access to readily available sources of potable water and routes of waterborne trade and communication should the study area have been used or occupied in the past.

   There are no identified primary water sources within 300 metres of the study area.

   Secondary water sources are described as including intermittent streams and creeks, springs, marshes, and swamps. Close proximity (300 metres) to secondary water sources indicates that people had access to readily available sources of potable water, at least on a seasonal basis, and in some cases seasonal access to routes of waterborne

trade and communication should the study area have been used or occupied in the past.

There are no identified secondary water sources within 300 metres of the study area.

3) *Features Indicating Past Water Sources*
Features indicating past water resources are described as including glacial lake shorelines indicated by the presence of raised sand or gravel beach ridges, relic river or stream channels indicated by clear dip or swale in the topography, shorelines of drained lakes or marshes, and cobble beaches. Close proximity (300 metres) to features indicating past water sources indicates that people had access to readily available sources of potable water, at least on a seasonal basis, and in some cases seasonal access to routes of waterborne trade and communication should the study area have been used or occupied in the past.

There are identified features indicating past water sources within 300 metres of the study area. The study area is situated within an area once under glacial Lake Algonquin. The study area is now located between the old Lake Algonquin shoreline and the current shoreline of Lake Simcoe. During the transition from the glacial Lake Algonquin to the present Lake Simcoe the shoreline would have receded through the study area. As the receding process is gradual the study area would have been within close proximity to a shoreline providing access to an abundance of natural resources as well as waterborne trade and communication

4) *Accessible or Inaccessible Shoreline*
This form of landscape feature would include high bluffs, swamp or marsh fields by the edge of a lake, sandbars stretching into marsh, etc.

There are no shorelines within 300 metres of the study area.

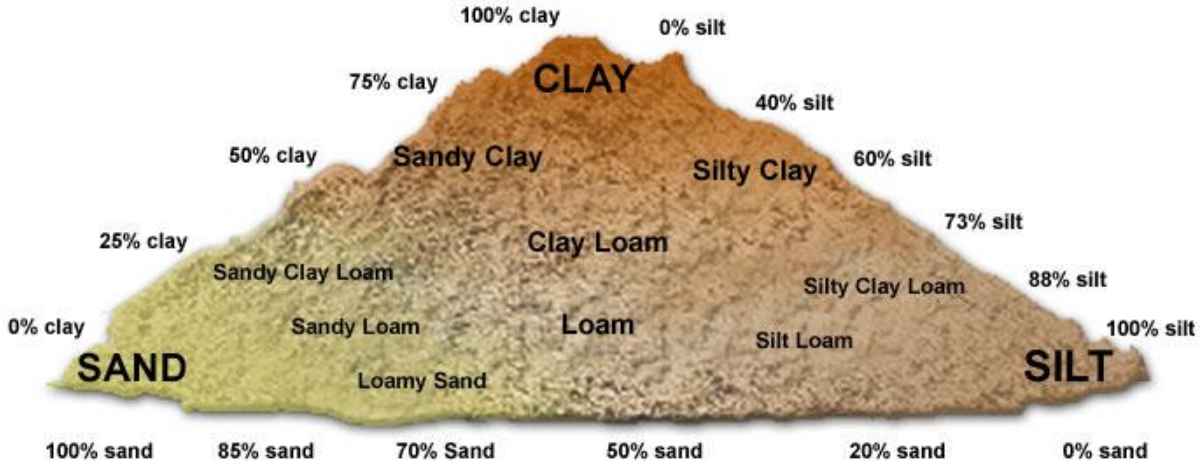
5) *Elevated Topography*
Features of elevated topography that indicate archaeological potential include eskers, drumlins, large knolls, and plateaux.

There are no identified features of elevated topography within the study area.

6) *Pockets of Well-drained Sandy Soil*
Pockets of sandy soil are considered to be especially important near areas of heavy soil or rocky ground.

The soil throughout the study area is medium brown loamy sand, which is consistent with the wider area surrounding the property. Therefore, the presence of this soil has no impact on potential within the study area, as the wider area is not known for clay soils, but is within an area of infrequently exposed bedrock.

The image below (Kuhlmann, Stacy 2017) shows the consistencies of soil types and how they compare to one another. The soil found within the study area was a sandy loam, which contains a higher percentage of sand with a lower percentage of loam and an even lower percentage of clay. The lower percentage of clay allows the soil to break up from the action of ploughing alone when not compacted or bound by extensive root masses.



(Kuhlmann, Stacy 2017)

7) *Distinctive Land Formations*

These are landscape features that might have been special or spiritual places, such as waterfalls, rock outcrops, caverns, mounds, and promontories and their bases. There may be physical indicators of their use, such as burials, structures, offerings, rock paintings or carvings.

There are no identified distinctive land formations within the study area.

8) *Resource Areas*

Resource areas that indicate archaeological potential include food or medicinal plants (e.g., migratory routes, spawning areas, and prairie), scarce raw materials (e.g., quartz, copper, ochre or outcrops of chert) and resources of importance to early Post-contact industry (e.g., logging, prospecting, and mining).

There are no identified resource areas within the study area.

9) *Areas of Early Post-Contact Settlement*

These include places of early military or pioneer settlement (e.g., pioneer homesteads, isolated cabins, and farmstead complexes), early wharf or dock complexes, pioneer churches and early cemeteries. There may be commemorative markers of their history, such as local, provincial, or federal monuments or heritage parks.

The study area is not situated in close proximity to a historic community identified on the historic atlas map.

10) *Early Historical Transportation Routes*
This includes evidence of trails, passes, roads, railways, portage routes.

The study area is situated within 100 metres of an early settlement roads that appears on the Historic Atlas Map of 1877. These historic roads correspond to the roads presently known as Concession Road 2, Concession Road 1, and Highway 12, which are adjacent to the study area.

11) *Heritage Property*
Property listed on a municipal register or designated under the *Ontario Heritage Act* or is a federal, provincial or municipal historic landmark or site.

There are no listed or designated heritage buildings or properties that form a part of the study area. There are no listed or designated heritage buildings or properties that are adjacent to the study area.

12) *Documented Historical or Archaeological Sites*
This includes property that local histories or informants have identified with possible archaeological sites, historical events, activities, or occupations. These are properties which have not necessarily been formally recognized or for which there is additional evidence identifying possible archaeological resources associated with historic properties in addition to the rationale for formal recognition.

There are no known heritage features, or known historic sites, or known archaeological sites within the study area in addition to those formally documented with the appropriate agencies or previously noted under a different criterion.

CHARACTERISTICS INDICATING REMOVAL OF ARCHAEOLOGICAL POTENTIAL

Section 1.3.2 of the Standards and Guidelines for Consultant Archaeologists specifies the property characteristics which indicate no archaeological potential or for which archaeological potential has been removed (MTC 2011: 18-19). These characteristics are listed below together with considerations derived from the conduct of this study.
The introduction of Section 1.3.2 (MTC 2011: 18) notes that *"Archaeological potential can be determined not to be present for either the entire property or a part(s) of it when the area under consideration has been subject to extensive and deep land alterations that have severely damaged the integrity of any archaeological resources. This is commonly referred to as 'disturbed' or 'disturbance', and may include:"*

1) *Quarrying*
There is no evidence to suggest that quarrying operations were ever carried out within the study area.

2) *Major Landscaping Involving Grading Below Topsoil*

Unless there is evidence to suggest the presence of buried archaeological deposits, such deeply disturbed areas are considered to have lost their archaeological potential. Properties that do not have a long history of Post-Contact occupation can have archaeological potential removed through extensive landscape alterations that penetrate below the topsoil layer. This is because most archaeological sites originate at grade with relatively shallow associated excavations into the soil. Pre-Contact sites and early historic sites are vulnerable to extensive damage and complete removal due to landscape modification activities. In urban contexts where a lengthy history of occupation has occurred, properties may have deeply buried archaeological deposits covered over and sealed through redevelopment activities that do not include the deep excavation of the entire property for subsequent uses. Buildings are often erected directly over older foundations preserving archaeological deposits associated with the earlier occupation.

There is no evidence to suggest that major landscaping operations involving grading below topsoil were ever carried out within the study area. Surfaces paved with interlocking brick, concrete, asphalt, gravel and other surfaces meant to support heavy loads or to be long wearing hard surfaces in high traffic areas, must be prepared by the excavation and removal of topsoil, grading, and the addition of aggregate material to ensure appropriate engineering values for the supporting matrix and also to ensure that the installations shed water to avoid flooding or moisture damage. All hard surfaced areas are prepared in this fashion and therefore have no or low archaeological potential. Disturbed areas are excluded from Stage 2 Property Assessment due to no or low archaeological potential and often because they are also not viable to assess using conventional methodology.

3) *Building Footprints*

Typically, the construction of buildings involves the deep excavation of foundations, footings and cellars that often obliterate archaeological deposits situated close to the surface.

There are several structures within the study area that are no longer in use. These consist of two wells, a silo, and barn foundation, an unknown stone foundation, and two sheds.

4) *Sewage and Infrastructure Development*

Installation of sewer lines and other below ground services associated with infrastructure development often involves deep excavation that can remove archaeological potential.

There is no evidence to suggest that substantial below ground services of any kind have resulted in significant impacts to any significant portion of the study area. Major utility lines are conduits that provide services such as water, natural gas, hydro,

> communications, sewage, and others. These major installations should not be confused with minor below ground service installations not considered to represent significant disturbances removing archaeological potential, such as services leading to individual structures which tend to be comparatively very shallow and vary narrow corridors. Areas containing substantial and deeply buried services or clusters of below ground utilities are considered areas of disturbance, and may be excluded from Stage 2 Property Assessment.

"Activities such as agricultural cultivation, gardening, minor grading and landscaping do not necessarily affect archaeological potential."

(MTC 2011: 18)

"Archaeological potential is not removed where there is documented potential for deeply buried intact archaeological resources beneath land alterations, or where it cannot be clearly demonstrated through background research and property inspection that there has been complete and intensive disturbance of an area. Where complete disturbance cannot be demonstrated in Stage 1, it will be necessary to undertake Stage 2 assessment."

(MTC 2011: 18)

SUMMARY

Table 7 below summarizes the evaluation criteria of the Ministry of Citizenship and Multiculturalism (MCM) together with the results of the Stage 1 Background Study for the proposed undertaking. Based on the criteria, the property is deemed to have archaeological potential on the basis of proximity to the location of early historic settlement roads adjacent to the study area, and the proximity of a past water source (receding glacial shoreline).

TABLE 7 EVALUATION OF ARCHAEOLOGICAL POTENTIAL

FEATURE OF ARCHAEOLOGICAL POTENTIAL		YES	NO	N/A	COMMENT
1	Known archaeological sites within 300m		**N**		If Yes, potential determined
PHYSICAL FEATURES					
2	Is there water on or near the property?		**N**		If Yes, what kind of water?
2a	Primary water source within 300 m. (lakeshore, river, large creek, etc.)		**N**		If Yes, potential determined
2b	Secondary water source within 300 m. (stream, spring, marsh, swamp, etc.)		**N**		If Yes, potential determined
2c	Past water source within 300 m. (beach ridge, river bed, relic creek, etc.)	**Y**			If Yes, potential determined
2d	Accessible or Inaccessible shoreline within 300 m. (high bluffs, marsh, swamp, sand bar, etc.)		**N**		If Yes, potential determined
3	Elevated topography (knolls, drumlins, eskers, plateaus, etc.)		**N**		If Yes, and Yes for any of 4-9, potential determined
4	Pockets of sandy soil in a clay or rocky area		**N**		If Yes and Yes for any of 3, 5-9, potential determined
5	Distinctive land formations (mounds, caverns, waterfalls, peninsulas, etc.)		**N**		If Yes and Yes for any of 3-4, 6-9, potential determined
HISTORIC/PREHISTORIC USE FEATURES					
6	Associated with food or scarce resource harvest areas (traditional fishing locations, agricultural/berry extraction areas, etc.)		**N**		If Yes, and Yes for any of 3-5, 7-9, potential determined.
7	Early Post-Contact settlement area within 300 m.		**N**		If Yes, and Yes for any of 3-6, 8-9, potential determined
8	Historic Transportation route within 100 m. (historic road, trail, portage, rail corridors, etc.)	**Y**			If Yes, and Yes for any 3-7 or 9, potential determined
9	Contains property designated and/or listed under the Ontario Heritage Act (municipal heritage committee, municipal register, etc.)		**N**		If Yes and, Yes to any of 3-8, potential determined
APPLICATION-SPECIFIC INFORMATION					
10	Local knowledge (local heritage organizations, Pre-Contact, etc.)		**N**		If Yes, potential determined
11	Recent disturbance not including agricultural cultivation (post-1960-confirmed extensive and intensive including industrial sites, aggregate areas, etc.)		**N**		If Yes, no potential or low potential in affected part (s) of the study area.

If **YES** to any of 1, 2a-c, or 10 Archaeological Potential is **confirmed**
If **YES** to 2 or more of 3-9, Archaeological Potential is **confirmed**
If **YES** to 11 or No to 1-10 Low Archaeological Potential is **confirmed** for at least a portion of the study area.

8.2 STAGE 2 ANALYSIS AND CONCLUSIONS

Section 7.8.3 of the Standards and Guidelines for Consultant Archaeologists (MTC 2011: 138-139) outlines the requirements of the Analysis and Conclusions component of a Stage 2 Property Assessment.

1. *Summarize all finding from the Stage 2 survey, or state that no archaeological sites were identified.*
2. *For each archaeological site, provide the following analysis and conclusions:*
   a. *A preliminary determination, to the degree possible, of the age and cultural affiliation of any archaeological sites identified.*
   b. *A comparison against the criteria in 2 Stage 2: Property Assessment to determine whether further assessment is required*
   c. *A preliminary determination regarding whether any archaeological sites identified in Stage 2 show evidence of a high level cultural heritage value or interest and will thus require Stage 4 mitigation.*

As a result of the property Assessment of the study area, four (4) Post-Contact Sites were encountered. These consist of the Bruce Well (BdGt-24) Site, the Bruce Well I (BdGt-25) Site, the Bruce (BdGt-26) Site, and the Corbill (BdGt-23) Site, as well as two positive outlier test pits. All of these sites are Post-Contact, Euro-Canadian in origin. The Bruce Well (BdGt-24) and Corbill (BdGt-23) Site require further work as Stage 3 assessments due to further CHVI. The Bruce Well I (BdGt-25) and Bruce (BdGt-26) site do not require further work as they have little to no further CHVI based off of age and integrity of artifacts found at both of these sites.

9.0 RECOMMENDATIONS

9.1 STAGE 1-2 RECOMMENDATIONS

Under Section 7.8.4 of the Standards and Guidelines for Consultant Archaeologists (MTC 2011: 139) the recommendations to be made as a result of a Stage 2 Property Assessment are described.

1) For each archaeological site, provide a statement of the following:
   a. Borden number or other identifying number
   b. Whether or not it is of further cultural heritage value or interest
   c. Where it is of further cultural heritage value or interest, appropriate Stage 3 assessment strategies

2) Make recommendations only regarding archaeological matters. Recommendations regarding built heritage or cultural heritage landscapes should not be included.

3) If the Stage 2 survey did not identify any archaeological sites requiring further assessment or mitigation of impacts, recommend that no further archaeological assessment of the property be required.

STAGE 1-2 RECOMMENDATIONS:

As a result of the property Assessment of the study area, four sites were discovered, the Bruce (BdGt-26) Site, the Bruce Well I (BdGt-25) Site, the Bruce Well (BdGt-24) Site, and the Corbill (BdGt23) Site, as well as two positive outlier test pits, were identified. Partial Clearance is recommended for all portions of the study area where no further studies are warranted, subject to the requirements for partial clearance which are more fully detailed in the recommendations section of this report. The detailed recommendations for the sites are in the Recommendations section of this report. Based on the characteristics of these sites and the analysis of artifacts, the following are the general recommendations:

1. *The Cultural Heritage Value or Interest (CHVI) of the isolated test pits have been completely documented and the finds has been removed from the study area as a result of standard Stage 2 Property Assessment procedure. There is no remaining CHVI for these locations. No further archaeological assessment of the isolated test pit locations is warranted.*
2. *The Bruce (BdGt-26) Site recovered materials from the 20th century and in low quantities. Therefore, there is no remaining CHVI for this location. No further archaeological assessment of the Bruce (BdGt-26) Site is warranted.*
3. *The Bruce Well I (BdGt-25) Site produced a very small number of artifacts; indicating that there is no further information to be gleaned from the site. Therefore, there is no remaining CHVI from this location. No further archaeological assessment of the Bruce Well I BdbGt-25) Site is warranted.*
4. *The Cultural Heritage Value or Interest (CHVI) of the Corbill (BdGt-23) Site has not been completely documented. There is potential for further CHVI for this location. The Corbill (BdGt-23) Site requires Stage 3 Site-specific Assessment to gather further data to determine if Stage 4 Mitigation of Development Impacts will be required.*
5. *A Stage 3 Site-specific assessment of the Corbill (BdGt-23) Site must be completed in accordance with the Standards and Guidelines for Consultant Archaeologists (MTC 2011). The Stage 3 Site-specific assessment will consist of the excavation of 1 by 1 metre square test units on a 5 by 5 metre square grid; the grid squares will be referred to by the intersection coordinates of their southwest corner. Each test unit will be excavated stratigraphically by hand into the first 5 centimetres of subsoil. Each unit will be examined for stratigraphy, cultural features, or evidence of fill, and all soil was screened through wire mesh of 6-millimetre width. All artifacts will be retained and recorded by the corresponding grid unit designation and will be held at the corporate offices of AMICK Consultants Limited until such time that they can be transferred to an agency or institution approved by the MCM (MCM) on behalf of the government and citizens of Ontario.*

6. *The Stage 3 Site-specific Assessment of the Corbill (BdGt-23) Site must include further archival research to establish the details of the occupation and land use history of the rural township lot of which the site location was a part.*
7. *The Cultural Heritage Value or Interest (CHVI) of the Bruce Well (BdGt-24) Site has not been completely documented. There is potential for further CHVI for this location. The Bruce Well (BdGt-24) Site requires Stage 3 Site-specific Assessment to gather further data to determine if Stage 4 Mitigation of Development Impacts will be required.*
8. *A Stage 3 Site-specific assessment of the Bruce Well (BdGt-24) Site must be completed in accordance with the Standards and Guidelines for Consultant Archaeologists (MTC 2011). The Stage 3 Site-specific assessment will consist of the excavation of 1 by 1 metre square test units on a 5 by 5 metre square grid; the grid squares will be referred to by the intersection coordinates of their southwest corner. Each test unit will be excavated stratigraphically by hand into the first 5 centimetres of subsoil. Each unit will be examined for stratigraphy, cultural features, or evidence of fill, and all soil was screened through wire mesh of 6-millimetre width. All artifacts will be retained and recorded by the corresponding grid unit designation and will be held at the corporate offices of AMICK Consultants Limited until such time that they can be transferred to an agency or institution approved by the MCM (MCM) on behalf of the government and citizens of Ontario.*
9. *The Stage 3 Site-specific Assessment of the Bruce Well (BdGt-24) Site must include further archival research to establish the details of the occupation and land use history of the rural township lot of which the site location was a part.*
10. *Prior to pre-grading, servicing or registration, the owner shall erect and maintain a temporary high visibility construction fence to be maintained through the course of all construction activities at a 20 metre buffer around the archaeological site identified as the Bruce Well (BdGt-24) Site within this Stage 2 Archaeological Assessment report to ensure that construction activities do not impinge upon the Bruce Well (BdGt-24) Site unless under the direct supervision of a consulting archaeologist licensed in Ontario by the Minister of Citizenship and Multiculturalism (MCM)and as a part of the ongoing archaeological investigations of the Bruce Well (BdGt-24) Site;*
11. *A Fifty (50) metre wide Monitoring Buffer shall be observed surrounding the above-noted 20 metre wide Protective Buffer. Within the 50 metre Monitoring Buffer no ground altering works (including removal of vegetation or demolition of existing features) may be conducted unless under the direct supervision of a licensed archaeologist.*
12. *The licensed archaeologist supervising any work conducted within the 50-metre-wide Monitoring Buffer has the authority to order a halt to any activity which in his or her view may result in adverse impacts to archaeological resources.*
13. *The 50-metre-wide Monitoring Buffer will remain in effect until such time that the Stage 3 Site-specific Assessment report for the Bruce Well (BdGt-24) Site identified within this Stage 1-2 Archaeological Assessment report is accepted into the Provincial Registry of Archaeological Reports by the MCM.*

14. *Prior to pre-grading, servicing or registration, the owner shall erect and maintain a temporary high visibility construction fence to be maintained through the course of all construction activities at a 20 metre buffer around the archaeological site identified as the Corbill (BdGt-23) Site within this Stage 2 Archaeological Assessment report to ensure that construction activities do not impinge upon the Corbill (BdGt-23) Site unless under the direct supervision of a consulting archaeologist licensed in Ontario by the Minister of Citizenship and Multiculturalism (MCM)and as a part of the ongoing archaeological investigations of the Corbill (BdGt-23) Site;*
15. *A Fifty (50) metre wide Monitoring Buffer shall be observed surrounding the above-noted 20 metre wide Protective Buffer. Within the 50 metre Monitoring Buffer no ground altering works (including removal of vegetation or demolition of existing features) may be conducted unless under the direct supervision of a licensed archaeologist.*
16. *The licenced archaeologist supervising any work conducted within the 50-metre-wide Monitoring Buffers has the authority to order a halt to any activity which in his or her view may result in adverse impacts to archaeological resources.*
17. *The 50-metre-wide Monitoring Buffer will remain in effect until such time that the Stage 3 Site-specific Assessment report for the Corbill (BdGt-23) Site identified within this Stage 1-2 Archaeological Assessment report is accepted into the Provincial Registry of Archaeological Reports by the MCM.*
18. *Written instructions will be provided to all persons permitted to enter the property to stay out of any areas enclosed within the 20 metre wide Protective Buffer unless permitted to enter the area accompanied by a licensed archaeologist.*
19. *Written instructions will be provided to all persons permitted to enter the property for the purposes of undertaking work associated with the development that no work is permitted to occur within the 50-metre-wide Monitoring Buffer unless under direct supervision of a licensed archaeologist.*
20. *Written instructions will be provided to all persons permitted to conduct work within the 50-metre-wide Monitoring Buffers that the licensed archaeologist has the authority to order a halt to any work that he or she feels may adversely impact archaeological resources.*
21. *It is anticipated that the fieldwork and reporting of the Stage 4 Mitigation of Development Impacts (if required) will be completed before the end of 2024.*
22. *The proponent must provide a letter on letterhead to MCM itemizing all the above conditions and committing to ensure that all of these recommendations are implemented. This letter must be submitted together with this report at the time of filing with MCM.*
23. *Partial Clearance is recommended for the study area. It is recommended that the balance of the study area outside of the Bruce Well (BdGt-24) Site and the Corbill (BdGt-23) Site area and surrounding 20 metre Protective Buffer be cleared of archaeological concern.*

10.0 ADVICE ON COMPLIANCE WITH LEGISLATION

While not part of the archaeological record, this report must include the following standard advisory statements for the benefit of the proponent and the approval authority in the land use planning and development process:

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

b. *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 Archaeological Reports referred to in Section 65.1 of the Ontario Heritage Act.*

c. *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 archaeologist to carry out archaeological fieldwork, in compliance with sec. 48 (1) of the Ontario Heritage Act.*

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

e. *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.*

11.0 BIBLIOGRAPHY AND SOURCES

ArchaeologyinOshawa.com. (n.d.). *MacLeod Site*. Retrieved on March 2, 2017 from URL: https://archaeologyinoshawa.wordpress.com/about/.

ASI. (2019a). *County of Simcoe Archaeological Management Plan*. ASI: Toronto. Retrieved from URL: https://www.simcoe.ca/dpt/pln/AMP.

(2019b). *Thematic History and Colonial Period Archaeological Potential* in County of Simcoe Archaeological Management Plan. ASI: Toronto. Retrieved from URL: https://www.simcoe.ca/dpt/pln/AMP.

Beers, J.H. & Co. (1877). *Illustrated Historical Atlas of the County of Ontario, Ont.* J. H. Beers & Co., Toronto.

Chapman, L.J. & D.F. Putnam. (1984). *The Physiography of Southern Ontario (Third Edition).* Ontario Geological Survey, Special Report #2. Ontario Ministry of Natural Resources, Toronto.

Collard, Elizabeth. (1984). *Nineteenth Century Pottery and Porcelain in Canada (2nd Ed.).* Kingston: McGill University Press.

Dieterman, Frank. (2002). Mississauga The First 10,000 Years. Eastendbooks, Toronto.

Earls, Amy. (2004). Archived version of Sponged Earthenware post from, Pottery News weblog "Greatest Journal", posted April 16, 2004, revised November 8, 2004.

Esri. "Topographic" [basemap]. Scale Not Given. "World Topographic Map". 12 January 2021. http://www.arcgis.com/home/item.html?id=30e5fe3149c34df1ba922e6f5bbf808f.

Goel, Tarun (2013). Road Construction: History and Procedure. Bright Hub Engineering. Retrieved 24 May 2015 from URL: http://www.brighthubengineering.com/structural-engineering/59665-road-construction-history-and-procedure/

Google Earth (Version 6.0.3.2197) [Software]. (2009). Available from http://www.google.com/earth/index.html.

Google Maps. (2012). Available from: http://maps.google.ca/?utm_campaign =en&utm_source=en-ha-na-ca-bk-gm&utm_medium=ha&utm_term =google%20maps.

Hoffman, D.W & N.R Richards (1955). Ontario Soil Survey Report No. 19: Soils of York County. Ontario Agricultural College & Experimental Farms Service, Guelph.

Jackson, L., C. Ellis, A. Morgan, & J. McAndrews. (2000). Glacial Lake Levels and Eastern Great Lakes Paleo-Indians. In *Geoarchaeology 15(5): 415-440.*

Jones, Olive and Catherine Sullivan. (1989). *The Parks Canada Glass Glossary for the Description of Containers, Tableware, Flat Glass and Closures.* National Historic Parks and Sites, Canadian Parks Service, Environment Canada.

Kenyon, Ian. (1995). "Weeds Uprising Where the Hearth Should Be": Rural House Abandonment in Southern Ontario. *Kewa* 95(6): 2-16.

Kuhlmann, Stacy. (2017). *Types of Soil.* Diagram of Soil Types available from http://www.tes.com/lessons/AKChU3fbfZKo9g/types-of-soil.

Lueger, Richard. (1981). Ceramics From Yuquot, British Columbia. *History And Archaeology, No 44.* Ottawa: Parks Canada.

Miller, George L., and Robert R. Hunter, Jr. (1990). *English Shell Edged Earthenware: Alias Leeds Ware, Alias Feather Edge.* Seminar presented at the Thirty-fifth Annual Wedgewood International Seminar, London, ON.

Ontario Heritage Act, RSO 1990a, Government of Ontario. (Queen's Printer, Toronto).

Ontario Heritage Amendment Act, SO 2005, Government of Ontario. (Queen's Printer, Toronto).

Ontario Ministry of Citizenship, Culture and Recreation (OMCzCR). (1993). *Archaeological Assessment Technical Guidelines, Stages 1-3 and Reporting Format.* (Queen's Printer for Ontario 1993)

Ontario Ministry of Culture (MCL). (2005). *Conserving a Future for Our Past: Archaeology, Land Use Planning & Development in Ontario (An Educational Primer and Comprehensive Guide for Non-Specialists).* (Heritage & Libraries Branch, Heritage Operations Unit: Toronto).

Ontario Ministry of Culture and Communications (MCC) & Ministry of Environment (MOE). (1992). *Guideline for Preparing the Cultural Heritage Resource Component of Environmental Assessments.* (Cultural Programs Branch, Archaeology and Heritage Planning: Toronto).

Ontario Ministry of Tourism and Culture (MTC). (2011). *Standards and Guidelines for Consultant Archaeologist.* (Programs and Services Branch: Culture Programs Unit, Toronto).

Ontario Planning Act, RSO 1990b, Government of Ontario. (Queen's Printer, Toronto).

Provincial Policy Statement (2020). Government of Ontario. (Queen's Printer, Toronto).

RamaCardenDalton.com. (2012) *Mara—Rama—Ramara Early History*. Retrieved on 30 June, 2020 from URL: http://ramaracardendalton.com/archives/30277.

(2008). *Some History of Mara Township*. Retrieved on 30 June 2020 from URL: http://ramaracardendalton.com/archives/30108.

Rempel, I. (1980). *Building With Wood (Revised Edition).* Toronto: University of Toronto Press.

Savage, George. (1954). *Porcelain Through the Ages.* Harmonsworth: Penguin Books.

Shier, J. (1860). *Tremaine's Map of the County of Ontario, Upper Canada* [map]. Pub., George Tremaine, Toronto. Retrieved June 8, 2020, from the Ontario Historical County Maps Project in association with University of Toronto Map and Data Library URL: https://maps.library.utoronto.ca/hgis/countymaps/ontario/

Smith, David G. (2002). "Ten Thousand Years: Aboriginal Heritage in Mississauga." In *Mississauga: The First 10,000 Years*. Frank Dieterman, Ed. Mississauga Heritage Foundation, Eastendbooks, Toronto.

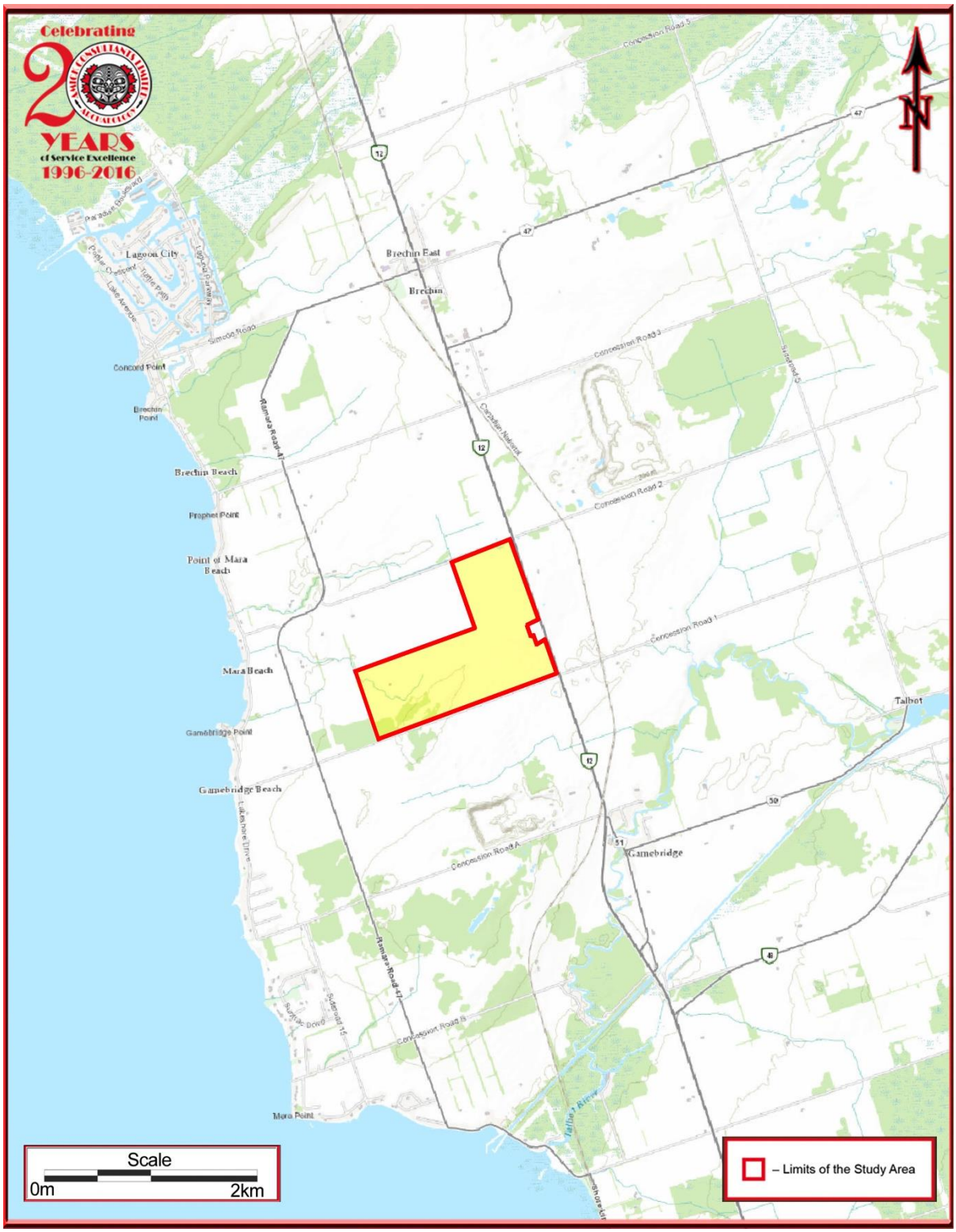
Sussman, Lynne. (1985). *The Wheat Pattern: An Illustrated Survey*. Ottawa: Parks Canada. Ottawa: Parks Canada.

Wikipedia.org. (2017). *Ontario County, Ontario*. Retrieved on March 2, 2017 from URL: https://en.wikipedia.org/wiki/Ontario_County,_Ontario.

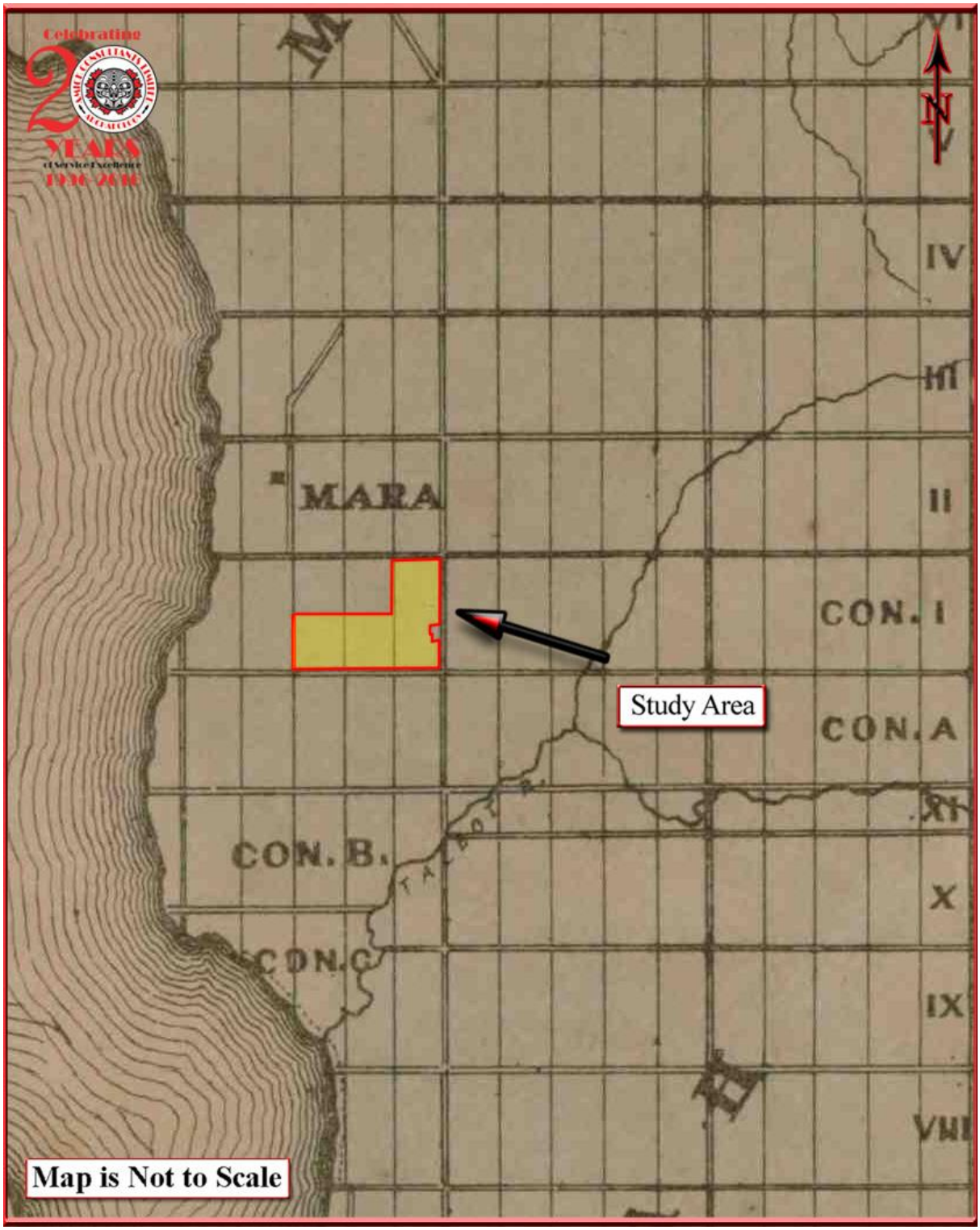
WikiTree. (2019). *Mara Township, Canada West*. Retrieved 30 June, 2020 from URL: https://www.wikitree.com/wiki/Category:Mara_Township%2C_Canada_West.

Wright, J.V. (1972). *Ontario Prehistory: an Eleven-thousand-year Archaeological Outline*. Archaeological Survey of Canada. National Museum of Man, Ottawa.

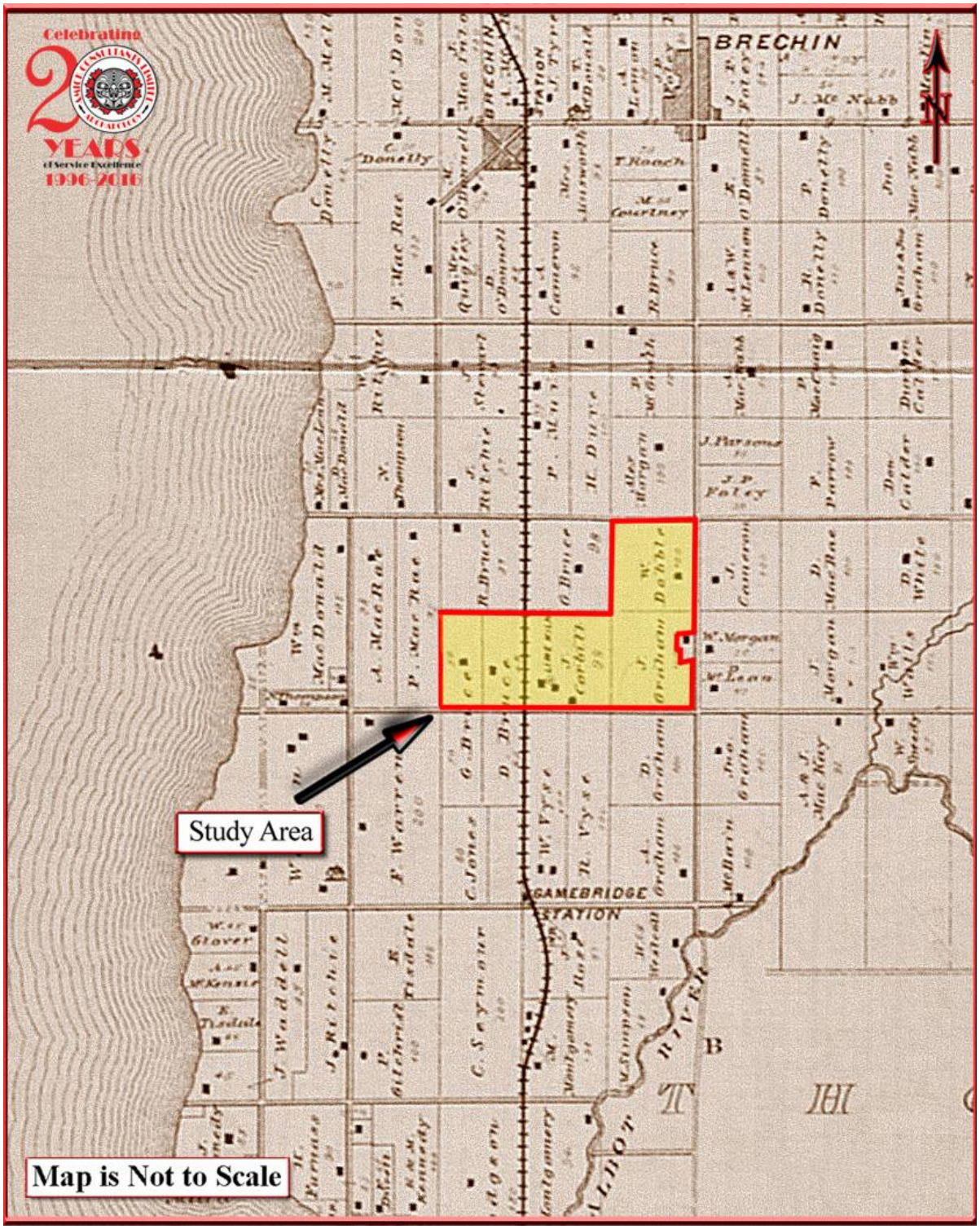
12.0 MAPS



MAP 1 LOCATION OF THE STUDY AREA (ESRI 2020)

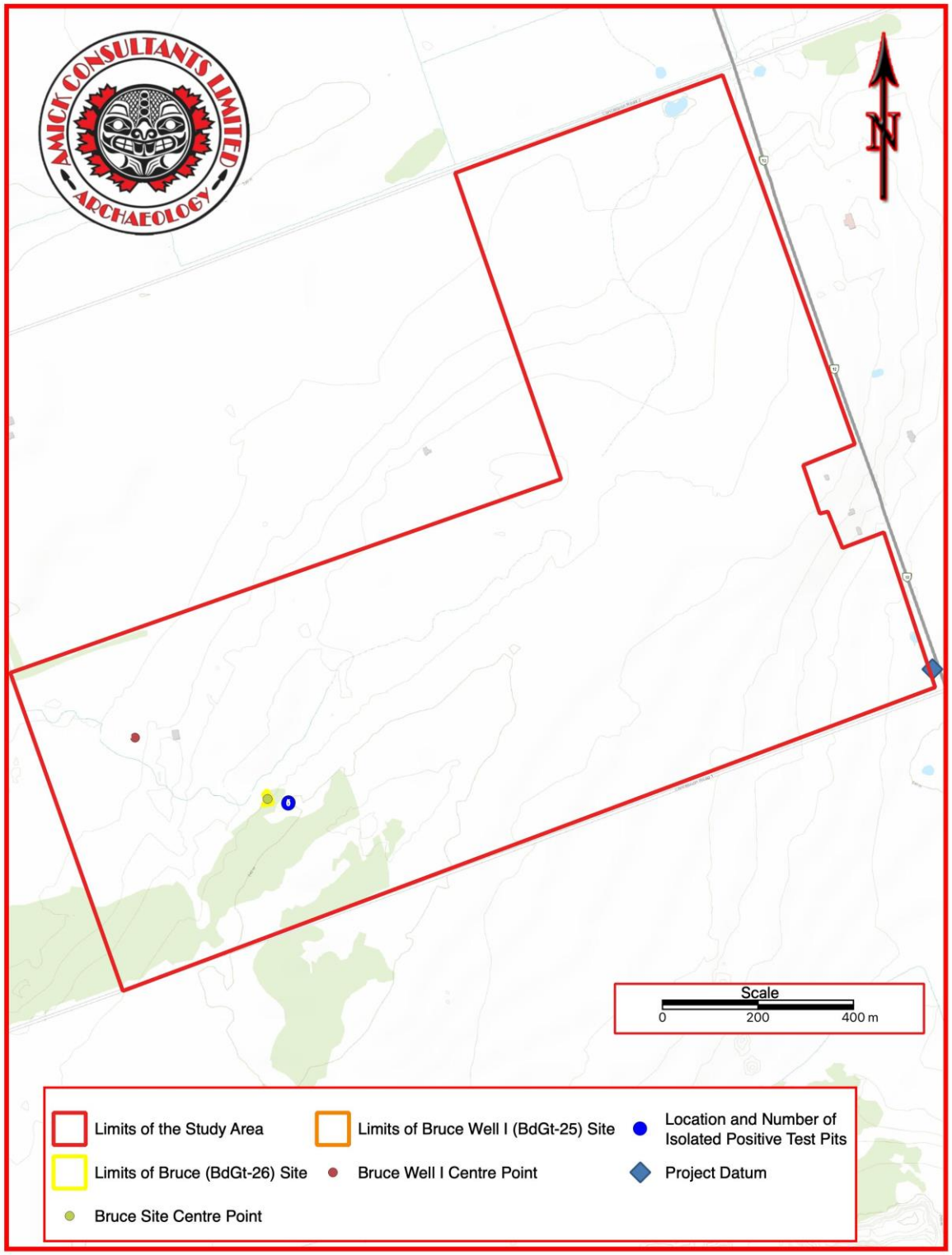


MAP 2 FACSIMILE SEGMENT OF TREMAINE'S MAP OF THE COUNTY OF ONTARIO (SHIER 1860)



MAP 3 FACSIMILE SEGMENT OF THE HISTORIC ATLAS MAP OF THE TOWNSHIP OF MARA (BEERS & CO., 1877)

MAP 4 AERIAL PHOTO OF THE STUDY AREA (GOOGLE EARTH 2011)

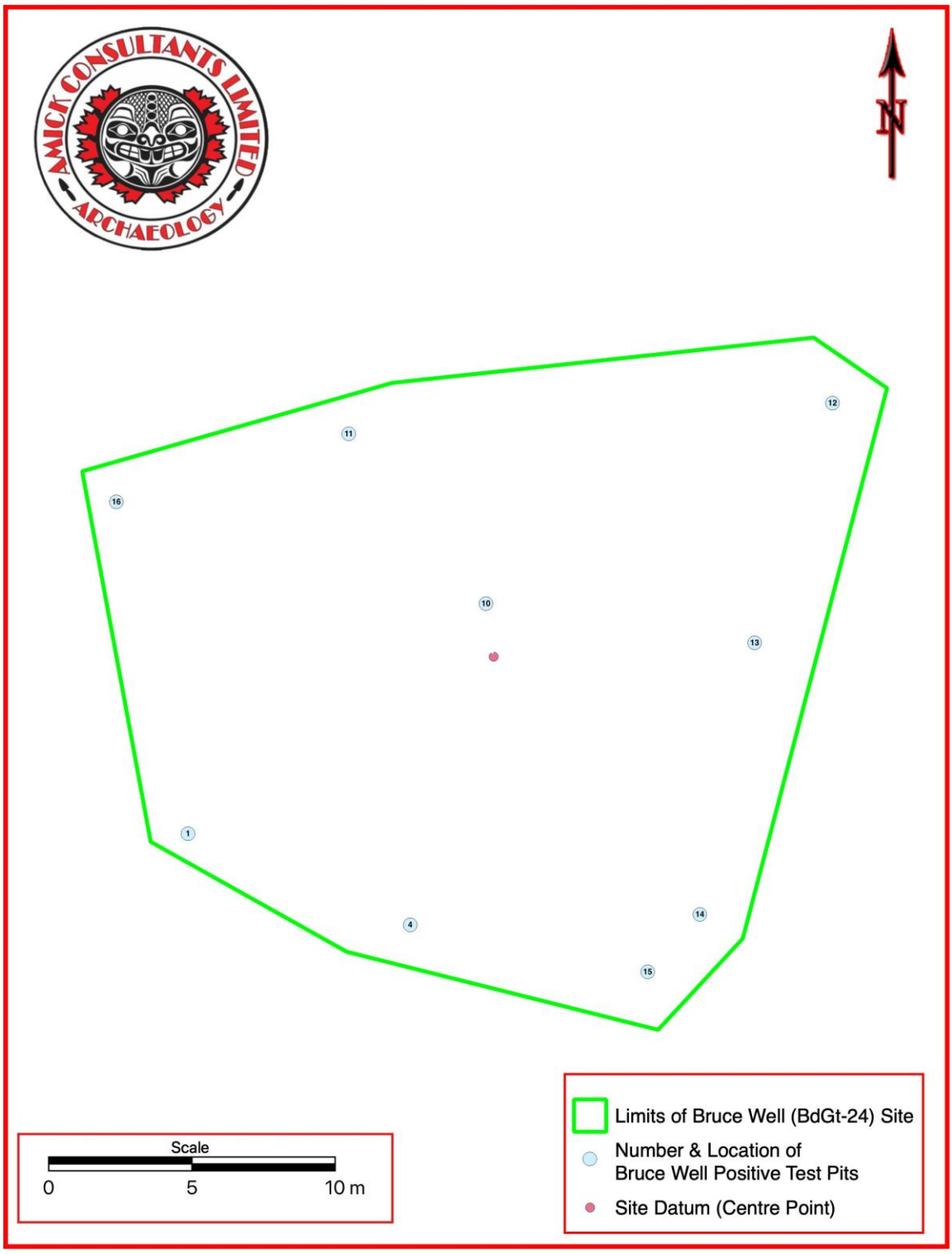


MAP 5 TOPOGRAPHIC PHOTO OF LOCATION OF BRUCE (BDGT-26) SITE, BRUCE WELL I (BDGT-25) SITE, AND ISOLATED TEST PITS (ESRI 2019)

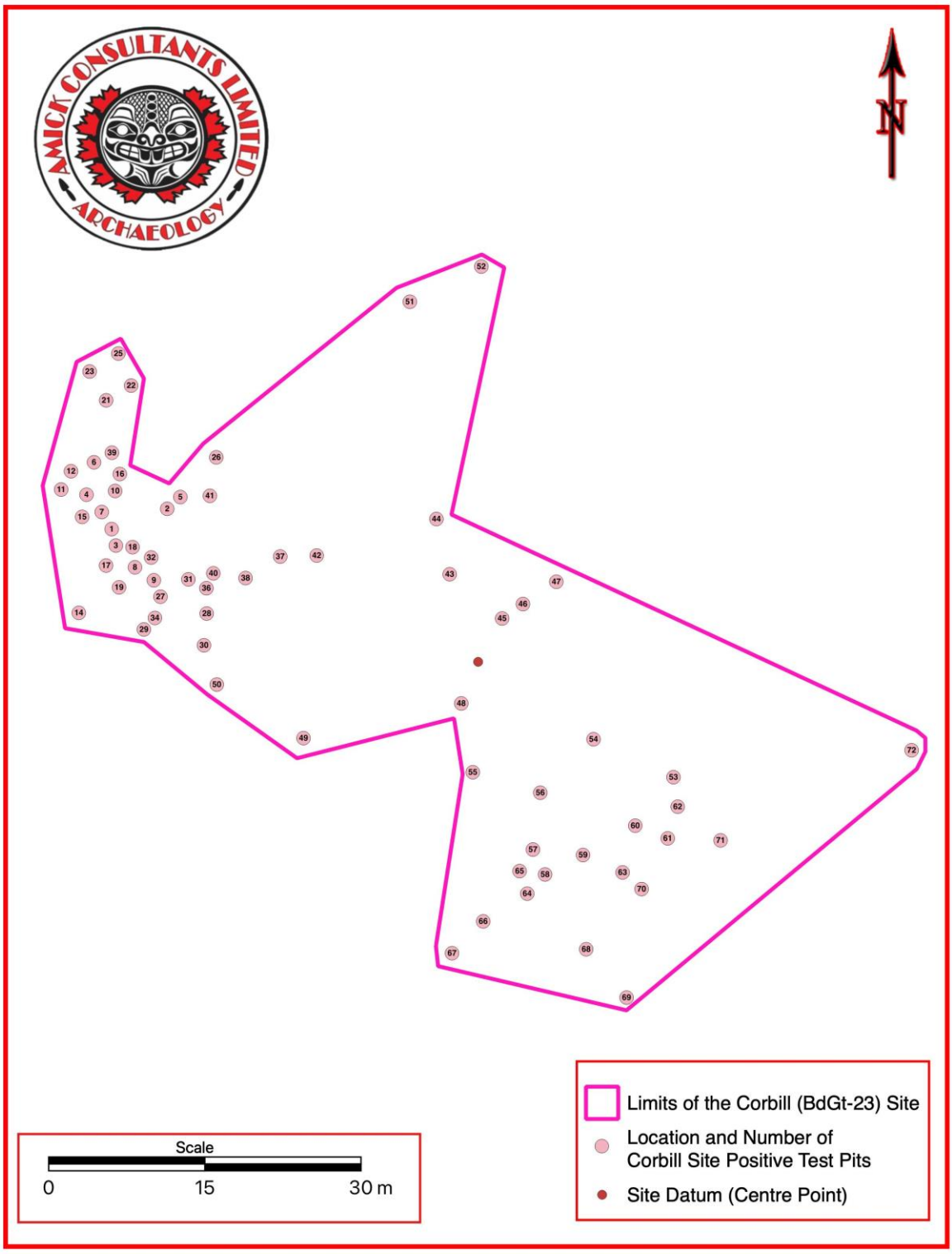
MAP 6 ZOOMED IN AERIAL PHOTO OF LOCATION OF ISOLATED TEST PITS (GOOGLE EARTH 2018)

MAP 7 ZOOMED IN AERIAL PHOTO OF BRUCE WELL I (BDGT-25) SITE WITH LOCATION OF POSITIVE TEST PITS AND EXCAVATED TEST UNIT (GOOGLE EARTH 2018)

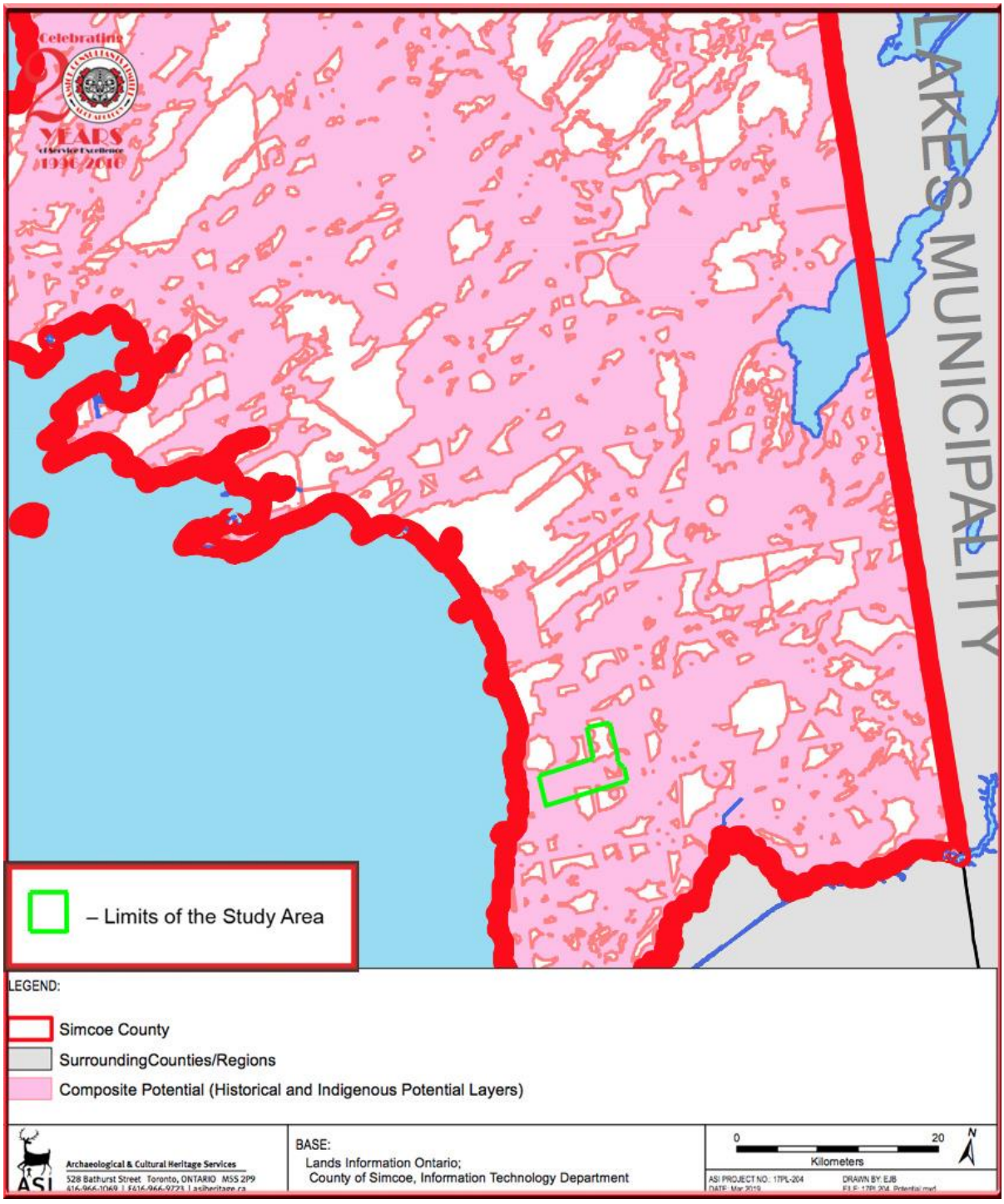
MAP 8 ZOOMED IN AERIAL PHOTO OF BRUCE (BDGT-26) SITE WITH LOCATION OF POSITIVE TEST PITS (GOOGLE EARTH 2018)



MAP 9 BRUCE WELL (BDGT-24) SITE



MAP 10 CORBILL (BDGT-23) SITE



MAP 7 COUNTY OF SIMCOE ARCHAEOLOGICAL POTENTIAL MAP WITH THE STUDY AREA (ASI 2019)

13.0 IMAGES

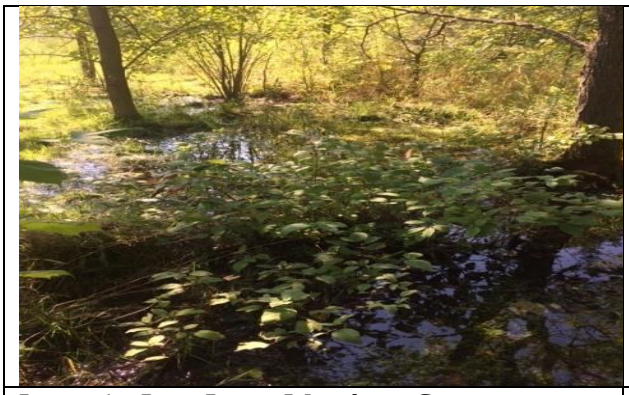


IMAGE 1 LOW-LYING WET AREA CONDITIONS

IMAGE 2 LOW-LYING WET AREA CONDITIONS

IMAGE 3 GRAVEL ACCESS ROAD

IMAGE 4 TEST PIT CONDITIONS

IMAGE 5 SHED

IMAGE 6 ABANDONED SHED

IMAGE 7 TEST PIT SURVEY CONDITIONS

IMAGE 8 CREW AT WORK

IMAGE 9 TEST PIT SURVEY CONDITIONS

IMAGE 10 LOW-LYING WET AREA 20

IMAGE 11 BOULDERS WITHIN MEADOW

IMAGE 12 LOW-LYING AND WET AREA

IMAGE 13 LOW-LYING AND WET AREA

IMAGE 14 CREW AT WORK

IMAGE 15 SILO AND BARN FOUNDATION

IMAGE 16 TEST PIT IN PROGRESS

IMAGE 17 SURVEY CONDITIONS

IMAGE 18 SURVEY CONDITIONS

IMAGE 19 SURVEY CONDITIONS

IMAGE 20 SURVEY CONDITIONS

IMAGE 21 REPRESENTATIVE ARTIFACT PHOTO-
TOP ROW- LEFT TO RIGHT: CAT. # H002, H003, H005, H009, H007
MIDDLE ROW- LEFT TO RIGHT: H025, H019, H021
BOTTOM ROW- LEFT TO RIGHT: H043, H041, H061

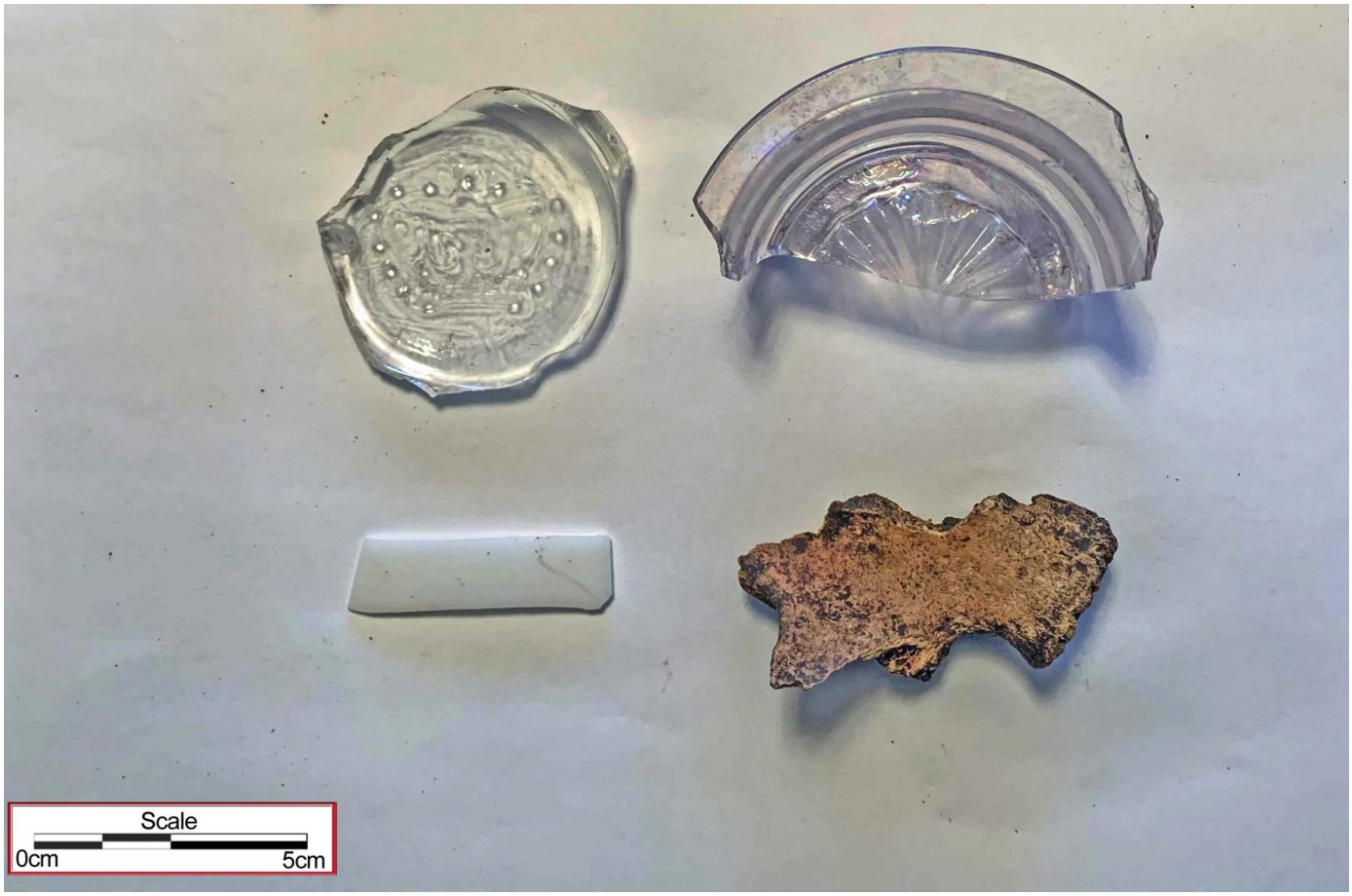


IMAGE 22 REPRESENTATIVE ARTIFACT PHOTO-
TOP ROW- LEFT TO RIGHT: CAT. # 64, 135
BOTTOM ROW- LEFT TO RIGHT: CAT. #37, 12

**IMAGE 23 REPRESENTATIVE ARTIFACT PHOTO-
TOP ROW- LEFT TO RIGHT: CAT. # 136, 191, 84, 97, 133, 65
BOTTOM ROW- LEFT TO RIGHT: CAT. # 3, 8, 100, 13**

IMAGE 24 REPRESENTATIVE ARTIFACT PHOTO- TOP ROW- LEFT TO RIGHT: CAT. # 71, 83, 175, 26 BOTTOM ROW- LEFT TO RIGHT: CAT. # 55, 89

14.0 Appendix 1- The Bruce Well I (BdGt-25) Site

Cat. No.	Test Pit	Material	Class	Type	Attribute	Form	Function	Qty.	Date Range
H001	2	Ceramic	Coarse Red Earthenware	Unglazed	Indeterminate	Indeterminate	Hollowware	1	Indeterminate
H056	3	Metal	Iron	Cut	Indeterminate	Nail	Architecture	1	1825-1890
H057	3	Faunal	Mammal	Bone	Indeterminate	Indeterminate	Food	1	Indeterminate

15.0 APPENDIX 2- THE BRUCE WELL (BDGT-24) SITE

Cat. No.	Test Pit	Material	Class	Type	Attribute	Form	Function	Qty.	Date Range
H002	1	Ceramic	Refined White Earthenware	Transferprint	Blue	Indeterminate	Tableware	1	1820+
H003	1	Ceramic	Refined White Earthenware	Handpainted	Late Palette	Indeterminate	Tableware	1	1850+
H004	1	Ceramic	Refined White Earthenware	Undecorated	Indeterminate	Rim	Tableware	1	1820+
H005	1	Ceramic	Yelloware	Undecorated	Indeterminate	Indeterminate	Kitchenware	2	1850+
H006	1	Metal	Indeterminate	Indeterminate	Indeterminate	Indeterminate	Indeterminate	1	Indeterminate
H007	1	Metal	Iron	Cast	Figure 8 Handle	Key	Architecture	1	Indeterminate
H008	1	Metal	Iron	Cut	Indeterminate	Nail	Architecture	3	1825-1890
H009	1	Metal	Iron	Cut	Indeterminate	Nail	Architecture	2	1825-1890
H010	10	Faunal	Mammal	Indeterminate	Indeterminate	Indeterminate	Food	4	Indeterminate
H011	10	Metal	Iron	Cut	Indeterminate	Nail	Architecture	1	1825-1890
H012	10	Metal	Iron	Cut	Indeterminate	Nail	Architecture	1	1825-1890
H013	11	Metal	Iron	Cut	Indeterminate	Nail	Architecture	1	1825-1890
H014	12	Faunal	Mammal	Indeterminate	Indeterminate	Indeterminate	Food	4	Indeterminate
H015	12	Glass	Commercial	Cylindrical	Colourless	Bottle	Storage	1	1870+
H016	12	Glass	Commercial	Panel	Clear	Medicine Bottle	Storage	1	1870+
H017	13	Metal	Iron	Cut	Indeterminate	Nail	Architecture	1	1825-1890
H018	13	Faunal	Mammal	Indeterminate	Indeterminate	Indeterminate	Food	4	Indeterminate
H019	13	Ceramic	Ironstone	Undecorated	Indeterminate	Indeterminate	holloware	1	1850+
H020	13	Glass	Commercial	Cylindrical	Colourless	Bottle	Storage	1	1870+

H021	13	Metal	Iron	Wire	U-Shaped	Fence Staple	Agriculture	1	1890+
H022	14	Faunal	Mammal	Indeterminate	Indeterminate	Indeterminate	Food	4	Indeterminate
H023	14	Ceramic	Coarse Red Earthenware	Exfoliated	Indeterminate	Indeterminate	Indeterminate	1	1840+
H024	14	Ceramic	Ironstone	Undecorated	Indeterminate	Indeterminate	holloware	5	1850+
H025	14	Ceramic	Refined White Earthenware	Transferprint	Black	Cup	rim	1	1820+
H026	14	Glass	Commercial	Cylindrical	Dark Green	Bottle	Storage	2	1850+
H027	14	Metal	Iron	Indeterminate	Corroded	Indeterminate	Indeterminate	3	Indeterminate
H028	14	Metal	Iron	Cut	Indeterminate	Nail	Architecture	2	1825-1890
H029	15	Faunal	Mammal	Indeterminate	Indeterminate	Indeterminate	Food	4	Indeterminate
H030	15	Ceramic	Coarse Red Earthenware	Glazed	Clear Glaze	Indeterminate	Kitchenware	1	1850+
H031	15	Ceramic	Refined White Earthenware	Transferprint	Blue	Indeterminate	Tableware	1	1820+
H032	15	Glass	Commercial	Roller Milled	Clarified	Window	Architecture	1	1870+
H033	15	Metal	Iron	Cut	Indeterminate	Nail	Architecture	1	1825-1890
H034	16	Faunal	Mammal	Indeterminate	Indeterminate	Indeterminate	Food	4	Indeterminate
H035	16	Ceramic	Coarse Red Earthenware	Glazed	Clear Glaze	Indeterminate	holloware	1	1850+
H036	16	Ceramic	Ironstone	Glazed	Clear Glaze	Indeterminate	Tableware	3	1850+
H037	16	Glass	Commercial	Roller Milled	Clarified	Window	Architecture	2	1870+
H058	4	Glass	Commercial	Cylindrical	Colourless	Bottle	Storage	2	1870+

16.0 APPENDIX 3- THE BRUCE (BDGT-26) SITE

Cat. No.	Test Pit	Material	Class	Type	Attribute	Form	Function	Qty.	Date Range
H039	18	Glass	Commercial	Cylindrical	Clear	Bottle	Storage	1	1870+
H040	18	Ceramic	Refined White Earthenware	Undecorated	indeterminate	Indeterminate	Tableware	1	1820+
H041	19	Glass	Commercial	Cylindrical	Aqua colour	Bottle	Storage	1	1870+
H042	19	Glass	Commercial	Cylindrical	Clear	Bottle	Storage	4	1900+
H043	19	Ceramic	Porcelain	Gilded	Gold	Cup	Tableware	1	1890+
H044	19	Faunal	Mammal	Indeterminate	indeterminate	Indeterminate	Food	1	Indeterminate
H045	19	Glass	Commercial	Glass	Aqua colour	Bottle	Storage	1	1870+
H046	19	Ceramic	Ironstone	Undecorated	indeterminate	Indeterminate	Tableware	3	1850+
H048	20	Glass	Commercial	Indeterminate	Burnt	Bottle	Storage	1	Indeterminate
H049	20	Glass	Commercial	Cylindrical	Clear	Bottle	Indeterminate	2	1900+
H050	20	Glass	Commercial	Cylindrical	Dark Brown	Bottle	Food/Drink	4	1900+
H051	20	Metal	Iron	Wire	indeterminate	Nail	Architecture	2	1890+
H052	21	Metal	Iron	Indeterminate	Corroded	Indeterminate	Indeterminate	1	Indeterminate
H053	21	Glass	Commercial	Cylindrical	Clear	Bottle	Indeterminate	1	Indeterminate
H054	21	Ceramic	Ironstone	Undecorated	indeterminate	Indeterminate	Tableware	2	1850+
H055	21	Metal	Iron	Cut	indeterminate	Nail	Architecture	3	1825-1890
H061	7	Glass	Commercial	Mould Blown	Clear	Medicine Bottle	Storage	1	1870+
H059	17	Glass	Commercial	Cylindrical	Clear	Bottle	Storage	3	1900+
H062	8	Ceramic	Refined White Earthenware	Undecorated	indeterminate	Indeterminate	Indeterminate	1	1820+
H063	9	Faunal	Mammal	Indeterminate	indeterminate	Indeterminate	Food	2	Indeterminate
H038	TP 17	Ceramic	Ironstone	Undecorated	Indeterminate	Indeterminate	Indeterminate	3	1850+

17.0 APPENDIX 4- THE CORBILL (BDGT-23) SITE

Cat. No.	Test Pit	Material	Class	Type	Attribute	Form	Function	Qty.	Date Range
1	1	Ceramic	Ironstone	Undecorated	Indeterminate	Fragment	Indeterminate	2	1850+
2	1	Ceramic	Coarse Yellow Earthenware	Glazed	Clear Glaze	Fragment	Kitchenware	5	1850+
3	1	Ceramic	Coarse Yellow Earthenware	Glazed	Tri-Colour Glaze (brown, white, tan)	Indeterminate	Kitchenware	1	1850+
4	2	Metal	Iron	Wire	Indeterminate	Nail	Architecture	1	1890+
5	2	Ceramic	Porcelain	Decal	Asian Motif	Cup	Tableware	2	1890+
6	2	Ceramic	Ironstone	Undecorated	Indeterminate	Fragment	Indeterminate	3	1850+
7	3	Metal	Iron	Wire	Indeterminate	Nail	Architecture	1	1890+
8	3	Ceramic	Coarse Yellow Earthenware	Glazed	Clear Glaze	Fragment	Kitchenware	1	1850+
9	4	Ceramic	Ironstone	Undecorated	Indeterminate	Fragment	Indeterminate	1	1850+
10	4	Glass	Commercial	Cylindrical	Clear	Fragment	Indeterminate	1	1870+
11	5	Glass	Commercial	Rollermilled	Clarified	Window	Architecture	4	1870+
12	6	Faunal	Mammal	Indeterminate	Indeterminate	Indeterminate	Food	3	Indeterminate
13	6	Ceramic	Losol Ware	Transferprint	“Loso…King”	Plate	Tableware	11	1850+
14	6	Glass	Commercial	Rollermilled	Clarified	Window	Architecture	1	1870+
15	7	Glass	Commercial	Panel	Indeterminate	Fragment	Indeterminate	2	1870+
16	7	Ceramic	Ironstone	Transferprint	Blue Flower	Plate	Tableware	1	1850+
17	8	Ceramic	Refined White Earthenware	Undecorated	Indeterminate	Fragment	Indeterminate	1	1820+
18	8	Metal	Iron	Sheet	Indeterminate	Fragment	Indeterminate	1	Indeterminate
19	9	Glass	Globular	Indeterminate	Clarified	Globe	Lighting	7	1870+
20	10	Metal	Iron	Cast	Large with Loop End	Hook	Mechanical	1	Indeterminate
21	10	Glass	Commercial	Cylindrical	Clear	Bottle	Indeterminate	7	1870+

22	10	Ceramic	Ironstone	Undecorated	Indeterminate	Fragment	Indeterminate	5	1850+
23	10	Metal	Iron	Wire	Indeterminate	Nail	Architecture	1	1890+
24	11	Ceramic	Refined White Earthenware	Undecorated	Indeterminate	Fragment	Indeterminate	10	1820+
25	11	Glass	Commercial	Cylindrical	Clear	Fragment	Indeterminate	7	1870+
26	11	Metal	Iron	Cut	Indeterminate	Nail	Architecture	1	1825-1890
27	12	Ceramic	Ironstone	Undecorated	Indeterminate	Fragment	Indeterminate	1	1850+
28	13	Ceramic	Ironstone	Undecorated	Indeterminate	Fragment	Indeterminate	2	1850+
29	14	Metal	Iron	Wire	Indeterminate	Nail	Architecture	2	1890+
30	15	Ceramic	Ironstone	Transferprint	Keeling & Co.	Cup	Tableware	1	1880+
31	16	Metal	Iron	Cut	Indeterminate	Nail	Architecture	1	1825-1890
32	16	Ceramic	Ironstone	Undecorated	Indeterminate	Bowl	Tableware	7	1850+
33	16	Glass	Commercial	Panel	Clear	Bottle	Indeterminate	3	1870+
34	17	Glass	Commercial	Milk	Opaque white	Bottle	Storage	12	1870+
35	17	Metal	Tin	Indeterminate	Cylindrical	Bottle Cap	Storage	2	Indeterminate
36	17	Ceramic	Ironstone	Undecorated	Indeterminate	Fragment	Indeterminate	1	1850+
37	18	Glass	Commercial	Milk	Opaque white	Bottle	Storage	7	1870+
38	18	Glass	Commercial	Panel	Clear	Bottle	Storage	2	1870+
39	18	Glass	Commercial	Embossed	Blue Tint with Cross	Indeterminate	Indeterminate	1	Indeterminate
40	18	Ceramic	Ironstone	Transferprint	Blue Leaves	Fragment	Indeterminate	5	1850+
41	19	Ceramic	Coarse Red Earthenware	Glazed	Salt Glaze	Crock	Kitchenware	10	1850-1930
42	19	Ceramic	Ironstone	Undecorated	Indeterminate	Fragment	Indeterminate	1	1850+
43	20	Ceramic	Coarse Yellow Earthenware	Glazed	Tri-Colour Glaze (brown, white, tan)	Crock	Kitchenware	21	1850+
44	20	Ceramic	Refined White Earthenware	Transferprint	Blue Leaves	Plate	Tableware	6	1820+
45	20	Ceramic	Ironstone	Undecorated	Indeterminate	Fragment	Indeterminate	18	1850+

46	20	Metal	Iron	Wire	Indeterminate	Fence Staple	Architecture	1	1890+
47	20	Glass	Commercial	Cylindrical	Clear	Jar	Storage	8	1870+
48	21	Metal	Silver	Indeterminate	Teaspoon	Spoon	Tableware	1	Indeterminate
49	21	Metal	Copper	Indeterminate	One armed	Buckle	Clothing	1	Indeterminate
50	21	Metal	Iron	Sheet	Indeterminate	Fragment	Indeterminate	2	Indeterminate
51	21	Metal	Iron	Wire	Indeterminate	Nail	Architecture	2	1890+
52	21	Glass	Commercial	Milk	Opaque white	Bottle	Storage	2	1870+
53	21	Glass	Commercial	Rollermilled	Clarified	Fragment	Indeterminate	10	1870+
54	21	Ceramic	Refined White Earthenware	Undecorated	Indeterminate	Fragment	Indeterminate	32	1820+
55	21	Metal	Brass and Glass	Indeterminate	Oval-shaped with Lenses	Glasses	Health	1	Indeterminate
56	22	Faunal	Mammal	Indeterminate	Indeterminate	Indeterminate	Food	1	Indeterminate
57	22	Metal	Iron	Sheet	Indeterminate	Fragment	Indeterminate	2	Indeterminate
58	22	Metal	Iron	Cut	Indeterminate	Nail	Architecture	3	1890+
59	22	Metal	Iron	Wire	Indeterminate	Nail	Architecture	3	1825-1890
60	22	Glass	Commercial	Milk	Opaque white	Bottle	Storage	1	1870+
61	22	Ceramic	Ironstone	Undecorated	Large Base	Jug	Indeterminate	2	1850+
62	22	Glass	Commercial	Rollermilled	Clarified	Window	Architecture	6	1870+
63	22	Glass	Commercial	Panel	Clear	Bottle	Storage	10	1870+
64	23	Glass	Commercial	Cylindrical	Mason Jar Crown	Jar	Storage	23	1850+
65	23	Ceramic	Ironstone	Hand Painted	Green Lines	Mug	Tableware	6	1850+
66	24	Faunal	Mammal	Indeterminate	Indeterminate	Indeterminate	Food	2	Indeterminate
67	24	Ceramic	Porcelain	Undecorated	Indeterminate	Fragment	Indeterminate	2	1890+
68	25	Ceramic	Ironstone	Transferprint	Teal Blue	Plate	Tableware	6	1850+
69	25	Faunal	Mammal	Indeterminate	Indeterminate	Indeterminate	Food	6	Indeterminate
70	25	Glass	Commercial	Cylindrical	Clear	Bottle	Indeterminate	8	1870+
71	25	Metal	Copper	Indeterminate	Riveted	Buckle	Indeterminate	1	Indeterminate

72	25	Metal	Iron	Wire	Indeterminate	Nail	Architecture	1	1890+
73	26	Metal	Iron	Cut	Indeterminate	Nail	Architecture	1	1825-1890
74	27	Metal	Iron	Sheet	Indeterminate	Fragment	Indeterminate	3	Indeterminate
75	27	Ceramic	Refined White Earthenware	Undecorated	Indeterminate	Fragment	Indeterminate	2	1820+
76	28	Ceramic	Refined White Earthenware	Undecorated	Indeterminate	Fragment	Indeterminate	1	1820+
77	28	Glass	Commercial	Milk	Opaque white	Bottle	Storage	1	1870+
78	29	Ceramic	Porcelain	Undecorated	Indeterminate	Fragment	Indeterminate	1	1890+
79	30	Metal	Iron	Cast	Cut	Stake	Indeterminate	1	1830+
80	30	Metal	Iron	Cut	N/A	Nail	Architecture	1	1825-1890
81	30	Metal	Iron	Wire	N/A	Nail	Architecture	1	1890+
82	30	Metal	Iron	Wire	U-shaped	Fence Staple	Agriculture	1	1890+
83	30	Metal	Iron	Cast	Spoked	Small Wheel	Indeterminate	1	Indeterminate
84	30	Ceramic	Porcelain	Glazed	Square Pattern	Indeterminate	Indeterminate	1	1890+
85	30	Glass	Latern/Globe	Indeterminate	Clarified	Globular	Lighting	1	1870+
86	31	Metal	Iron	Cast	Cut	Stake	Indeterminate	1	1830+
87	31	Glass	Commercial	Panel	Clarified	Bottle Fragment	Indeterminate	2	1870+
88	32	Glass	Commercial	Milk	Opaque white	Bottle	Storage	1	1870+
89	32	Metal	Iron	Cast	Sliding with Bolt	Bracket	Mechanical	1	Indeterminate
90	33	Ceramic	Refined White Earthenware	Undecorated	Indeterminate	Fragment	Indeterminate	3	1820+
91	34	Faunal	Mammal	Indeterminate	Indeterminate	Indeterminate	Food	1	Indeterminate
92	34	Ceramic	Refined White Earthenware	Undecorated	Indeterminate	Fragment	Indeterminate	1	1820+
93	35	Ceramic	Refined White Earthenware	Undecorated	Indeterminate	Teacup	Tableware	3	1820+

94	35	Glass	Commercial	Panel	Indeterminate	Indeterminate	Indeterminate	2	1870-1930
95	36	Ceramic	Ironstone	Decal	Blue Decoration	Cup	Tableware	11	1890+
96	36	Ceramic	Porcelain	Undecorated	Indeterminate	Bowl	Tableware	1	1890+
97	36	Ceramic	Porcelain	Decal	Asian Motif	Fragment	Tableware	4	1890+
98	36	Glass	Commercial	Panel	Clarified	Bottle	Indeterminate	9	1870+
99	36	Ceramic	Coarse Red Earthenware	Glazed	Clear Glaze	Fragment	Kitchenware	1	1850+
100	37	Ceramic	Ironstone	Transferprint	Blue Leaves	Jug Rim	Tableware	2	1850+
101	37	Glass	Commercial	Cylindrical	Clarified	Bottle Fragment	Indeterminate	1	1870+
102	38	Glass	Commercial	Panel	Clear	Bottle	Storage	15	1870+
103	38	Ceramic	Porcelain	Undecorated	Indeterminate	Cup	Tableware	7	1890+
104	38	Metal	Iron	Wire	Indeterminate	Nail	Architecture	2	1890+
105	38	Faunal	Mammal	Indeterminate	Indeterminate	Indeterminate	Food	1	Indeterminate
106	39	Metal	Iron	Wire	Indeterminate	Nail	Architecture	2	1890+
107	39	Metal	Iron	Cut	Indeterminate	Nail	Architecture	2	1825-1890
108	39	Glass	Commercial	Panel	Clear	Bottle	Storage	3	1870+
109	39	Ceramic	Porcelain	Decal	Asian Motif	Fragment	Indeterminate	1	1890+
110	39	Ceramic	Ironstone	Undecorated	Indeterminate	Fragment	Indeterminate	3	1850+
111	40	Metal	Iron	Cut	Indeterminate	Nail	Architecture	1	1825-1890
112	40	Metal	Tin	Sheet	Indeterminate	Fragment	Indeterminate	2	Indeterminate
113	40	Glass	Commercial	Cylindrical	Clear	Bottle	Indeterminate	1	1870+
114	40	Ceramic	Ironstone	Undecorated	Indeterminate	Fragment	Indeterminate	3	1850+
115	41	Ceramic	Ironstone	Undecorated	Large Base	Jug	Tableware	20	1850+
116	41	Glass	Commercial	Panel	Clear	Bottle	Storage	5	1870+
117	41	Faunal	Mammal	Indeterminate	Indeterminate	Indeterminate	Food	3	Indeterminate
118	42	Ceramic	Ironstone	Hand Painted	Blue Lines	Mug	Tableware	1	1850+
119	42	Metal	Iron	Cut	Indeterminate	Nail	Architecture	1	1825-1890

120	43	Ceramic	Coarse Yellow Earthenware	Clear glaze	Brown slip	Indeterminate	Kitchenware	2	1850+
121	43	Ceramic	Porcelain	Decal	Blue stripes	Teacup	Tableware	8	1890+
122	43	Ceramic	Porcelain	Glazed	Square Pattern	Indeterminate	Indeterminate	1	1890+
123	43	Faunal	Mammal	Indeterminate	Indeterminate	Indeterminate	Food	1	Indeterminate
124	43	Rock	Slate	Indeterminate	Dark Grey	Chalkboard	Education	3	1850+
125	43	Metal	Iron	Cut	Indeterminate	Nail	Architecture	1	1825-1890
126	43	Metal	Tin	Indeterminate	Round Head	Thumb Tack	Furniture	1	Indeterminate
127	43	Glass	Commercial	Panel	Clarified	Bottle	Storage	5	1870-1930
128	43	Metal	Brass	Indeterminate	Circular	Shower Ring	Architecture	1	Indeterminate
129	43	Metal	Iron	Cast	r-shaped	Door Foot Latch	Architecture	1	Indeterminate
130	43	Faunal	Mammal	Indeterminate	Indeterminate	Indeterminate	Food	2	Indeterminate
131	43	Metal	Iron	Sheet	Indeterminate	Fragment	Indeterminate	1	Indeterminate
132	43	Ceramic	Refined White Earthenware	Spongeware	Light Blue	Jug	Tableware	2	1840-1930
133	43	Ceramic	Ironstone	Relief Mould	Dots and Lines	Large Jug	Tableware	10	1850+
134	43	Glass	Commercial	Cylindrical	Clear	Bottle Fragment	Indeterminate	3	1870+
135	43	Glass	Commercial	Cylindrical	Thick and Clear	Tray	Tableware	5	Indeterminate
136	44	Ceramic	Ironstone	Hand Painted	Purple Lines	Cup	Tableware	7	1850+
137	44	Metal	Iron	Cut	Indeterminate	Nail	Architecture	2	1825-1890
138	44	Glass	Commercial	Cylindrical	Clarified	Bottle	Indeterminate	2	1870+
139	45	Metal	Iron	Cut	Indeterminate	Nail	Architecture	2	1825-1890
140	45	Metal	Iron	Wire	Indeterminate	Nail	Architecture	1	1890+
141	45	Ceramic	Ironstone	Transferprint	Black Stems	Fragment	Indeterminate	6	1850+
142	45	Faunal	Mammal	Indeterminate	Indeterminate	Indeterminate	Food	2	Indeterminate
143	46	Ceramic	Refined White	Hand Painted	Pastel Green and	Cup	Tableware	2	1820+

			Earthenware		Pink Floral				
144	46	Metal	Iron	Cut	Indeterminate	Nail	Architecture	1	1825-1890
145	47	Ceramic	Ironstone	Transferprint	Blue Leaves	Plate	Tableware	7	1850+
146	47	Glass	Commercial	Cylindrical	Clear	Bottle	Indeterminate	3	1870+
147	47	Metal	Iron	Cut	Indeterminate	Nail	Architecture	1	1825-1890
148	48	Metal	Iron	Cut	Indeterminate	Nail	Architecture	5	1825-1890
149	48	Metal	Iron	Wire	Indeterminate	Nail	Architecture	1	1890+
150	48	Ceramic	Coarse Yellow Earthenware	Glazed	Clear Glaze	Pot	Kitchenware	1	1850+
151	48	Ceramic	Refined White Earthenware	Undecorated	Indeterminate	Fragment	Indeterminate	1	1820+
152	48	Ceramic	Coarse Red Earthenware	Undecorated	Unglazed	Brick	Architecture	1	1784+
153	49	Glass	Commercial	Panel	Indeterminate	Maganese	Indeterminate	3	1870-1930
154	50	Ceramic	Refined White Earthenware	Undecorated	Indeterminate	Fragment	Indeterminate	2	1820+
155	50	Glass	Commercial	Rollermilled	Clarified	Fragment	Architecture	1	1870+
156	51	Metal	Iron	Sheet	Indeterminate	Fragment	Indeterminate	5	Indeterminate
157	51	Metal	Iron	Wire	Indeterminate	Nail	Architecture	2	1890+
158	51	Metal	Iron	Cut	Indeterminate	Nail	Architecture	4	1825-1890
159	51	Faunal	Mammal	Indeterminate	Indeterminate	Indeterminate	Food	2	Indeterminate
160	51	Ceramic	Refined White Earthenware	Transferprint	Red Leaves	Plate	Tableware	13	1820+
161	51	Ceramic	Coarse Yellow Earthenware	Glazed	Clear Glaze	Fragment	Kitchenware	2	1850+
162	51	Glass	Commercial	Cylindrical	Clear	Large Bottle	Storage	4	1870+
163	52	Metal	Iron	Wire	Indeterminate	Nail	Architecture	1	1890+
164	52	Metal	Iron	Sheet	Indeterminate	Fragment	Indeterminate	2	Indeterminate

165	52	Glass	Commercial	Panel	Clear	Bottle	Indeterminate	5	1870+
166	52	Glass	Commercial	Bottle	Olive green	Bottle	Liqour	1	1784+
167	53	Ceramic	Ironstone	Undecorated	Indeterminate	Fragment	Indeterminate	2	1850+
168	53	Metal	Iron	Sheet	Indeterminate	Fragment	Indeterminate	4	Indeterminate
169	53	Glass	Commercial	Cylindrical	Indeterminate	Maganese	Indeterminate	5	1870-1930
170	54	Ceramic	Coarse Yellow Earthenware	Glazed	Salt Glaze	Fragment	Kitchenware	1	1850-1930
171	54	Glass	Commercial	Panel	Clarified	Bottle Fragment	Indeterminate	1	1870+
172	54	Metal	Iron	Wire	Flathead	Screw	Architecture	1	1840+
173	55	Ceramic	Ironstone	Undecorated	Indeterminate	Fragment	Indeterminate	1	1850+
174	55	Metal	Iron	Cut	Indeterminate	Nail	Architecture	1	1825-1890
175	55	Metal	Copper	Indeterminate	Small, circular ends	Axle from Toy Car	Entertainment	1	Indeterminate
176	55	Glass	Commercial	Panel	Clarified	Fragment	Indeterminate	2	1870+
177	55	Metal	Iron	Wire	Indeterminate	Nail	Architecture	1	1890+
178	56	Ceramic	Ironstone	Undecorated	Indeterminate	Fragment	Indeterminate	1	1850+
179	56	Metal	Iron	Wire	Indeterminate	Nail	Architecture	1	1890+
180	57	Faunal	Mammal	Indeterminate	Indeterminate	Indeterminate	Food	1	Indeterminate
181	57	Ceramic	Ironstone	Undecorated	Indeterminate	Fragment	Indeterminate	2	1850+
182	58	Ceramic	Ironstone	Undecorated	Indeterminate	Fragment	Indeterminate	2	1850+
183	58	Metal	Iron	Wire	Indeterminate	Nail	Architecture	1	1890+
184	58	Metal	Iron	Cut	Indeterminate	Nail	Architecture	1	1825-1890
185	58	Glass	Commercial	Cylindrical	Clarified	Bottle	Indeterminate	1	1870+
186	59	Faunal	Mammal	Indeterminate	Indeterminate	Indeterminate	Food	3	Indeterminate
187	60	Ceramic	Ironstone	Undecorated	Indeterminate	Fragment	Indeterminate	1	1850+
188	61	Ceramic	Porcelain	Undecorated	Indeterminate	Cup	Tableware	1	1890+
189	62	Metal	Iron	Wire	Indeterminate	Indeterminate	Indeterminate	2	Indeterminate

190	62	Metal	Iron	Cast	m-shaped	Door Hinge	Architecture	1	Indeterminate
191	62	Ceramic	Ironstone	Transferprint	Green Flowers	Plate	Tableware	3	1850+
192	63	Faunal	Mammal	Indeterminate	Indeterminate	Indeterminate	Food	1	Indeterminate
193	63	Metal	Iron	Wire	Indeterminate	Nail	Architecture	1	1890+
194	64	Metal	Iron	Cut	Indeterminate	Nail	Architecture	1	1825-1890
195	64	Ceramic	Porcelain	Undecorated	Indeterminate	Fragment	Indeterminate	2	1890+
196	64	Ceramic	Coarse Red Earthenware	Glazed	Clear Glaze	Fragment	Kitchenware	2	1850+
197	65	Metal	Iron	Cut	Indeterminate	Nail	Architecture	1	1825-1890
198	66	Glass	Commercial	Panel	Clarified	Bottle	Indeterminate	1	1870+
199	67	Metal	Iron	Cut	Indeterminate	Nail	Architecture	1	1825-1890
200	67	Metal	Iron	Wire	Coiled	Spring	Indeterminate	1	Indeterminate
201	68	Metal	Iron	Wire	Indeterminate	Nail	Architecture	1	1890+
202	69	Metal	Iron	Wire	Indeterminate	Nail	Architecture	1	1890+
203	70	Glass	Commercial	Indeterminate	Clarified	Bottle Fragment	Indeterminate	1	Indeterminate
204	71	Ceramic	Ironstone	Hand Painted	Purple Lines	Cup	Tableware	1	1850+
205	72	Ceramic	Ironstone	Undecorated	Indeterminate	Cup	Tableware	13	1850+

18.0 APPENDIX 5- ISOLATED FINDS

Cat. No.	Test Pit	Material	Class	Type	Attribute	Form	Function	Qty.	Date Range
H060	6	Glass	Commercial	Cylindrical	Dark Brown	Bottle	Storage	4	1900+
H059	5	Glass	Commercial	Cylindrical	Clear	Bottle	Storage	3	1900+