1.0 PROJECT REPORT COVER PAGE

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PROJECT INFORMATION:

Corporate Project Number:	2020217
MHSTCI Project Number:	P058-1975-2021
Investigation Type:	Stage 1-2 Archaeological Property Assessment
Project Name:	969, 979 & 989 Mapleview Drive East
Project Location:	969, 979 & 989 Mapleview Drive East, Part of Lot 19, Concession 11 (Geographic Township of Innisfil), being Parts 1 & 2 on Plan 51R-35948 & Part 1 on Plan 51R-11231; Town of Innisfil, County of Simcoe
Project Designation Number:	Not Currently Available

MHSTCI FILING INFORMATION:

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Date of Report Filing:	28 June 2021
Type of Report:	**ORIGINAL**

2.0 EXECUTIVE SUMMARY

This report describes the results of the 2021 Stage 1-2 Archaeological Assessment of 969, 979 & 989 Mapleview Drive East, Part of Lot 19, Concession 11 (Geographic Township of Innisfil), being Parts 1 & 2 on Plan 51R-35948 & Part 1 on Plan 51R-11231; ; Town of Innisfil, 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 Heritage, Sport, Tourism and Culture Industries for the Province of Ontario. This assessment was undertaken as a requirement under the Planning Act (RSO 1990) and the Provincial Policy Statement (2020) in order to support a Draft Plan of Subdivision and companion Zoning By-law Amendment 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 Heritage, Sport, Tourism and Culture Industries (MHSTCI). 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, by test pit survey at a ten-metre interval to confirm disturbance and by high intensity pedestrian survey at an interval of five metres between individual transects on 1, 2, and 10 June 2021. 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 Heritage, Sport, Tourism and Culture Industries (MHSTCI) on behalf of the government and citizens of Ontario.

STAGE 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.*

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4.0 PROJECT PERSONNEL

AMICK CONSULTANTS LIMITED PARTNERS
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5.0 PROJECT CONTEXT

5.1 DEVELOPMENT CONTEXT

This report describes the results of the 2021 Stage 1-2 Archaeological Assessment of 969, 979 & 989 Mapleview Drive East, Part of Lot 19, Concession 11 (Geographic Township of Innisfil), being Parts 1 & 2 on Plan 51R-35948 & Part 1 on Plan 51R-11231; ; Town of Innisfil, 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 Heritage, Sport, Tourism and Culture Industries for the Province of Ontario. This assessment was undertaken as a requirement under the Planning Act (RSO 1990) and the Provincial Policy Statement (2020) in order to support a Draft Plan of Subdivision and companion Zoning By-law Amendment 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 Heritage, Sport, Tourism and Culture Industries (MHSTCI). 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, by test pit survey at a ten-metre interval to confirm disturbance and by high intensity pedestrian survey at an interval of five metres between individual transects on 1, 2, and 10 June 2021. 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 Heritage, Sport, Tourism and Culture Industries (MHSTCI) on behalf of the government and citizens of Ontario.

The proposed development of the study area includes 2 storm water management ponds, 13 residential blocks and streets within Phase 1 as well as open space and unidentified lots within Phase 3. A preliminary plan of the proposed development has been submitted together with this report to MHSTCI for review and reproduced within this report as Map 4.

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 A.D.

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. Some sites of this earliest period of First Nations occupation of Simcoe County have been documented to the south and to the west of Kempenfelt Bay.

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

By about 8000 B.C. the gradual transition from a postglacial 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).

Three First Nations trails known as the Rouge Trail, the Don Trail, and the Humber Trail began on the north shore of Lake Ontario in the Toronto area and terminated on the two branches of the Holland River (Myers 1977: 2). These trails form part of a long established trade and communications network that linked the upper and lower Great Lakes. The route followed the Holland River into the southern end of Lake Simcoe. Also, the route followed the western shore of Lake Simcoe northward to Kempenfelt Bay, and then westward to the end of the bay. A portage was then undertaken to the Nottawasaga River and this river was followed into Nottawasaga Bay at the present location of the Town of Wasaga Beach. This network of trade and communication had been long established by the time Europeans began to operate in the area. The presence of artifacts dating to the Early Archaic Period in clos proximity to the upper and lower landings on the Holland River east branch suggests that the use of this system most likely dates back to at least that period.

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 an 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. During this period the Huron and Petun become established in their respective homelands familiar to early explorers, traders and missionaries.

In the seventeenth century Simcoe County was home to the Huron. With the arrival of French priests and Jesuits, missions were established near Nottawasaga Bay. After the destruction of the missions by the Iroquois and the British, Algonquin speaking peoples occupied the area. After the war of 1812, the government began to invest in the military defenses of Upper Canada, through the extension of Simcoe's Yonge Street from Lake Simcoe to Penetanguishene on Nottawasaga Bay (Garbutt 2010).

5.2.2 GENERAL HISTORICAL OUTLINE

The township of Innisfil originally included Allendale, Tollendal, Painswick, Minets Point and Holly. The township was incorporated in 1850. The first settlers were the Hewson Family who settled on what was called Hewson's Point and was later renamed Big Bay Point in March of 1820. George McMullan of Tollendal built the first sawmill in 1823. In 1825 due to the steadily increasing number of settlers, it became important to have accessible roadways; this led to the clearing of brush between Barrie and Churchville. This became an overland route known as the Penetanguishene Road, which later became Hwy 11, and is now known as Yonge Street (Lemon 1951).

The development of Innisfil Township relied heavily upon settlers clearing purchased land and establishing self-sustaining farms. As the population increased, so did the amount of services (post office, schools and church) available to settlers. The township even had its own form of local government; commissioners were appointed by the provincial legislature who would oversee the political issues of the community. By 1835, there was a strong need for a gristmill, which was a direct result of the progress of the agricultural community. In 1853, the Allandale train station began operating which fuelled the continuing growth of the community. By the late 1800's the township began to lose land to the more rapidly growing urban area nearby. In 1891 500 acres were annexed to the Village of Allandale, which was soon swallowed up by the growth of Barrie. The City of Barrie annexed an additional 500 acres from Innisfil in 1897 (Lemon 1951).

In Smith's Canadian Gazetteer (1846), it is said of Barrie that it was first settled in 1832 and had 28 families resident there by 1837. In 1843, the District of Simcoe was created and Barrie named as the seat of the District government. By 1846, the population of Barrie was estimated to be approximately 500 persons of predominantly English, Irish and Scotch origins. Barrie had three churches by 1846: two Methodist and one Episcopal. In addition, an excellent private school had been established, as had a mechanics' institute and a cricket club. The professions of Barrie included one physician, one lawyer, six stores, three tanneries, one surveyor, three taverns, four blacksmiths, one wagon maker, one baker, one saddler, one cabinet maker, one watchmaker, six shoemakers, three tailors, two butchers, and one Bank of Upper Canada branch (Smith 1846: 9).

Map 2 is a facsimile segment from Illustrated Atlas of the Dominion of Canada (H. Belden 1881). Map 2 illustrates the location of the study area and environs as of 1881. The study area is shown to belong to T. Fagan, no structures are shown within the study area however there is a structure adjacent to the study area to the west. 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 a settlement road adjacent to the study area to the north. This road is the current Mapleview Drive East. There is an unnamed stream that is located just outside of the northeast corner of the study area. It should be noted that this stream now runs through the study area and was likely not shown in the 1881 map due to its small size or error an in mapping.

Map 3 is a facsimile segment from Hogg's Map of the County of Simcoe (Hogg, 1871). Map 3 illustrates the location of the study area and environs as of 1871. The study area is shown to belong to A. McCaush; there are no structures within the study area. The area is densely populated and therefore 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 a settlement road adjacent to the study area to the north. This road is the current Mapleview Drive East.

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 as actively farmed agricultural land. The study area is roughly 20 hectares in area. The study area includes within it mostly ploughable lands. There are two watercourses that flow through the study area. One is located in the northern portion and flows west to east while the other is located in the southeast corner of the study area and also flows west to east. There is a small section of wetland in the southeast corner of the study area adjacent to the southern watercourse. There are also sections of wetland along the western and eastern borders of the study area. There is a small area of steep slope surrounding either side of the northern watercourse between the agricultural fields. In the northwest corner of the study area, there is an existing single detached dwelling, aboveground pool and shed. The area around the residence is maintained as a lawn and a paved driveway enters off of Mapleview Drive East towards the northern side of the residence. The study area is bounded on the north by Mapleview Drive East, on the east by farmland and woodlot, on the west by farmland, and on the south by woodlot. The study area is approximately 615 metres to the west of the intersection of Mapleview Drive East and 20th Sideroad. A plan of the study area is included within this report as Map 4. Current conditions encountered during the Stage 1-2 Property Assessment are illustrated in Maps 5 & 6.

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. Background research indicates the property has potential for significant archaeological resources of Native origins based on proximity to a natural source of potable water.

5.3 ARCHAEOLOGICAL CONTEXT

The Archaeological Sites Database administered by the Ministry of Heritage, Sport, Tourism and Culture Industries (MHSTCI) indicates that there are eight (8) 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 MHSTCI. 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 three (3) previous studies have taken place within 50 metres of the study area. For further information see:

AECOM Canada Limited. (2019). *Mapleview South (Innisfil) Ltd. Stage 1-2 Archaeological Assessment 953 Mapleview Drive East Lot 19, Concession 11, Geographic Township of Innisfil, Simcoe County, Now City of Barrie, Ontario.* AECOM Canada Limited, London.

AMICK Consultants Limited. (2019). *Stage 1-2 Archaeological Property Assessment of the Dorsay Property at 1448 Lockhart Road, Lot 20, Concession 11, (Geographic Township of Innisfil), City of Barrie, County of Simcoe.* AMICK Consultants Limited, Lakelands District.

AMICK Consultants Limited. (2020). *Stage 3 Site-Specific Assessment of the J. Crispin II Site (BcGv-55) located at 1448 Lockhart Road, Lot 20, Concession 11, (Geographic Township of Innisfil, County of Simcoe), City of Barrie, County of Simcoe.* AMICK Consultants Limited, Lakelands District.

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 MHSTCI 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 MHSTCI 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)***

The above-noted reports do not have any relevance to the lands to be potentially impacted by the proposed undertaking, do not include fieldwork or recommendations relevant to the study area, and do not document any sites within 50 metres of the study area. Therefore, there is no requirement to include any summary data for the previous 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. A facsimile segment of the archaeological potential map produced as a part of that study has been reproduced within this report as Map 7 and illustrates the study area on this plan. However, Archaeological Management Plans and the conclusions therein are guidelines for municipal planners and are not a substitute for Stage 1 Background Assessment conducted by licensed archaeologists. Table 1 describes the modeling criteria by which the Simcoe County regional archaeological potential was calculated. (ASI 2019)

TABLE 1 SIMCOE COUNTY ARCHAEOLOGICAL MANAGEMENT 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 Cultural Heritage Value or Interest (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 MHSTCI 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 MHSTCI. As a result it was determined that two (2) 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. All previously registered Pre-Contact sites are briefly described below in Table 2:

TABLE 2 PRE-CONTACT SITES WITHIN 1KM

Site Name	Borden #	Site Type	Cultural Affiliation
McDonald II	BcGv-56	Village	Late Woodland
McDonald	BcGv-11	Village	Woodland

None of the above noted archaeological sites are situated within 300 metres of the study area. Therefore, they have no impact on determinations of archaeological potential for further archaeological resources related to Pre-Contact activity and occupation with respect to the archaeological assessment of the proposed undertaking. It should be noted that the MHSTCI database indicates both of these sites are within 300 metres of the study area, however when measured on Google Earth using the mapping provided from the MHSTCI sites database search neither of these sites were actually within 300 metres of the study area.

There are two streams located within the study area, which are sources of potable water. The distance to water criteria used to establish potential for archaeological sites suggests potential for Pre-Contact occupation and land use in the area in the past.

Table 3 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 3 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 MHSTCI. As a result it was determined that six (6) archaeological sites relating directly to Post-Contact habitation/activity had been formally registered within the immediate vicinity of the study area. All previously registered Post-Contact sites are briefly described below in Table 4:

TABLE 4 POST-CONTACT SITES WITHIN 1KM

Site Name	Borden #	Site Type	Cultural Affiliation
J. Crispin II	BcGv-55	Agricultural, Farmstead	Post-Contact
J. Crispin I	BcGv-54	Agricultural, Farmstead	Euro-Canadian
	BcGv-43	Farmstead	Post-Contact
Bulut South P059-0683-2015	BcGv-42	Midden	Post-Contact
Bulut North	BcGv-41	Midden	Post-Contact
Innis-Shore 1	BcGv-29	Homestead	Euro-Canadian

None of the above noted archaeological sites are situated within 300 metres of the study area. Therefore, they have no impact on determinations of archaeological potential for further archaeological resources related to Post-Contact activity and occupation with respect to the archaeological assessment of the proposed undertaking. It should be noted that the MHSTCI database indicates (BcGv-41) and (BcGv-42) are within 300 metres of the study area,

however when measured on Google Earth using the mapping provided from the MHSTCI sites database search neither of these sites were actually within 300 metres of the study area.

5.3.3 PREVIOUS INVESTIGATIONS

AECOM Canada Limited (AECOM) conducted a Stage 1-2 Archaeological Assessment in 2019 of the property adjacent to the study area to the west. No archaeological resources were found in the assessment. Below are the resulting Executive Summary and Recommendations:

> *AECOM Canada Ltd. (AECOM) was retained by Mapleview South (Innisfil) Ltd. to conduct a Stage 1-2 Archaeological Assessment (AA) of the 953 Mapleview Drive East study area, in the City of Barrie, Ontario. This assessment is being completed as part of a due diligence exercise prior to the development of the property. This report details the rationale, methods and results of the Stage 1-2 AA. The Stage 1 portion of this AA was completed by using background research to describe the geography, land use history, previous archaeological fieldwork and current conditions of the study area to determine its archaeological potential. In addition, satellite imagery and thematic and historic maps were examined. The results of the Stage 1 background research indicated that while a portion of the study area does not contain archaeological potential as it is permanently low and wet, the remaining areas required a Stage 2 AA. The Stage 2 assessment was conducted on July 24, 2019 when the property was subject to pedestrian survey at 5 m intervals. The subject property was found to be 50% low and wet, and no archaeological resources were found in the area subject to pedestrian survey. Given the results of this assessment, AECOM recommends no further archaeological assessment is required for the 953 Mapleview Drive East study area.*
>
> *The Ministry of Tourism, Culture and Sport is asked to accept this report into the Ontario Public Register of Archaeological Reports thereby concurring with the recommendations presented herein. As no further archaeological assessment is required, archaeological concerns for the 953 Mapleview Drive East study area in the City of Barrie, Ontario have been fully addressed. Please note that this archaeological assessment report has been written to meet the requirements of the MTCS's Standards and Guidelines for Consultant Archaeologists (Ontario Government 2011); however, properties that are subject to archaeological assessment are not considered cleared for ground disturbance activities until the associated report has been reviewed and accepted by the MTCS. In order to maintain compliance with the MTCS and the Ontario Heritage Act (1990), no ground disturbing activities are to occur until the proponent and approval authority receive a formal letter from the MTCS stating that the recommendations provided herein are compliant and that the report has been accepted into the MTCS' register of archaeological reports.*
>
> (AECOM Canada Ltd. 2019)

AMICK Consultants Limited conducted a Stage 1-2 Archaeological Assessment in 2019 of the property adjacent to the study area to the east. As a result of the assessment, two historic sites; J. Crispin I (BcGv-54) and J. Crispin II (BcGv-55), as well as a First Nations site; McDonald II (BcGv-56) were found. Below are the resulting Executive Summary and Recommendations:

> *This report describes the results of the 2019 Stage 1-2 Archaeological Assessment of 1448 Lockhart Road, Lot 20, Concession 11, (Geographic Township of Innisfil) City of Barrie, 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 Heritage, Sport, Tourism and Culture Industries for the Province of Ontario. This assessment was undertaken as a requirement under the Planning Act (RSO 1990) and the Provincial Policy Statement (2020) in order to support a Draft Plan of Subdivision and companion Zoning By-law Amendment 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 Heritage, Sport, Tourism and Culture Industries (MHSTCI). 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 high intensity test pit methodology at five-metre intervals, and by high intensity pedestrian survey at an interval of five metres between individual transects and intensified pedestrian survey at one-metre intervals on 24 September, October 7-10, 14-18, 21-22, 29 2019 and May 19 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 Heritage, Sport, Tourism and Culture Industries (MHSTCI) on behalf of the government and citizens of Ontario.*
>
> *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 Heritage, Sport, Tourism and Culture Industries (MHSTCI) on behalf of the government and citizens of Ontario.*

STAGE 2 RECOMMENDATIONS:

As a result of the property Assessment of the study area, two scatters of historic artifacts, the J. Crispin I (BcGv-54) Site and the J. Crispin II (BcGv-55) Site were found. A small scatter of First Nations artifacts were also found at the McDonald II (BcGv-56) Site. Based on the characteristics of these sites and the analysis of artifacts, the following recommendations are made:

1. *The Cultural Heritage Value or Interest (CHVI) of the McDonald II (BcGv-56) Site, J. Crispin I (BcGv-54) Site and the J. Crispin II (BcGv-55) Site, have not been completely documented. There is potential for further CHVI at these locations. The McDonald II (BcGv-56) Site, J. Crispin I (BcGv-54) Site and the J. Crispin II (BcGv-55) Site require Stage 3 Site-specific Assessment to gather further data to determine if Stage 4 Mitigation of Development Impacts will be required.*
2. *A Stage 3 Site-specific assessment of the McDonald II (BcGv-56) Site, J. Crispin I (BcGv-54) Site and the J. Crispin II (BcGv-55) Site must be completed for these sites in accordance with the Standards and Guidelines for Consultant Archaeologists (MTC 2011). The Stage 3 Site-specific assessment at each location 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, with a 20% infill based on high counts of artifacts or presence of features. 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 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 Heritage, Sport, Tourism and Culture Industries (MHSTCI) on behalf of the government and citizens of Ontario.*
3. *The Stage 3 Site-specific Assessment of the McDonald II (BcGv-56) Site, J. Crispin I (BcGv-54) Site and the J. Crispin II (BcGv-55) Site must include further archival research in order to establish the details of the occupation and land use history of the rural township lot of which the study area was a part.*
4. *A CSP and intensified pedestrian survey have been completed at the J. Crispin I (BcGv-54) Site and the J. Crispin II (BcGv-55) Site as part of the Stage 2 Property Assessment and are not required as part of the Stage 3 Site-specific Assessment of the J. Crispin I (BcGv-54) Site and the J. Crispin II (BcGv-55) Site as these components of the Stage 3 requirements are already satisfied. An intensified test pit survey has been completed at the McDonald II (BcGv-56) Site as part of the Stage 2 Property Assessment and is not required as part of the Stage 3 Site-specific Assessment of the McDonald II (BcGv-56) Site as these components of the Stage 3 requirements are already satisfied.*
5. *No soil disturbances or removal of vegetation shall take place within the archaeological sites identified as McDonald II (BcGv-56) Site, J. Crispin I (BcGv-54)*

Site and the J. Crispin II (BcGv-55) Site within this Stage 1-2 Archaeological Assessment report, or within the area enclosed within a 20 metre buffer surrounding the McDonald II (BcGv-56) Site, J. Crispin I (BcGv-54) Site and the J. Crispin II (BcGv-55) Site prior to the acceptance of the Ministry of Heritage, Sport, Tourism and Culture Industries (MHSTCI) of a report recommending that all archaeological concerns for the McDonald II (BcGv-56) Site, J. Crispin I (BcGv-54) Site and the J. Crispin II (BcGv-55) Site have been addressed and that there is no further cultural heritage value or interest for these sites.

6. *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 McDonald II (BcGv-56) Site, J. Crispin I (BcGv-54) Site and the J. Crispin II (BcGv-55) Site within this Stage 1-2 Archaeological Assessment report to ensure that construction activities do not impinge upon the McDonald II (BcGv-56) Site, J. Crispin I (BcGv-54) Site and the J. Crispin II (BcGv-55) Site unless under the direct supervision of a consulting archaeologist licensed in Ontario by the Minister of Heritage, Sport, Tourism and Culture Industries and as a part of the ongoing archaeological investigations of the McDonald II (BcGv-56) Site, J. Crispin I (BcGv-54) Site and the J. Crispin II (BcGv-55) Site.*
7. *The high visibility fence will be installed at the outer limit of the 20 metre wide Protective Buffer surrounding the McDonald II (BcGv-56) Site, J. Crispin I (BcGv-54) Site and the J. Crispin II (BcGv-55) Site as illustrated in the accompanying mapping within the Supplementary Report Package of this report filed with MHSTCI prior to the commencement of any development activity anywhere within the proposed development.*
8. *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.*
9. *The licenced 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.*
10. *The 50 metre wide Monitoring Buffer will remain in effect until such time that the Stage 3 Site-specific Assessment report for the McDonald II (BcGv-56) Site, J. Crispin I (BcGv-54) Site and the J. Crispin II (BcGv-55) Site identified within this Stage 1-2 Archaeological Assessment report is accepted into the Provincial Registry of Archaeological Reports by the Ontario Ministry of Heritage, Sport, Tourism and Culture Industries.*
11. *Written instructions will be provided to all persons permitted to enter the property to stay out of the area of the 20 metre wide Protective Buffer unless permitted to enter the area accompanied by a licenced archaeologist.*
12. *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 licenced archaeologist.

13. *Written instructions will be provided to all persons permitted to conduct work within the 50-metre wide Monitoring Buffers that the licenced archaeologist has the authority to order a halt to any work that he or she feels may adversely impact archaeological resources.*
14. *The proponent must provide a letter on letterhead to MHSTCI itemizing all of 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 MHSTCI.*
15. *It is recommended that the balance of the study area outside of the site areas and surrounding Protective Buffer be cleared of archaeological concern.*

(AMICK Consultants Ltd. 2019: 2-4)

AMICK Consultants Limited conducted a Stage 3 Site-specific Assessment in 2020 of the J. Crispin II (BcGv-55) site, which is located within the property adjacent to the study area to the east. Below are the resulting Executive Summary and Recommendations:

This report describes the results of the 2020 Stage 3 Site-Specific Assessment of the J. Crispin II Site (BcGv-55) within the proposed subdivision at 1448 Lockhart Road, Lot 20, Concession 11, (Geographic Township of Innisfil, County of Simcoe), City of Barrie, 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 Heritage, Sport, Tourism and Culture Industries for the Province of Ontario. This assessment was undertaken as a requirement under the Planning Act (RSO 1990) and the Provincial Policy Statement (2020) in order to support a Draft Plan of Subdivision and companion Zoning By-law Amendment 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 Heritage, Sport, Tourism and Culture Industries (MHSTCI). 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 3 Site-Specific Assessment of the J. Crispin II Site (BcGv-55), a historic Euro-Canadian archaeological site potentially affected by the proposed undertaking and was granted permission to carry out archaeological fieldwork. The Stage 3 Assessment consisted of the excavation of 1 by 1 metre square test units on a 10 by 10 metre square grid; the grid squares are referred to by the intersection coordinates of their southwest corner. It must be noted that the excavation began on a 10-metre grid but when it

became evident that the J. Crispin II Site (BcGv-55) would not require a Stage 4 mitigation of impacts, the grid was reduced to 5 metres with a 20% infill. Each test unit was excavated stratigraphically by hand into the first 5 centimetres of subsoil. Depth varied between 19 and 80 centimetres. Each unit was examined for stratigraphy, cultural features, or evidence of fill, and all soil was screened through wire mesh of 6 millimetre width. All artifacts were retained and recorded by the corresponding grid unit designation. The soil stratigraphy consisted of medium brown loamy sand overlaying light to medium orange sand subsoil. A total of 37 test units, with an additional 10 test units amounting to 20% of the grid unit total in areas of interest or high artifact concentration were hand-excavated between 11 & 12 November, 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 Heritage, Sport, Tourism and Culture Industries (MHSTCI) on behalf of the government and citizens of Ontario.

STAGE 3 RECOMMENDATIONS:

The Stage 3 Site-specific Assessment of the J. Crispin II Site (BcGv-55) resulted in the discovery of 1283 artifacts and one subsurface cultural feature, known as Feature 1, within unit number 445E 650N. Due to the relatively low number of artifacts found and the general lack of any heritage value or interest of these artifacts and feature, the following recommendations are made:

1. *The Stage 3 Site-specific Assessment of the J. Crispin II Site (BcGv-55) indicates that it has no additional cultural heritage value or interest (CHVI) and the site has now been sufficiently documented. The report recommends that Stage 4 mitigation of impacts is not required for the J. Crispin II Site (BcGv-55).*

(AMICK Consultants Ltd. 2020: 2-3)

5.3.4 LOCATION AND CURRENT CONDITIONS

The study area is described as 969, 979 & 989 Mapleview Drive East, Part of Lot 19, Concession 11 (Geographic Township of Innisfil), being Parts 1 & 2 on Plan 51R-35948 & Part 1 on Plan 51R-11231; ; Town of Innisfil, County of Simcoe .The study area was subject to this assessment as a requirement under the Planning Act (RSO 1990) and the Provincial Policy Statement (2020) in order to support a Draft Plan of Subdivision and companion Zoning By-law Amendment application as part of the pre-submission process.

The present use of the study area is as actively farmed agricultural land. The study area is roughly 20 hectares in area. The study area includes within it mostly ploughable lands. There are two watercourses that flow through the study area. One is located in the northern portion and flows west to east while the other is located in the southeast corner of the study

area and also flows west to east. There is a small section of wetland in the southeast corner of the study area adjacent to the southern watercourse. There are also sections of wetland along the western and eastern borders of the study area. There is a small area of steep slope surrounding either side of the northern watercourse between the agricultural fields. In the northwest corner of the study area, there is an existing single detached dwelling, aboveground pool and shed. The area around the residence is maintained as a lawn and a paved driveway enters off of Mapleview Drive East towards the northern side of the residence. The study area is bounded on the north by Mapleview Drive East, on the east by farmland and woodlot, on the west by farmland, and on the south by woodlot. The study area is approximately 615 metres to the west of the intersection of Mapleview Drive East and 20th Sideroad. A plan of the study area is included within this report as Map 4. Current conditions encountered during the Stage 1-2 Property Assessment are illustrated in Maps 5 & 6.

5.3.5 PHYSIOGRAPHIC REGION

The study area is situated within the Peterborough Drumlin Field physiographic region. The Peterborough Drumlin Field is a rolling till plain with an area of roughly 1,750 square miles, containing approximately 3,000 full drumlins amongst other lesser ones. The rock underlying this region is mostly limestone, which is highly fossiliferous and tends to disintegrate easily. Drumlins in this area are of typical shape with many swampy areas intervening. Valleys across the entire drumlin field break the continuity of the physiographic region, and are deep enough to provide excellent drainage to the adjacent uplands (Chapman and Putnam 1984: 169-172).

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).

There are two watercourses (streams) within the study area. One is located in the northern portion of the study area and the second is located along the southern border of the study area. These streams flow from west to east. Neither of these streams are seen within the study area in the historical mapping provided.

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 a single detached dwelling and shed. Maps 5 & 6 of this report illustrate the location 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 northwest corner of the study area contains a paved driveway, as well as a stone and cement surface which supports an above-ground swimming pool. Maps 5 & 6 illustrate the location of this feature.

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.

The study area contains two watercourses (streams). In addition, there is a low-lying wet area on the north side of the northern stream and low-lying wet areas on either side of the southeastern stream. Maps 5 & 6 of this report illustrate 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 Consultants Limited's 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 contains a small slope located along each side of the northern watercourse. Maps 5 & 6 of this report illustrate the locations of these features.

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.

The study area contains a very small portion of wooded area in the southeast corner where the wetland and stream is located. Maps 5 & 6 of this report illustrate 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 consists of mainly ploughable agricultural land. There are two main agricultural fields within the study area. Maps 5 & 6 of this report illustrate the locations of these features.

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 study area has a small portion of lawn in the northwest corner and a small portion of meadow within the northern agricultural field. Maps 5 & 6 illustrate 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 a source of potable water. Background research also suggests potential for archaeological resources of Post-Contact origins based on proximity to a historic roadway and proximity to areas of documented historic settlement.

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 footprints of existing structures, areas under the paved driveway, areas of steep slope and low-lying wet areas. However, 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 FIELDWORK METHODS AND WEATHER CONDITIONS

This report confirms that the study area was subject to Stage 2 Property Assessment by high intensity test pit methodology at a five-metre interval between individual test pits, by test pit survey at a ten-metre interval to confirm disturbance and by high intensity pedestrian survey at an interval of five metres between individual transects on 1, 2, and 10 June 2021.

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 Maps 5 & 6 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 Maps 5 & 6. 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 Maps 5 & 6 of this report.

6.2 PEDESTRIAN SURVEY

In accordance with the Standards and Guidelines for Consultant Archaeologists, pedestrian survey is required for all portions of the study area that are ploughable or can be subject to cultivation. This is the preferred method to utilize while conducting an assessment. This report confirms that the conduct of pedestrian survey within the study area conformed to the following standards:

1. *Actively or recently cultivated agricultural land must be subject to pedestrian survey.*
   [All actively or recently cultivated agricultural land was subject to pedestrian survey.]

2. *Land to be surveyed must be recently ploughed. Use of chisel ploughs is not acceptable. In heavy clay soils ensure furrows are disked after ploughing to break them up further.*
   [All land was recently ploughed.]

3. *Land to be surveyed must be weathered by one heavy rainfall or several light rains to improve visibility of archaeological resources.*
   [All land was weathered by rainfall.]

4. *Provide direction to the contractor undertaking the ploughing to plough deep enough to provide total topsoil exposure, but not deeper than previous ploughing.*
   [Direction was given to the contractor undertaking the ploughing to plough deep enough to provide total topsoil exposure, but not deeper than previous ploughing.]

5. *At least 80 % of the ploughed ground surface must be visible. If surface visibility is below 80% (e.g. due to crop stubble, weeds, young crop growth), ensure the land is re-ploughed before surveying.*
   [Roughly 95% of the ploughed field surface was exposed and visible.]

6. *Space survey transects at maximum intervals of 5m (20 survey transects per hectare)*
   [All transects were conducted at an interval of 5m between individual transects.]

7. *When archaeological resources are found, decrease survey transects to 1m intervals over a minimum of a 20m radius around the find to determine whether it is an isolated find or part of a larger scatter. Continue working outward at this interval until full extent of the surface scatter has been defined.*
   [Not Applicable – No archaeological resources were encountered.]

8. *Collect all formal artifact types and diagnostic categories. For 19th century archaeological sites, collect all refined ceramic sherds (or, for larger sites collect a sufficient sample to form the basis for dating).*
   [Not Applicable – No archaeological resources were encountered.]

9. *Based on professional judgment, strike a balance between gathering enough artifacts to document the archaeological site and leaving enough in place to relocate the site if it is necessary to conduct further assessment.*
   [Not Applicable – No archaeological resources were encountered.]

(MTC 2011: 30-31)

6.3 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

[The study area contains a small, wooded area that is also located in a permanently low-lying wet area. Consequently, it was excluded from the Stage 2 Property Assessment.]

b. pasture with high rock content

[Not Applicable - The study area does not contain any pastures with high rock content.]

c. abandoned farmland with heavy brush and weed growth

[Not Applicable - The study area does not contain any abandoned farmland with heavy brush and weed growth.]

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

[The study area contained a lawn area amongst the detached dwelling and shed at the northwestern corner of the property that could not be ploughed. Therefore, it was test pit surveyed at an interval of 5m between individual test pits, then at an interval of 10m between individual test pits to confirm disturbance.]

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.

[A small portion of the study area contains a residence with landscape features that include lawn areas, patios and gardens which are to be maintained at present; therefore ploughing, would damage or destroy these features. All areas where existing landscaping or infrastructure would be damaged were test pit surveyed at an interval of 5 metres between individual test pits.]

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 until disturbance was noted and the interval was increased to ten-metres.]

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.*
   [Test pitted portions of the study area were assessed at an interval of five metres between individual test pits to confirm disturbance and, when disturbance was noted, the interval increased to ten metres.]

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, or 5 cm into disturbance.]

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.*
   [Not Applicable - No archaeological resources were encountered.]

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 consist 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, which included the built structures and paved driveway.]

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.

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.*
   [The grass lawn areas were test pitted. Test pits identified dark grey sand fill in disturbed areas.]

   (MTC 2011: 38)

Approximately 3% of the study area consisted of unploughable lawn or meadow areas that were test pit surveyed at an interval of 5 metres between individual test pits, then at an interval of ten metres where disturbance was noted. Approximately 3% of the study area was not required to assess due to steep slope. Approximately 86% of the study area was assessed by pedestrian survey at a 5 metre transect interval. Approximately 8% of the study area was not assessable due to the presence of permanently low-lying wet areas, streams, existing structures, a swimming pool, and a gravel driveway.

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

No archaeological resources of any description were encountered anywhere within the study area.

7.2 ARCHAEOLOGICAL FIELDWORK DOCUMENTATION

The documentation produced during the field investigation conducted in support of this report includes: one sketch map, one page of photo log, one page of field notes, and 51 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 on 1, 2, and 10 June 2021, consisting of high intensity test pit methodology at a five-metre interval between individual test pits, by test pit survey at a ten-metre interval to confirm disturbance and by high intensity pedestrian survey at an interval of five metres between individual transects. 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 Heritage, Sport, Tourism and Culture Industries (MHSTCI) 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 in 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 MHSTCI 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 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 two watercourses (streams) that flow in the northern portion and along the southern border of the study area from west to east.

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 no identified features indicating past water sources within 300 metres of the study area.

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.

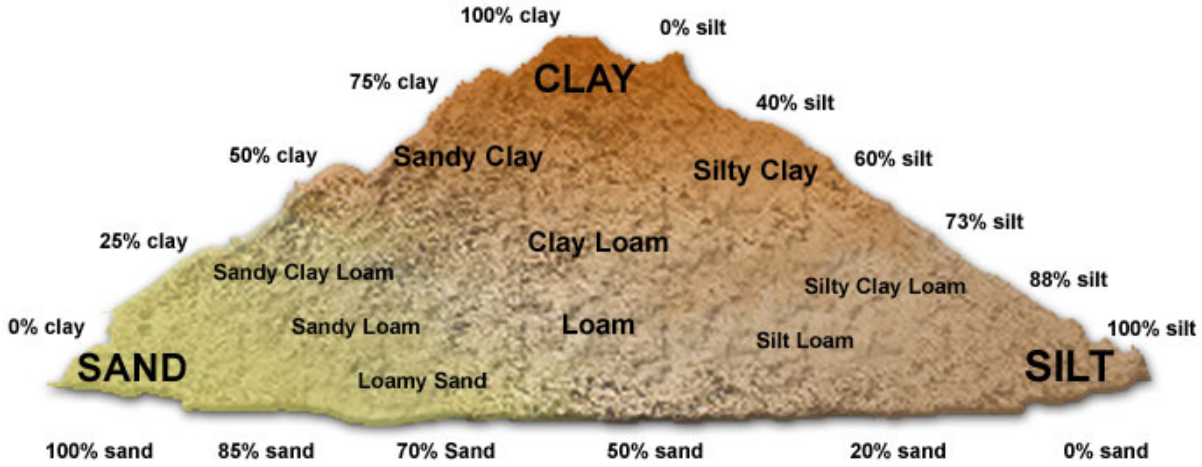
5) *Elevated Topography*
Features of elevated topography that indicate archaeological potential include eskers, drumlins, large knolls, and plateaux.

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.

Undisturbed soils throughout the study area consisted of a medium brown 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 or exposed bedrock. Disturbed soils in the northwestern portion of the study area consisted of a dark grey sand fill.

The image below (Kuhlmann, Stacy 2017) shows the consistencies of soil types and how they compare to one another.



(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 an area of early Post-Contact settlement.

10) *Early Historical Transportation Routes*

This includes evidence of trails, passes, roads, railways, portage routes, etc.

The study area is situated within 100 metres of an early settlement road that appears on the Historic Atlas Map of 1871 and 1881.

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 evidence to suggest that major landscaping operations involving grading below topsoil were carried out within the study area due to the presence of the paved driveway. 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 is a single detached residence and shed within the study area.

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 5 below summarizes the evaluation criteria of the Ministry of Heritage, Sport, Tourism and Culture Industries (MHSTCI) 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 water and the location of an early historic settlement road adjacent to the study area.

TABLE 5 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?	**Y**			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.)	**Y**			If Yes, potential determined
2c	Past water source within 300 m. (beach ridge, river bed, relic creek, etc.)		**N**		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 of 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.)	**Y**			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.*

No archaeological sites or resources were found during the Stage 2 survey of the study area.

9.0 RECOMMENDATIONS

9.1 STAGE 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.

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.*

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 Heritage, Sport, Tourism and Culture Industries 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

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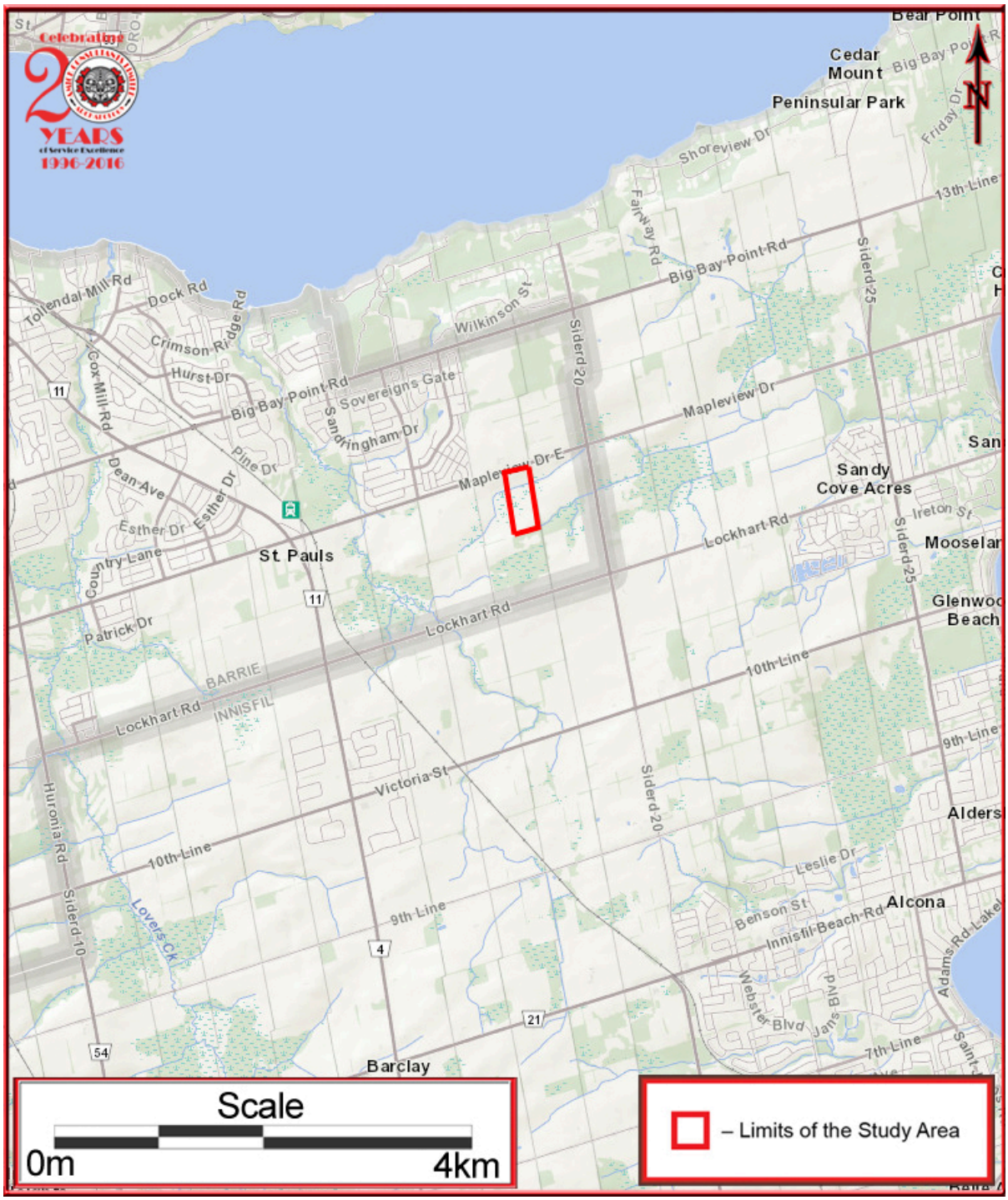
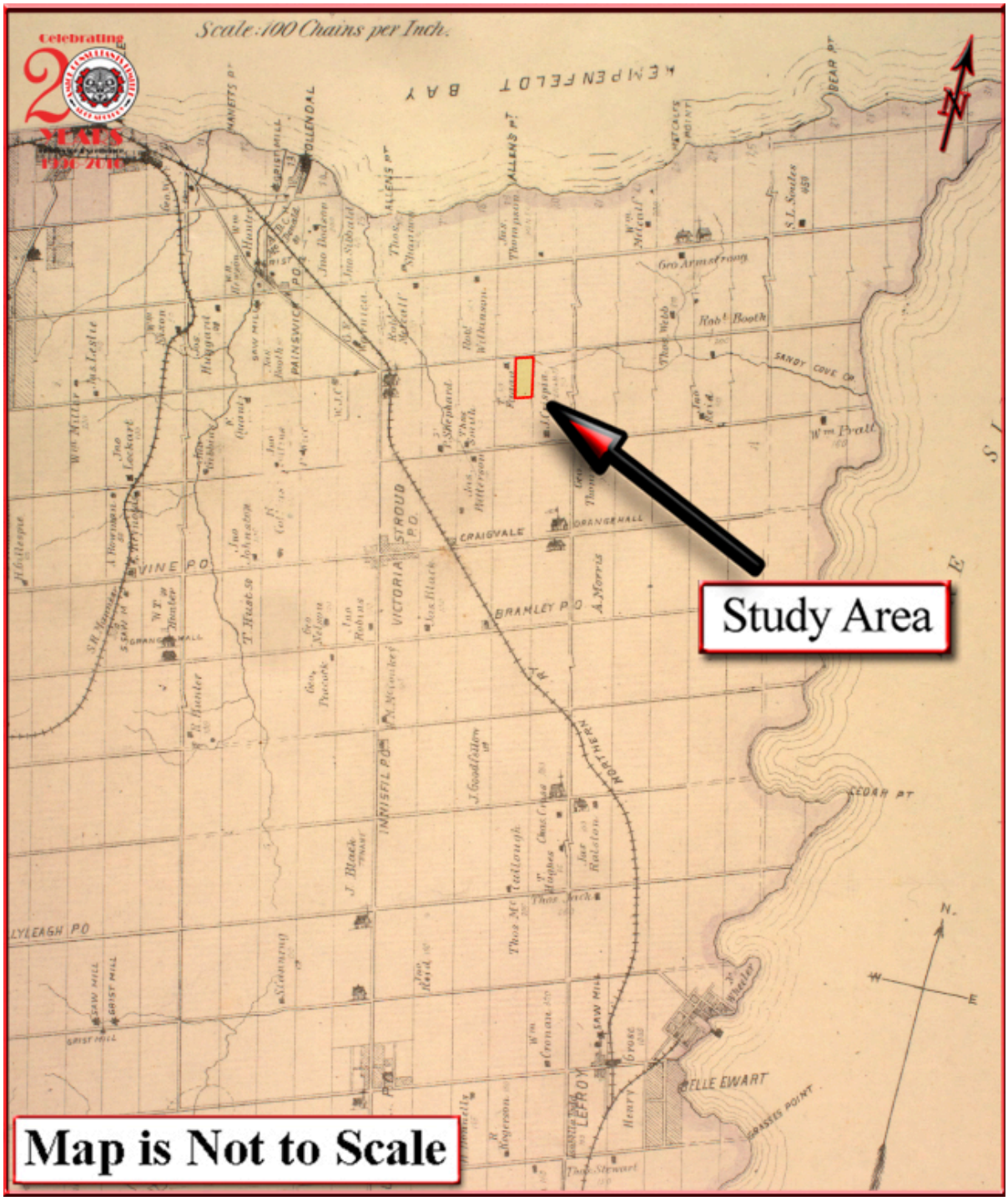
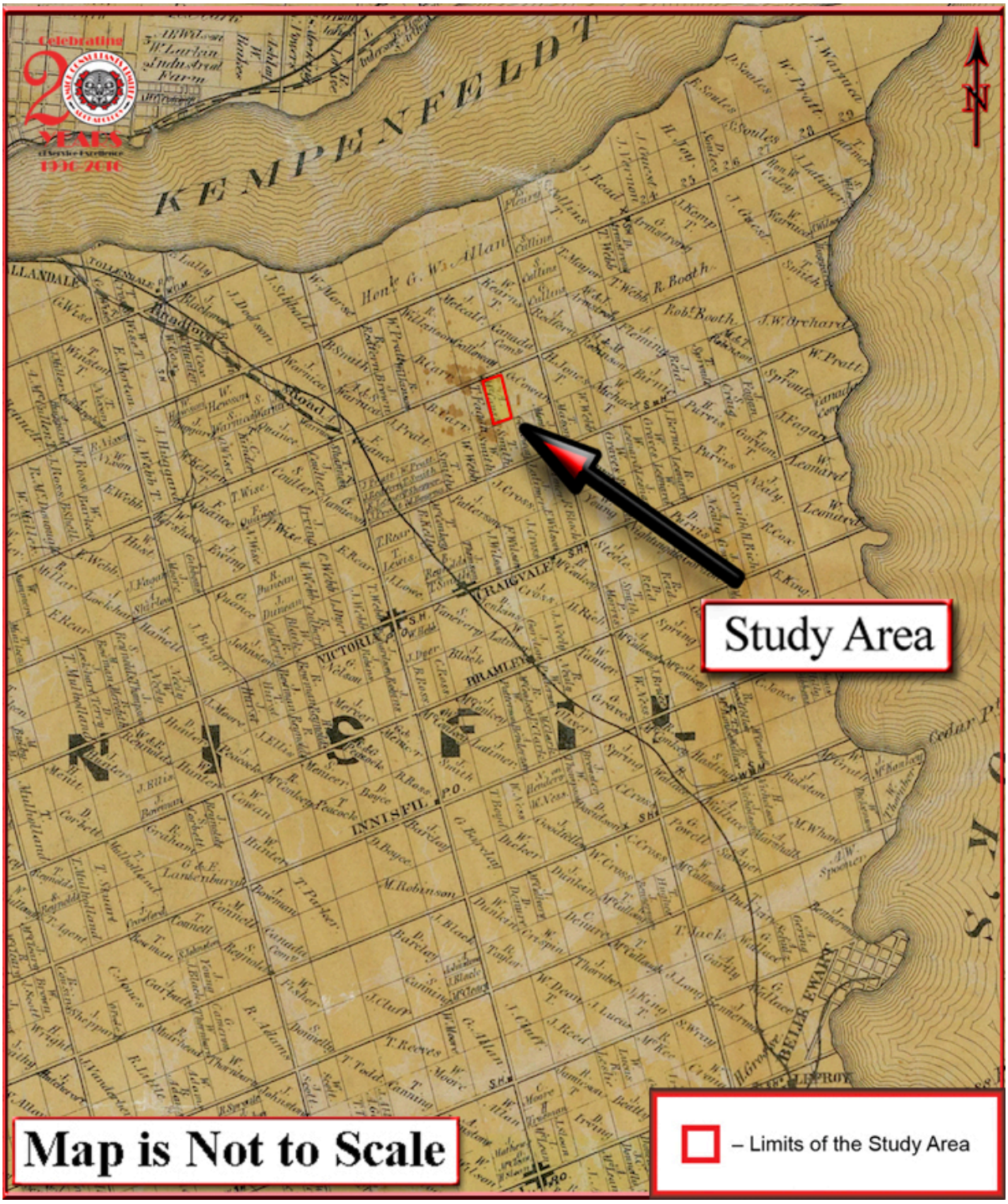
12.0 MAPS



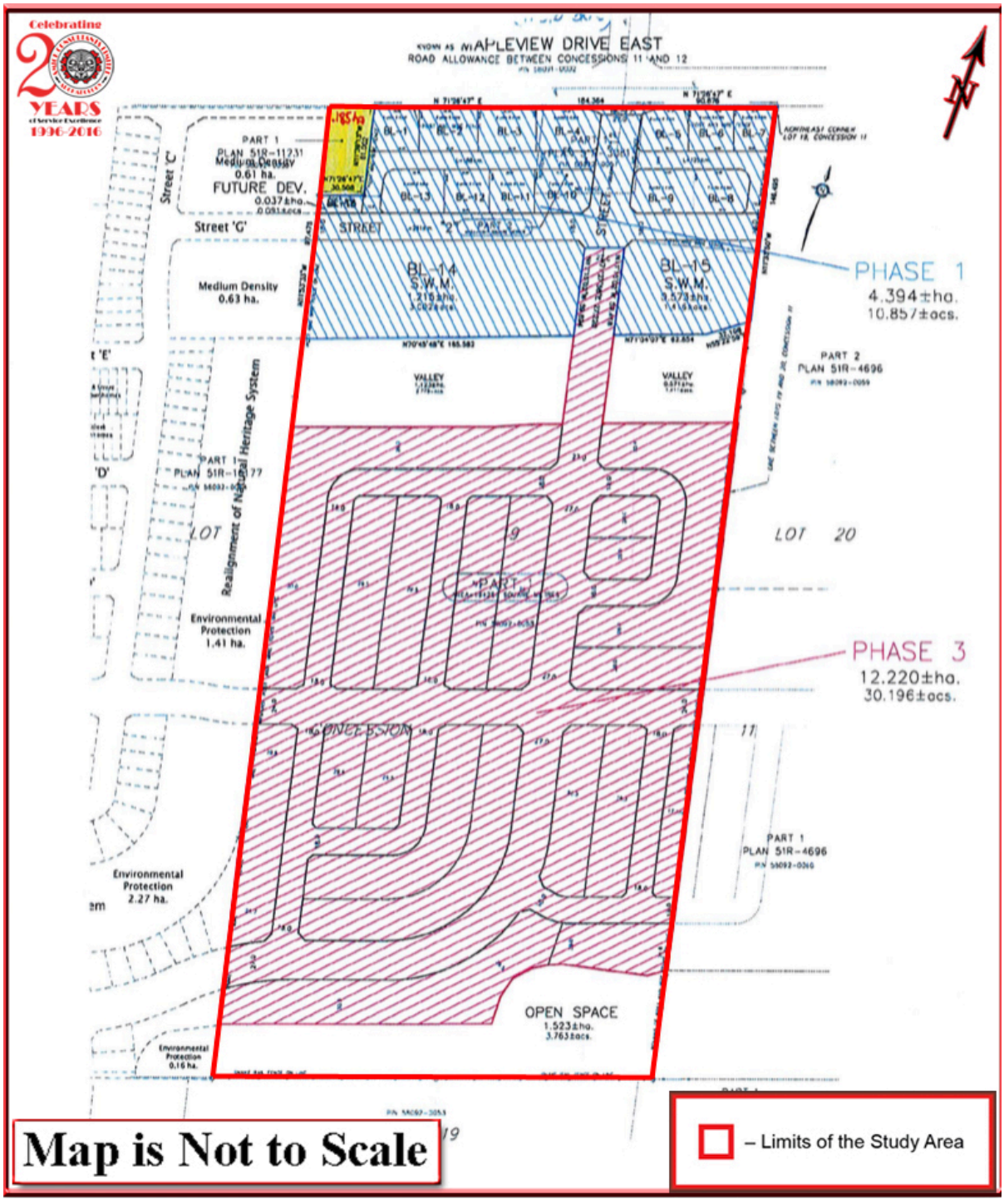
MAP 1 LOCATION OF THE STUDY AREA (ESRI 2021)



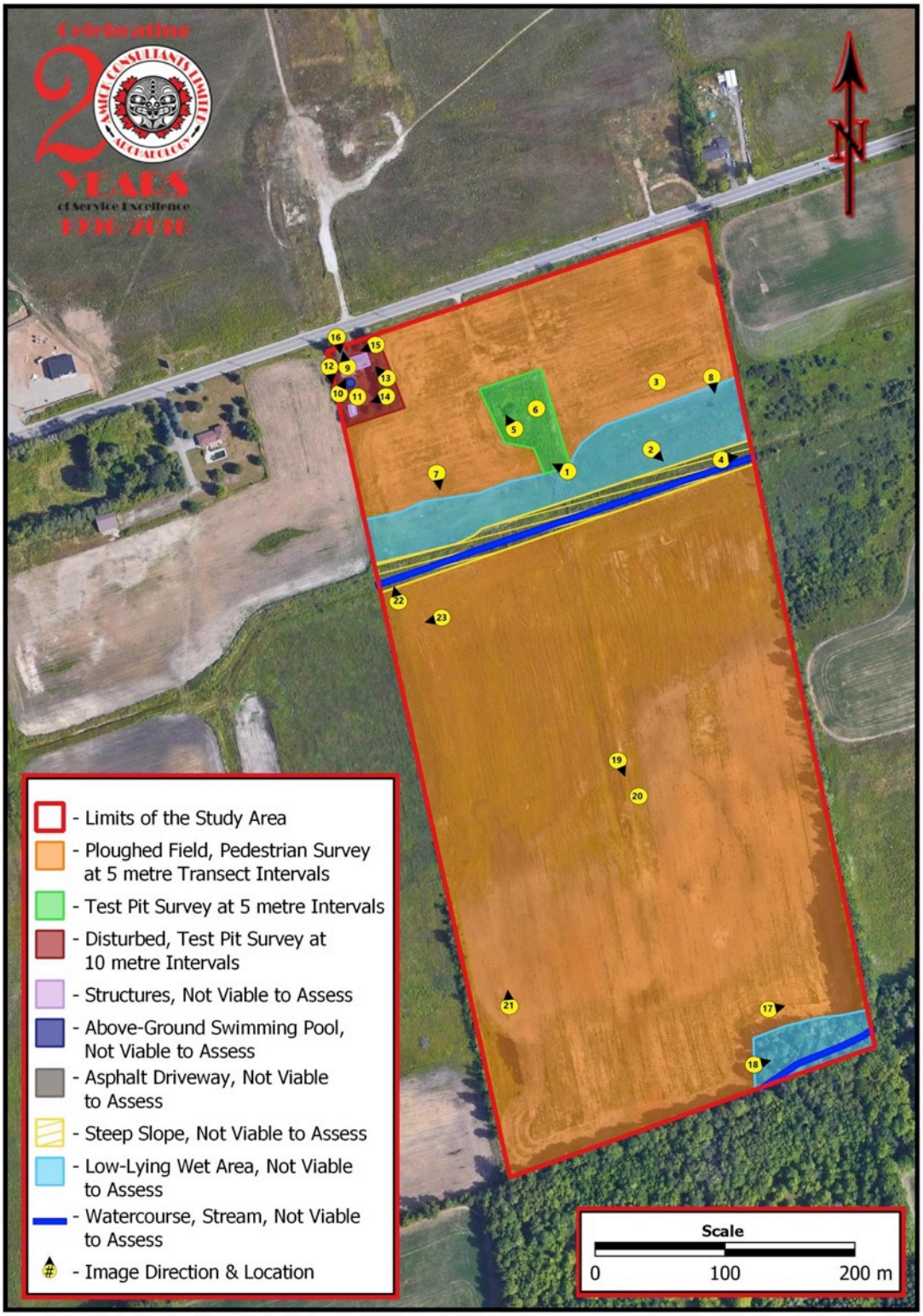
MAP 2 FACSIMILE SEGMENT OF THE SIMCOE SUPPLEMENT IN THE ILLUSTRATED ATLAS OF THE DOMINION OF CANADA (H. BELDEN & CO. 1881)



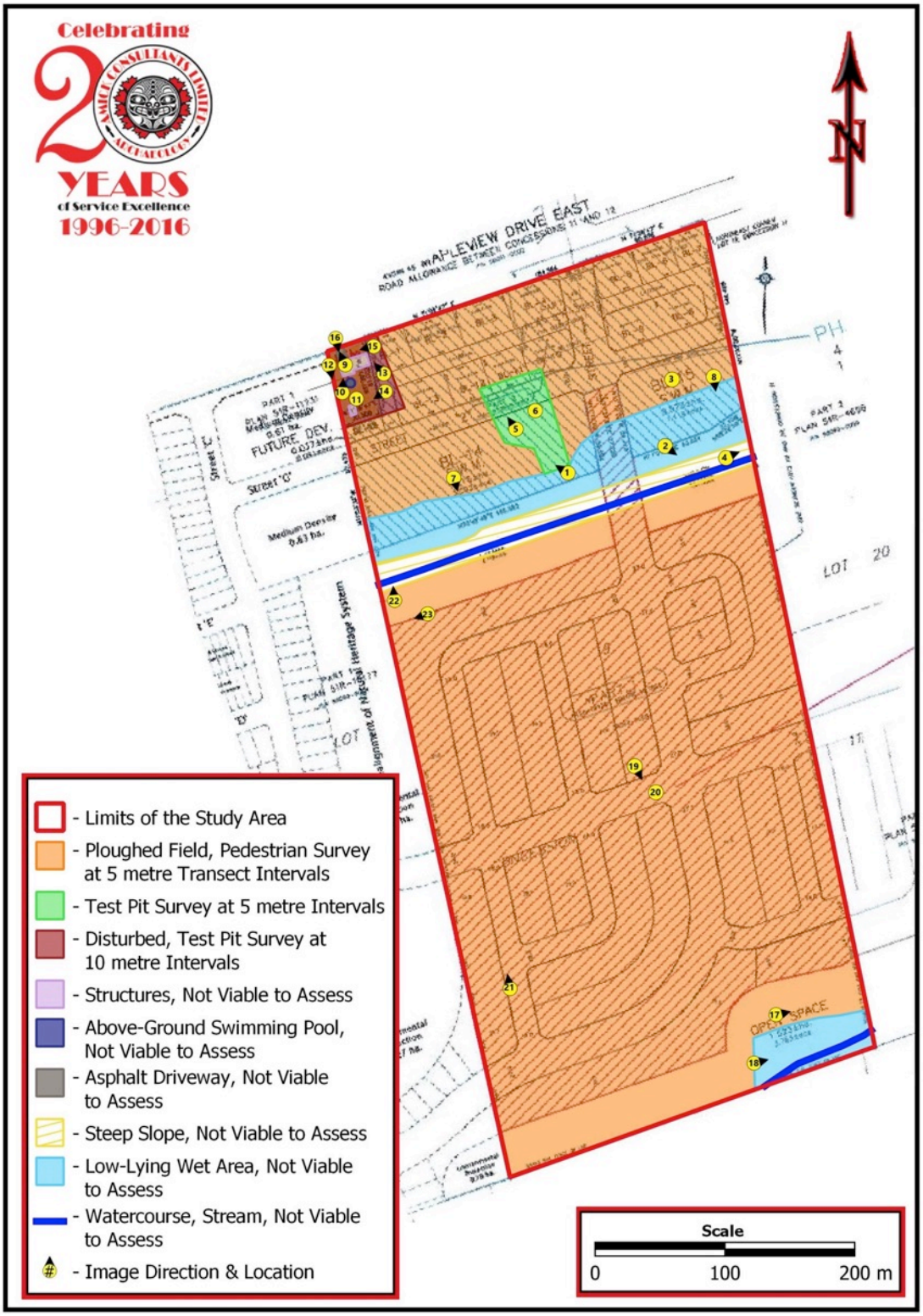
MAP 3 FACSIMILE SEGMENT OF HOGG'S MAP OF THE COUNTY OF SIMCOE (HOGG 1871)



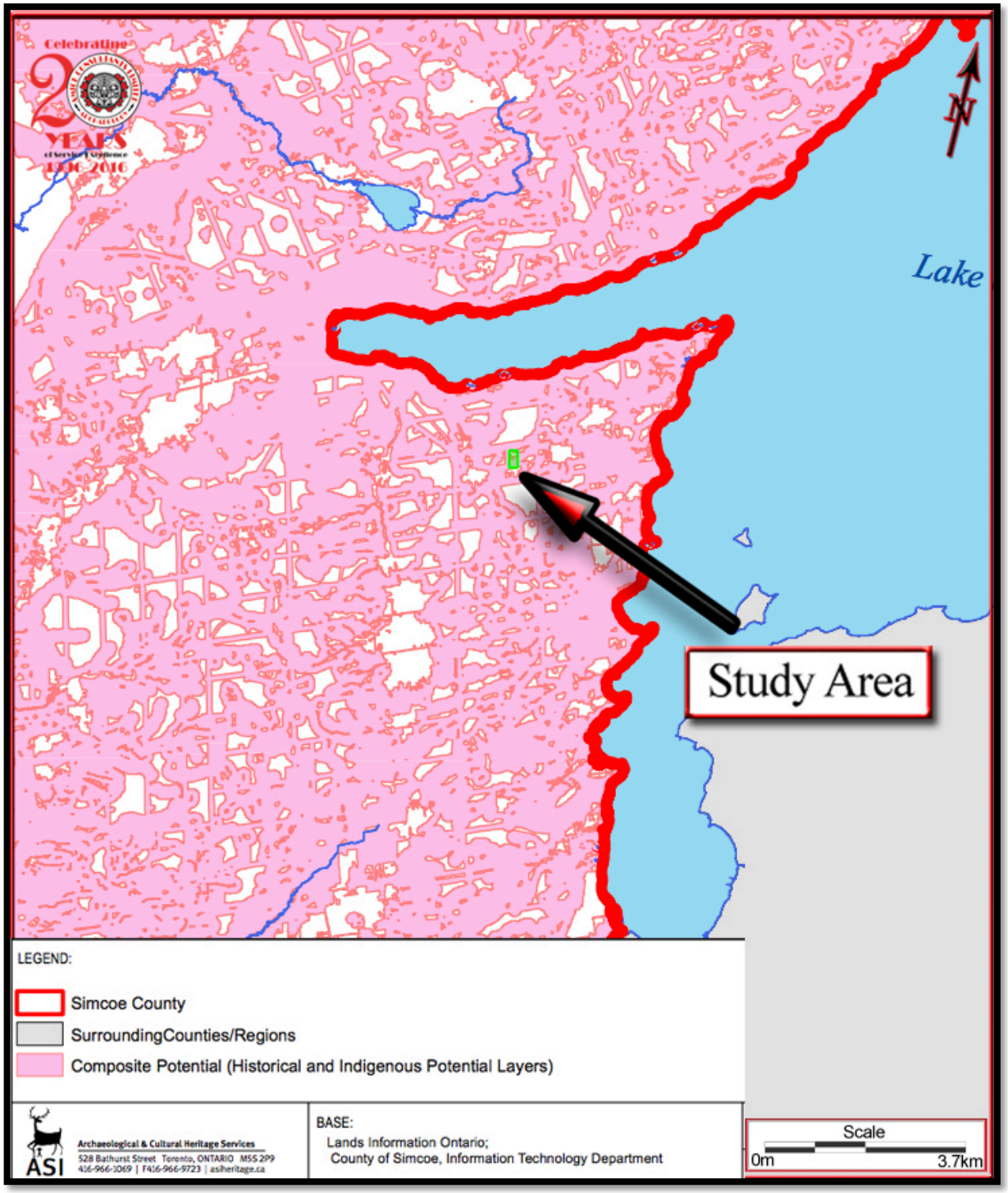
MAP 4 CONCEPT PLAN (SANDY CREEK ESTATES INC. 2020)



MAP 5 AERIAL PHOTO OF THE STUDY AREA (GOOGLE EARTH 2021)



MAP 6 DETAILED PLAN OF THE STUDY AREA



MAP 7 SIMCOE COUNTY ARCHAEOLOGICAL PO TENTIAL MAP AND THE LOCATION OF THE STUDY AREA (ASI 2019)

13.0 IMAGES

IMAGE 1 STEEP SLOPE AND LOW-LYING WET AREA

IMAGE 2 LOW-LYING WET AREA

IMAGE 3 SOIL CONDITIONS IN NORTH AGRICULTURAL FIELD

IMAGE 4 NORTHERN STREAM

IMAGE 5 MEADOW AREA

IMAGE 6 IN PROGRESS TEST PIT

IMAGE 7 OVERVIEW OF SOUTH FIELD FROM NORTH FIELD

IMAGE 8 VIEW OF LOW-LYING WET AREA AND SOUTHERN FIELD

IMAGE 9 ASPHALT DRIVEWAY

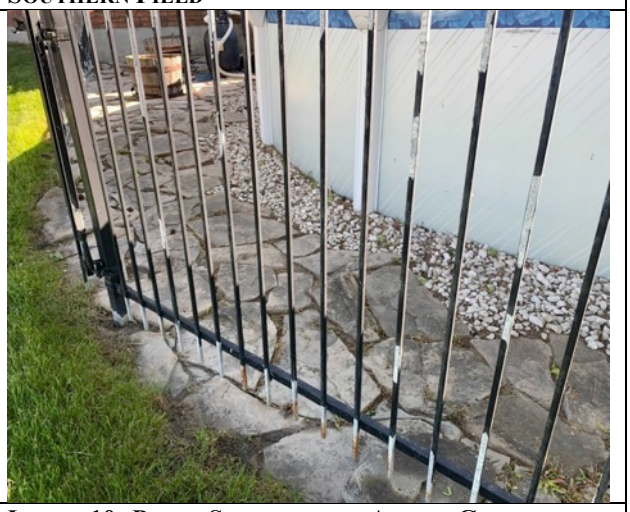


IMAGE 10 PATIO SURFACE AND ABOVE-GROUND POOL

IMAGE 11 DISTURBED TEST PIT

IMAGE 12 WEST SIDE OF RESIDENTIAL STRUCTURE

IMAGE 13 GRASS LAWN BEHIND RESIDENTIAL STRUCTURE

IMAGE 14 SHED

IMAGE 15 CREW AT WORK DIGGING TEST PITS AT 10M INTERVALS

IMAGE 16 ASPHALT DRIVEWAY

IMAGE 17 SOUTHEASTERN CORNER OF SOUTHERN FIELD

IMAGE 18 WOODED, LOW-LYING WET AREA IN SOUTHEASTERN PORTION OF STUDY AREA

IMAGE 19 CREW AT WORK CONDUCTING PEDESTRIAN SURVEY AT 5M TRANSECT INTERVALS

IMAGE 20 SOUTHERN FIELD SOIL CONDITIONS

IMAGE 21 OVERVIEW OF SOUTHERN AGRICULTURAL FIELD LOOKING NORTH

IMAGE 22 LOW-LYING WET AREA

IMAGE 23 OVERVIEW OF SOUTHERN AGRICULTURAL FIELD LOOKING EAST