



DRAFT: 12 DECEMBER 2023

STAGE 1 ARCHAEOLOGICAL BACKGROUND STUDY

1925 Concrete Single Span Bowstring Arch Bridge B4, a.k.a. Old Shiloh Bridge East, carrying Old Shiloh Road over Pefferlaw Brook, 750 meters west of Victoria Road in the Hamlet of Udora, Part of Lot 20, Concession 1 & 2 (Geographic Township of Georgina, County of York), Town of Georgina, Regional Municipality of York (AMICK Corporate File #: 2022-984/ MCM File #: P058-2273-2022)

SUBMITTED TO:

Ontario Ministry of Citizenship and Multiculturalism
(MCM)

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EXECUTIVE SUMMARY

This report describes the results of the 2023 Stage 1 Archaeological Background Study of 1925 Concrete Single Span Bowstring Arch Bridge B4, a.k.a. Old Shiloh Bridge East, carrying Old Shiloh Road over Pefferlaw Brook, 750 meters west of Victoria Road in the Hamlet of Udora, Part of Lot 20, Concession 1 & 2 (Geographic Township of Georgina, County of York), Town of Georgina, Regional Municipality of York, conducted by AMICK Consultants Limited. This assessment was undertaken as a requirement under the Environmental Assessment Act (RSO 1990) and was conducted under Professional Archaeologist License #P058 issued to Michael Henry by the Minister of Citizenship and Multiculturalism (MCM) for the Province of Ontario. All work was conducted in conformity with Ontario Ministry of Tourism and Culture (MTC) Standards and Guidelines for Consultant Archaeologists (MTC 2011) and the Ontario Heritage Act (RSO 1990a).

The entirety of the study area is approximately 0.06 hectares (ha) in area and includes within it 1925 Old Shiloh Bridge and Old Shiloh Road. The study area is bounded on the north by the Pefferlaw Brook and meadow, on the east by Old Shiloh Road, on the south by the Pefferlaw Brook and wetland, and on the west by Old Shiloh Road. AMICK Consultants Limited was engaged by the proponent to undertake a Stage 1 Background Study of lands potentially affected by the proposed undertaking and was granted permission to carry out archaeological fieldwork. Following the criteria outlined by MTC (2011) for determining archaeological potential, portions of the study area were determined as having archaeological potential for Pre-contact and Post-contact archaeological resources. Consequently, this report is being prepared in advance of the planning process for this property.

The entirety of the study area was subject to a desktop Stage 1 Archaeological Background Study on 11 January 2023. A property inspection and photographic documentation of the study area was completed on 27 November 2023. All records, documentation, field notes, photographs, and artifacts (as applicable) related to the conduct and findings of these investigations are held at the corporate offices of AMICK Consultants Limited until such time that they can be transferred to an agency or institution approved by the MCM on behalf of the government and citizens of Ontario.

The study area has been identified as a property that exhibits potential to yield archaeological deposits of cultural heritage value or interest (CHVI). The objectives of the Stage 1 Background Study have therefore been met and in accordance with the results of this investigation, the following recommendations are made:

1. *Due to previous extensive subsurface disturbances and presence of steep slope throughout the entirety of the study area, the proposed undertaking no longer retains potential for archaeological resources.*
2. *No further archaeological assessment of the study area is warranted.*
3. *The Provincial interest with respect to archaeological resources within the limits of the study area has been addressed.*

1.0 PROJECT CONTEXT

1.1 DEVELOPMENT CONTEXT

This report describes the results of the 2023 Stage 1 Archaeological Background Study of 1925 Concrete Single Span Bowstring Arch Bridge B4, a.k.a. Old Shiloh Bridge East, carrying Old Shiloh Road over Pefferlaw Brook, 750 meters west of Victoria Road in the Hamlet of Udora, Part of Lot 20, Concession 1 & 2 (Geographic Township of Georgina, County of York), Town of Georgina, Regional Municipality of York, conducted by AMICK Consultants Limited. This assessment was undertaken as a requirement under the Environmental Assessment Act (RSO 1990) and was conducted under Professional Archaeologist License #P058 issued to Michael Henry by the Minister of Citizenship and Multiculturalism (MCM) for the Province of Ontario. All work was conducted in conformity with Ontario Ministry of Tourism and Culture (MTC) Standards and Guidelines for Consultant Archaeologists (MTC 2011) and the Ontario Heritage Act (RSO 1990a).

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The proposed development of the study area includes the replacement of the 1925 concrete single span bowstring arch bridge B4, a.k.a. Old Shiloh Bridge East. Three draft concepts for the replacement has been submitted with this report for MCM to review and appended to this report as Maps 4 – 6.

1.2 HISTORICAL CONTEXT

1.2.1 PRE-CONTACT LAND-USE OUTLINE

Table 1 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 1 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)

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

1.2.1.1 PALEO-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.

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

By about 8000 B.C. the gradual transition from a post glacial tundra-like environment to an essentially modern environment was largely complete. Prior to European clearance of the landscape for timber and cultivation, the area was characterized by forest. The Archaic Period is the longest and the most apparently stable of the cultural periods identified through

archaeology. The Archaic Period is divided into the Early, Middle and Late Sub-Periods, each represented by specific styles in projectile point manufacture. Many more sites of this period are found throughout Ontario, than of the Palaeo-Indian Period. This is probably a reflection of two factors: the longer period of time reflected in these sites, and a greater population density. The greater population was likely the result of a more diversified subsistence strategy carried out in an environment offering a greater variety of abundant resources (Smith 2002:58-59).

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

The material culture of this period is much more extensive than that of the Palaeo-Indians. Stylistic changes between Sub-Periods and cultural groups are apparent, although the overall quality in production of chipped lithic tools seems to decline. This period sees the introduction of ground stone technology in the form of celts (axes and adzes), manos and metates for grinding nuts and fibres, and decorative items like gorgets, pendants, birdstones, and bannerstones. Bone tools are also evident from this time period. Their presence may be a result of better preservation from these more recent sites rather than a lack of such items in earlier occupations. In addition, copper and exotic chert types appear during the period and are indicative of extensive trading (Smith 2002: 58-59).

1.2.1.3 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 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.

1.2.2 POST-CONTACT LAND USE OUTLINE

York County's boundaries were originally from Lake Ontario to Lake Simcoe, until 1834. The County of York was originally comprised of ten townships and the Town of York (now Toronto) until Toronto separated and incorporated in 1834 (Town of Whitchurch-Stouffville 2010).

The present-day Town of Georgina was created through the amalgamation of the Township of Georgina and the Township of North Gwillimbury in 1971. The largest of the communities now within the Town of Georgina are Keswick and Sutton. Keswick was once known as Medina and is the largest urban community within the Town of Georgina. It was originally a village in the Township of North Gwillimbury before amalgamation with Sutton to form the Town of Georgina. Sutton was originally a mill site named Bouchier Mills in honour of the builder of the dam on the Black River which was constructed in 1831. In 1864 the village name was changed to Sutton (Town of Georgina 2012).

Map 2 is a facsimile segment from Tremaine's Map of the County of Peel (Tremaine 1860). Map 2 illustrates the location of the study area and environs as of 1860. The study area is shown to belong to Jacob Shier to the north as well as L. Thomas & J H Ferry to the south; structures are shown in the study area. In addition, this map illustrates a stream channel from a river named Black River as crossing through the study area from north to south and a settlement road is depicted as crossing through the study area from east to west. This road is the current Old Shiloh Road, and the stream channel is a tributary stream of the Pefferlaw River, named Pefferlaw Brook.

Map 3 is a facsimile segment from Illustrated Historical Atlas of the County of York and the Township of West Gwillimbury & Town of Bradford in the County of Simcoe, Ont. (Miles & Co. 1878). Map 3 illustrates the location of the study area and environs as of 1878. The study area is shown to belong to Tho. Sampley to the north as well as W. Graham; no structures are shown to be in the study area, though there are four houses and an orchard in close proximity. In addition, this map illustrates an unnamed stream channel crossing through the study area from north to south and a settlement road is depicted as crossing through the study area from east to west. This road is the current Old Shiloh Road, and the stream channel is a tributary stream of the Pefferlaw River, named Pefferlaw Brook.

Three draft concept plan options for the replacement of the bridge are included within this report as Maps 4 – 6. Current conditions encountered during the Stage 1 Background Study are illustrated in Maps 7 – 10.

1.2.3 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. However, it also appears that while the area was moving toward urban development by the fourth quarter of the 19th century, it was still

predominantly rural in character and the likelihood of locating significant Post-contact archaeological deposits of cultural heritage value or interest (CHVI) on a very small parcel of the original township lot is not likely. Background research indicates the property has potential for significant archaeological resources of Native origins based on proximity to a natural source of potable water in the past.

1.3 ARCHAEOLOGICAL CONTEXT

The study area is located near Udora and York Regional Forest and is bounded on the north by the Pefferlaw Brook and meadow, on the east by Old Shiloh Road, on the south by the Pefferlaw Brook and wetland, and on the west by Old Shiloh Road.

The 1925 Old Shiloh Bridge is present within the study area, which heavily impacts the majority of the study area. The remainder of the study area consists of steep slope.

1.3.1 PHYSIOGRAPHIC REGION

The study area is situated within the Simcoe Lowlands physiographic region (Chapman and Putnam 1984:177-182). For the most part, at one time, this restricted basin was part of the floor of glacial Lake Algonquin, and its surface beds are deposits of deltaic and lacustrine origin, and not glacial outwash. As a small basin shut in by the Edenvale Moraine, the Minesing flats represent an annex of the glacial Lake Nipissing plains. (Chapman and Putnam 1984: 177-182).

The lowlands bordering Georgian Bay and Lake Simcoe may be termed the Simcoe lowlands. Together they cover an area of about 1,100 square miles. They fall naturally into two major divisions separated by the uplands of Simcoe County. To the west are the plains draining into Nottawasaga Bay mostly by way of the Nottawasaga River. This area is called the Nottawasaga basin. To the east is the lowland surrounding Lake Simcoe, referred to as the Lake Simcoe basin. These two basins are connected at Barrie by a flat-floored valley and by similar valleys among the upland plateaux farther north. Both the lowlands and transverse valleys were flooded by Lake Algonquin and are bordered by shorecliffs, beaches, and bouldery terraces. Thus, they are floored by sand, silt, and clay.

The study area is on Trenton-Black River bedrock, which is a limestone and dolostone formation. The soils are characterized by mainly imperfectly drained Tecumseth sandy loam. It is a sandy soil with good drainage. (Hoffman and Richards 1955).

1.3.2 SURFACE WATER & VEGETATION

The Pefferlaw Brook passes from north to south through the center of the study area. The Pefferlaw River comes from Simcoe Lake and has many tributary stream channels. The river can be seen in Map 1. The vegetation that can be seen in this area is typical of low-lying wetlands, which can be seen around the study area.

1.3.3 LITHIC SOURCES

The study area is located near the Upper Bobcaygeon Formation which has outcrops of Balsam Lake chert. Balsam Lake is a member of the Middle Ordovician Upper Bobcaygeon and is found in beds in central Ontario near the Trent-Severn waterway (Armstrong 2018: 74). Balsam Lake chert is distinguished by its bluish grey colour wherein fossils are more visible due to quartz replacement (Eley and von Bitter 1989: 24), although its appearance varies between outcroppings to include light to medium grey tones and finer textures.

The closest known outcrops of Balsam Lake are located approximately 45 kilometers northeast of the study area. There are unknown outcrops located approximately 40 kilometers northeast of the study area as well.

1.3.4 REGISTERED ARCHAEOLOGICAL SITES

The Archaeological Sites Database administered by the MCM indicates that there are two (2) previously documented sites within one kilometre of the study area. However, it must be noted that this assumes the accuracy of information compiled from numerous researchers using different methodologies over many years. AMICK Consultants Limited assumes no responsibility for the accuracy of site descriptions, interpretations such as cultural affiliation, or location information derived from the Archaeological Sites Database administered by MCM. In addition, it must also be noted that a lack of formerly documented sites does not indicate that there are no sites present as the documentation of any archaeological site is contingent upon prior research having been conducted within the study area.

1.3.4.1 PRE-CONTACT REGISTERED SITES

A summary of registered and/or known archaeological sites within a 1-kilometre radius of the study area was gathered from the Archaeological Sites Database, administered by MCM. As a result, it was determined that 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

Borden #	Site Name	Time Period	Affinity	Site Type
BbGt-4	Udora S/E field site	Paleo-Indian		
BbGt-12	Mehl Site	Archaic, Paleo-Indian		

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.

1.3.4.2 POST-CONTACT REGISTERED SITES

A summary of registered and/or known archaeological sites within a 1-kilometre radius of the study area was gathered from the Archaeological Sites Database, administered by MCM. As a result, it was determined that zero (0) archaeological sites relating directly to Post-contact habitation/activity had been formally registered within the immediate vicinity of the study area.

1.3.4.3 REGISTERED SITES OF UNKNOWN CULTURAL AFFILIATION

A summary of registered and/or known archaeological sites within a 1-kilometre radius of the study area was gathered from the Archaeological Sites Database, administered by MCM. As a result, it was determined that zero (0) archaeological sites of unknown cultural affiliation have been formally registered within the immediate vicinity of the study area.

1.3.5 PREVIOUS ARCHAEOLOGICAL ASSESSMENTS

On the basis of information supplied by MCM, no archaeological assessments have been conducted within 50 metres of the study area. AMICK Consultants Limited assumes no responsibility for the accuracy of previous assessments, interpretations such as cultural affiliation, or location information derived from the Archaeological Sites Database administered by MCM. In addition, it must also be noted that the lack of formerly documented previous assessments does not indicate that no assessments have been conducted.

1.3.5.1 PREVIOUS REGIONAL ARCHAEOLOGICAL POTENTIAL MODELLING

The study area is situated within an area subject to an archaeological master plan or a similar regional overview study. Amongst other initiatives, the York Region Archaeological Management Plan was compiled to reduce the risk of unforeseen development impacts on archaeological sites by creating an archaeological potential model of the Region. Various potential layers comparing, and documenting known archaeological sites, soil types, proximity to water, and the effects of modern previous development were all buffered into a

composite potential. For a detailed account of how these layers were developed, refer to the York Region Archaeological Plan (2019: 44-52). Based on the composite potential modeling weighed against a potential integrity model, the current study area was found to be within an area of archaeological potential. The archaeological potential map has been produced in Map 11.

1.3.6 HISTORIC PLAQUES

There are no relevant plaques associated with the study area, which would suggest an activity or occupation within, or near, the study area that may indicate potential for associated archaeological resources of significant CHVI.

1.3.7 SUMMARY OF ARCHAEOLOGICAL CONTEXT

The 1925 Old Shiloh Bridge East and Old Shiloh Road is present within the study area, which heavily impacts the majority of the study area. The remainder of the study area consists of steep slope.

Current conditions within the study area indicate that the property may have no or low archaeological potential and does not require Stage 2 Property Assessment. These areas would include the Old Shiloh Bridge East and areas of steep slope. Therefore, a Stage 2 Property Assessment is not required.

Background research also indicates that the study area is situated in the Simcoe Lowlands physiographic region, which is characterized by Tecumseth sandy loam with good drainage. In addition, the study area is located near the Upper Bobcaygeon Formation which has outcrops of Balsam Lake chert.

Two previously registered archaeological sites have been documented within 1km of the study area. They are Pre-contact; none are Post-contact or of unknown cultural affiliation. None of these sites are located within 300m of the study area and, therefore, do not demonstrate archaeological potential for further archaeological resources of Pre-contact and Post-contact activity and occupation with respect to the archaeological assessment of the current study area.

The study area is situated within an area subject to an archaeological master plan or a similar regional overview study. There are no relevant plaques associated with the study area.

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.

2.0 PROPERTY INSPECTION

A property inspection was carried out in compliance with Standards and Guidelines for Consultant Archaeologists (MTC 2011) 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. 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 7 – 10 of this report.

The documentation produced during the field investigation conducted in support of this report includes: one sketch map, one page of field notes, and 38 digital photographs.

3.0 ANALYSIS AND CONCLUSIONS

3.1 STAGE 1 ANALYSIS AND CONCLUSIONS

3.1.1 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). 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 include:

- 1) Within 300m of Previously Identified Archaeological Sites
- 2) Within 300m of Primary Water Sources (e.g., lakes, rivers, streams, and creeks)
- 3) Within 300m of Secondary Water Sources (e.g., intermittent streams and creeks, springs, marshes, and swamps)
- 4) Within 300m of 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, and cobble beaches)
- 5) Within 300m of an Accessible or Inaccessible Shoreline (e.g., high bluffs, swamp, or marsh fields by the edge of a lake, sandbars stretching into marsh)
- 6) Elevated Topography (e.g., eskers, drumlins, large knolls, and plateaux)

- 7) Pockets of Well-drained Sandy Soil, especially near areas of heavy soil or rocky ground.
- 8) 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.
- 9) Resource Areas, including:
 - food or medicinal plants (e.g., migratory routes, spawning areas, and prairie)
 - scarce raw materials (e.g., quartz, copper, ochre, or outcrops of chert)
 - resources of importance to early Post-contact industry (e.g., logging, prospecting, and mining)
- 10) Within 300m of Areas of Early Post-contact Settlement, including:
 - military or pioneer settlement (e.g., pioneer homesteads, isolated cabins, and farmstead complexes)
 - early wharf or dock complexes, pioneer churches and early cemeteries
- 11) Within 100m of Early Historical Transportation Routes (e.g., trails, passes, roads, railways, portage routes)
- 12) Heritage Property – A property listed on a municipal register or designated under the Ontario Heritage Act or is a federal, provincial, or municipal historic landmark or site.
- 13) Documented Historical or Archaeological Sites – 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.

The study area is situated on top of the Pefferlaw River which is a primary water source and a navigable waterway. The study area is situated within 100m of an early settlement road that appears on the historic atlas maps of 1860 and 1878. This historic road corresponds to the road presently known as Old Shiloh Road which is directly adjacent to the study area on its eastern and western edge.

3.1.2 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). These characteristics include:

- 1) Quarrying

- 2) Major Landscaping Involving Grading Below Topsoil
- 3) Building Footprints
- 4) Sewage and Infrastructure Development

The study area contains the Old Shiloh Bridge East.

3.1.3 SUMMARY OF ARCHAEOLOGICAL POTENTIAL

Table 3 below summarizes the evaluation criteria of the Ministry of Citizenship and Multiculturalism (MCM) together with the results of the Stage 1 Background Study for the proposed undertaking. Based on the criteria, the property is deemed to have archaeological potential on the basis of proximity to water, proximity to historic settlement structures, and the location of early historic settlement roads adjacent to the study area.

TABLE 3 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.)	Y			If Yes, potential determined
2b	Secondary water source within 300 m. (stream, spring, marsh, swamp, etc.)		N		If Yes, potential determined
2c	Past water source within 300 m. (beach ridge, riverbed, 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.	Y			If Yes, and Yes for any of 3-6, 8-9, potential determined
8	Historic Transportation route within 100 m. (historic road, trail, portage, rail corridors, etc.)	Y			If Yes, and Yes for any 3-7 or 9, potential determined
9	Contains property designated and/or listed under the <u>Ontario Heritage Act</u> (municipal heritage committee, municipal register, etc.)		N		If Yes and, Yes to any of 3-8, potential determined
APPLICATION-SPECIFIC INFORMATION					
10	Local knowledge (local heritage organizations, Pre-contact, etc.)		N		If Yes, potential determined
11	Recent disturbance not including agricultural cultivation (post-1960-confirmed extensive and intensive including industrial sites, aggregate areas, etc.)		N		If Yes, no potential or low potential in affected part (s) of the study area.

If **YES** to any of 1, 2a-c, or 10 Archaeological Potential is **confirmed**

If **YES** to 2 or more of 3-9, Archaeological Potential is **confirmed**

If **YES** to 11 or No to 1-10 Low Archaeological Potential is **confirmed** for at least a portion of the study area.

4.0 RECOMMENDATIONS

4.1 STAGE 1 RECOMMENDATIONS

The study area has been identified as a property that exhibits potential to yield archaeological deposits of cultural heritage value or interest (CHVI). The objectives of the Stage 1 Background Study have therefore been met and in accordance with the results of this investigation, the following recommendations are made:

1. *Due to previous extensive subsurface disturbances and presence of steep slope throughout the entirety of the study area, the proposed undertaking no longer retains potential for archaeological resources.*
2. *No further archaeological assessment of the study area is warranted.*
3. *The Provincial interest with respect to archaeological resources within the limits of the study area has been addressed.*

5.0 ADVICE ON COMPLIANCE WITH LEGISLATION

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

- a. *This report is submitted to the Minister of [Citizenship and Multiculturalism] as a condition of licensing in accordance with Part VI of the Ontario Heritage Act, R.S.O. 1990, c. 0.18. The report is reviewed to ensure that it complies with the standards and guidelines issued by the Minister, and that the archaeological fieldwork and report recommendations ensure the conservation, protection, and preservation of the cultural heritage of Ontario. When all matters relating to archaeological sites within the project area of a development proposal have been addressed to the satisfaction of the Ministry 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.

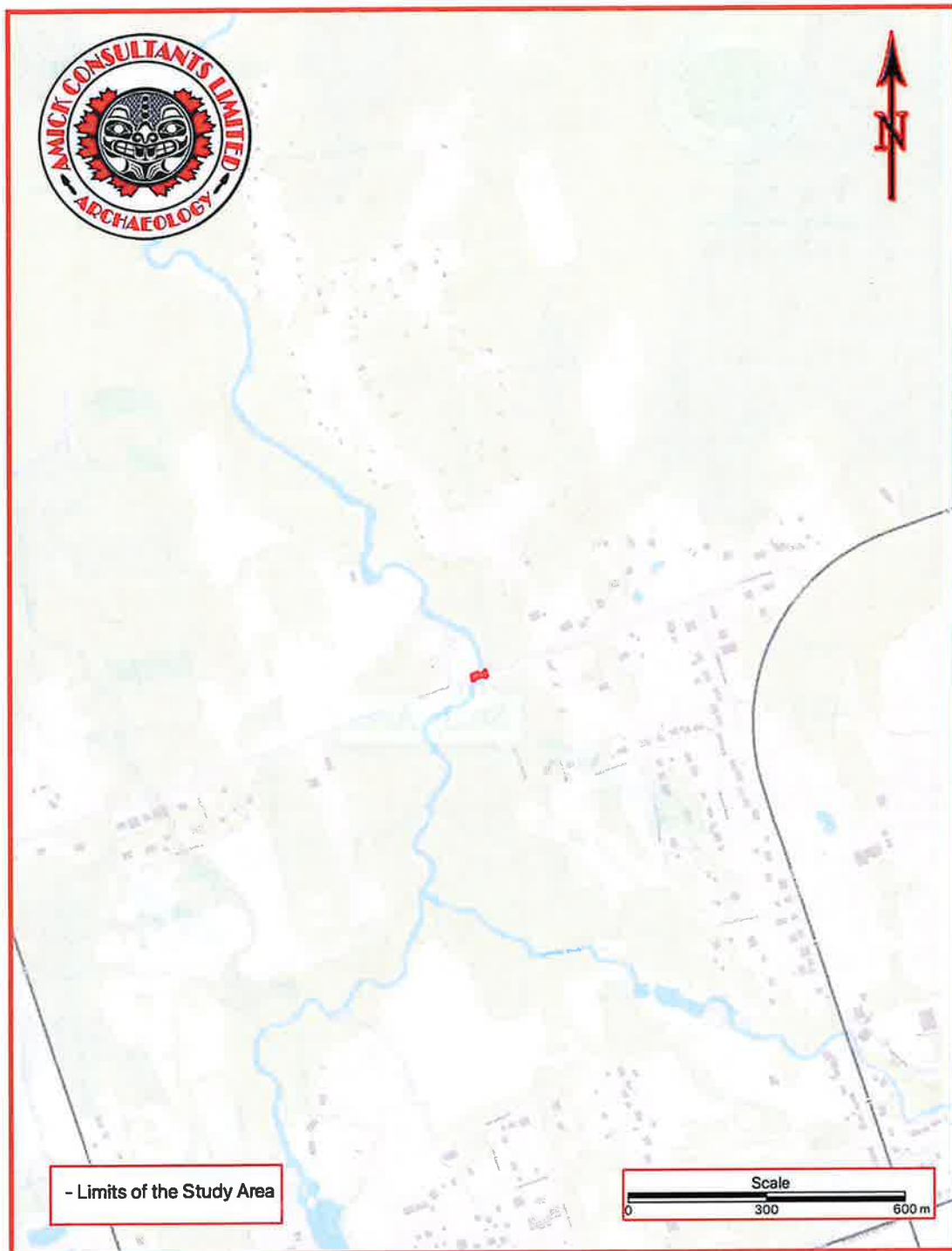
- d. The Cemeteries Act, R.S.O. 1990, c. C.4 and the Funeral, Burial and Cremation Services Act, 2002, S.O. 2002, c.33 (when proclaimed in force) require that any person discovering human remains must notify the police or coroner and the Registrar of Cemeteries at the Ministry of Consumer Services.*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

WORKS CITED

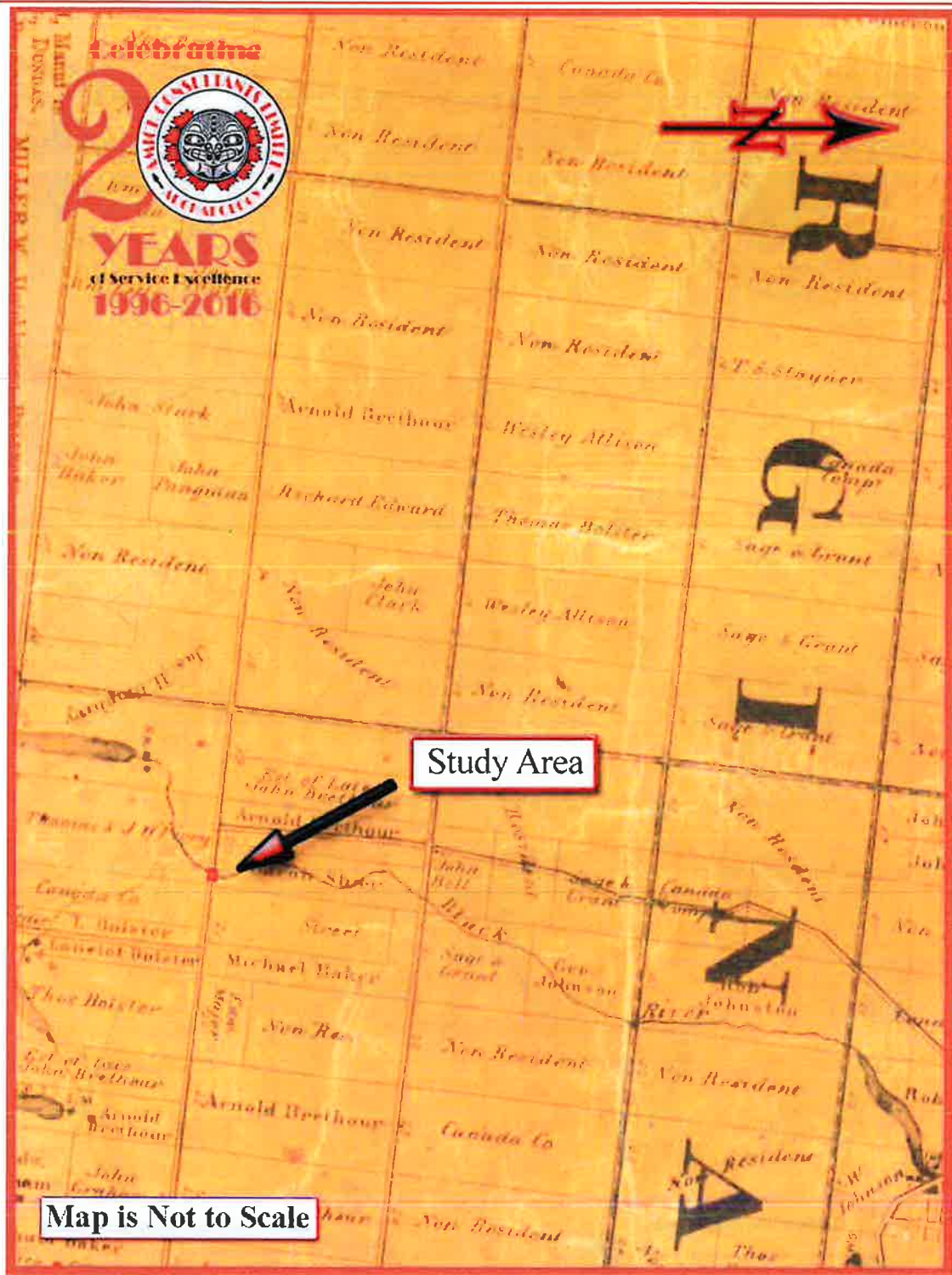
- Armstrong, Mackenzie P. (2018). The Development of a Digital Comparative Collection of Chert Types in Ontario and the Evaluation of Change in Accuracy and Confidence of Chert Type Identifications. [Master's thesis, Trent University]. Retrieved Jan 6, 2021, from URL: <http://digitalcollections.trentu.ca/islandora/search/chert?type=dismax>.
- Chapman, L.J. & D.F. Putnam. (1984). *The Physiography of Southern Ontario (Third Edition)*. Ontario Geological Survey, Special Report #2. Ontario Ministry of Natural Resources, Toronto.
- Eley, B. E. and P. H. von Bitter. (1989) *Cherts of Southern Ontario*. Publications in Archaeology, Royal Ontario Museum, Toronto.
- Environmental Assessment Act, RSO 1990b, Government of Ontario. (Queen's Printer, Toronto).
- Esri (2019). "Topographic" [basemap]. Scale Not Given. "World Topographic Map." February 16, 2021.
<http://www.arcgis.com/home/item.html?id=30e5fe3149c34df1ba922e6f5bbf808f>
(February 16, 2021).
- Goel, Tarun (2013). Road Construction: History and Procedure. Bright Hub Engineering. Retrieved 24 May 2015 from URL: <http://www.brighthouseengineering.com/structural-engineering/59665-road-construction-history-and-procedure/>
- Google Earth (Version 6.2.5200.0) [Software]. (2016). Available from <http://www.google.com/earth/index.html>.
- Hoffman, D.W & N.R Richards (1955). Ontario Soil Survey Report No. 19: Soils of York County. Ontario Agricultural College & Experimental Farms Service, Guelph.
- Miles & Co. (1878). *Illustrated Historical Atlas of the County of York and the Township of West Gwillimbury & Town of Bradford in the County of Simcoe, Ont.* Miles & Co., Toronto.
- Ontario Heritage Act, RSO 1990a, Government of Ontario. (Queen's Printer, Toronto).
- Ontario Heritage Amendment Act, SO 2005, Government of Ontario. (Queen's Printer, Toronto).
- Ontario Ministry of Tourism and Culture (MTC). (2011). *Standards and Guidelines for Consultant Archaeologists*. (Programs and Services Branch: Culture Programs Unit, Toronto).
- Provincial Policy Statement (2020). Government of Ontario. (Queen's Printer, Toronto).

- The Regional Municipality of York. (2014; 2019 update). *Planning for the Conservation of Archaeological Resources in York Region*. The Regional Municipality of York: Newmarket. Retrieved May 12, 2020, from URL: https://www.york.ca/wps/wcm/connect/yorkpublic/b8461c7d-fed7-4f21-b1c28693efb596a0/19141_archaeologicalMgmtPlan2014UpdateNov2019.pdf?MOD=AJPERES&CVID=mWzc3j9.
- Smith, David G. (2002). "Ten Thousand Years: Aboriginal Heritage in Mississauga." In *Mississauga: The First 10,000 Years*. Frank Dieterman, Ed. Mississauga Heritage Foundation, Eastendbooks, Toronto.
- Town of Georgina (2012). *Georgina Pioneer Village and Archives: A Place to Explore Georgina's Rich History*. Retrieved 18 November 2012 from <http://www.georginapioneervillage.ca/>
- Town of Whitchurch-Stouffville. (2010). *A Brief History of Whitchurch-Stouffville*. Retrieved April 29, 2010, from <http://www.townofws.com/history.asp>
- Tremaine, George. (1860). *Tremaine's Map of the County of York, Canada West* [map]. George C. Tremaine, Toronto. Retrieved January 23, 2017, from the Ontario Historical County Maps Project in association with University of Toronto Map and Data Library URL: <http://maps.library.utoronto.ca/hgis/countymaps/york/index.html>.
- Wright, J.V. (1972). *Ontario Prehistory: an Eleven-thousand-year Archaeological Outline*. Archaeological Survey of Canada. National Museum of Man, Ottawa.

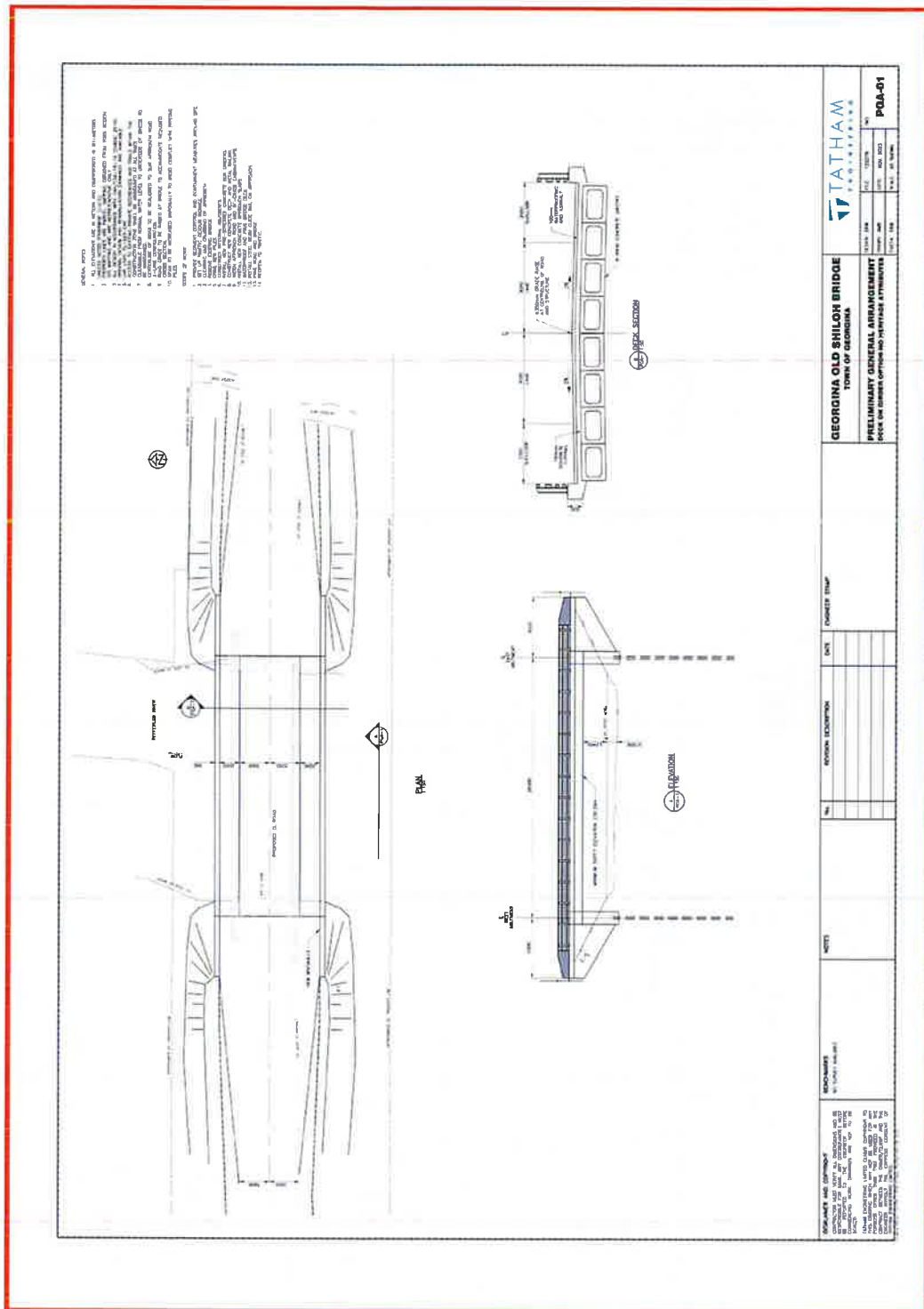
MAPS



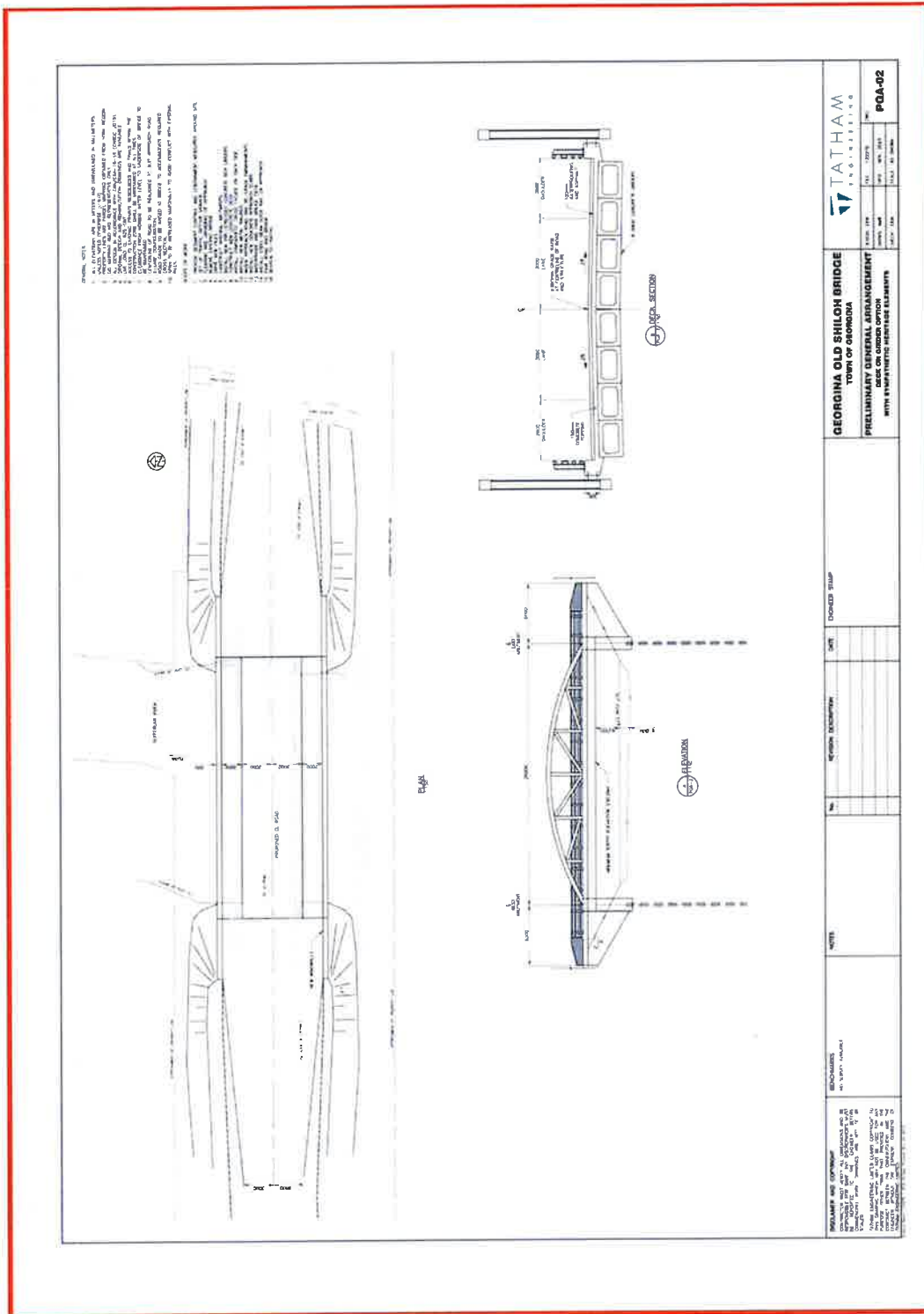
MAP 1 LOCATION OF THE STUDY AREA (ESRI 2019)



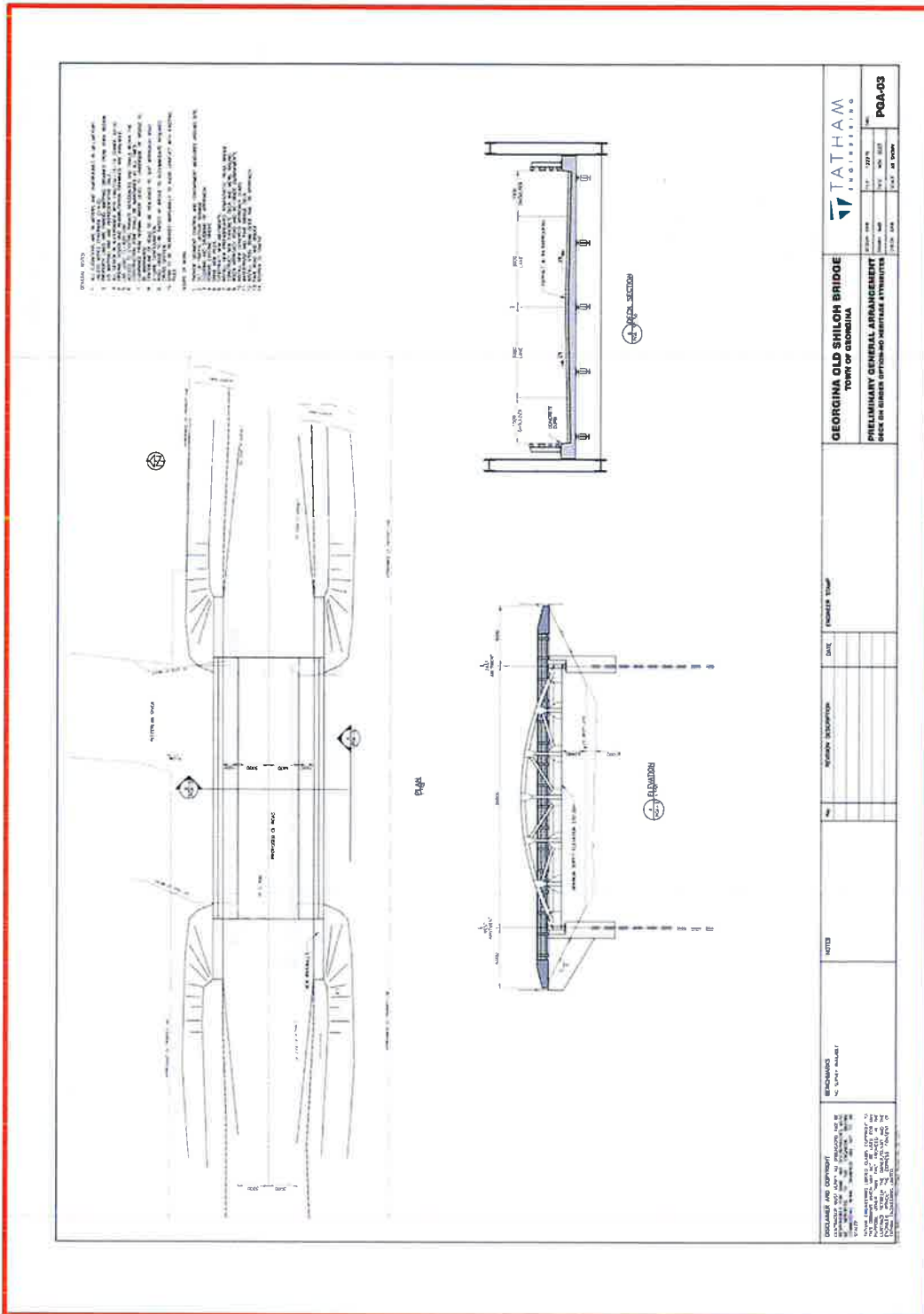
MAP 2 FACSIMILE SEGMENT OF TREMAINE'S MAP OF THE
COUNTY OF YORK, CANADA WEST
(TREMAINE 1860)



MAP 4 PRELIMINARY GENERAL ARRANGEMENT OPTION 1 (TATHAM ENGINEERING 2023)



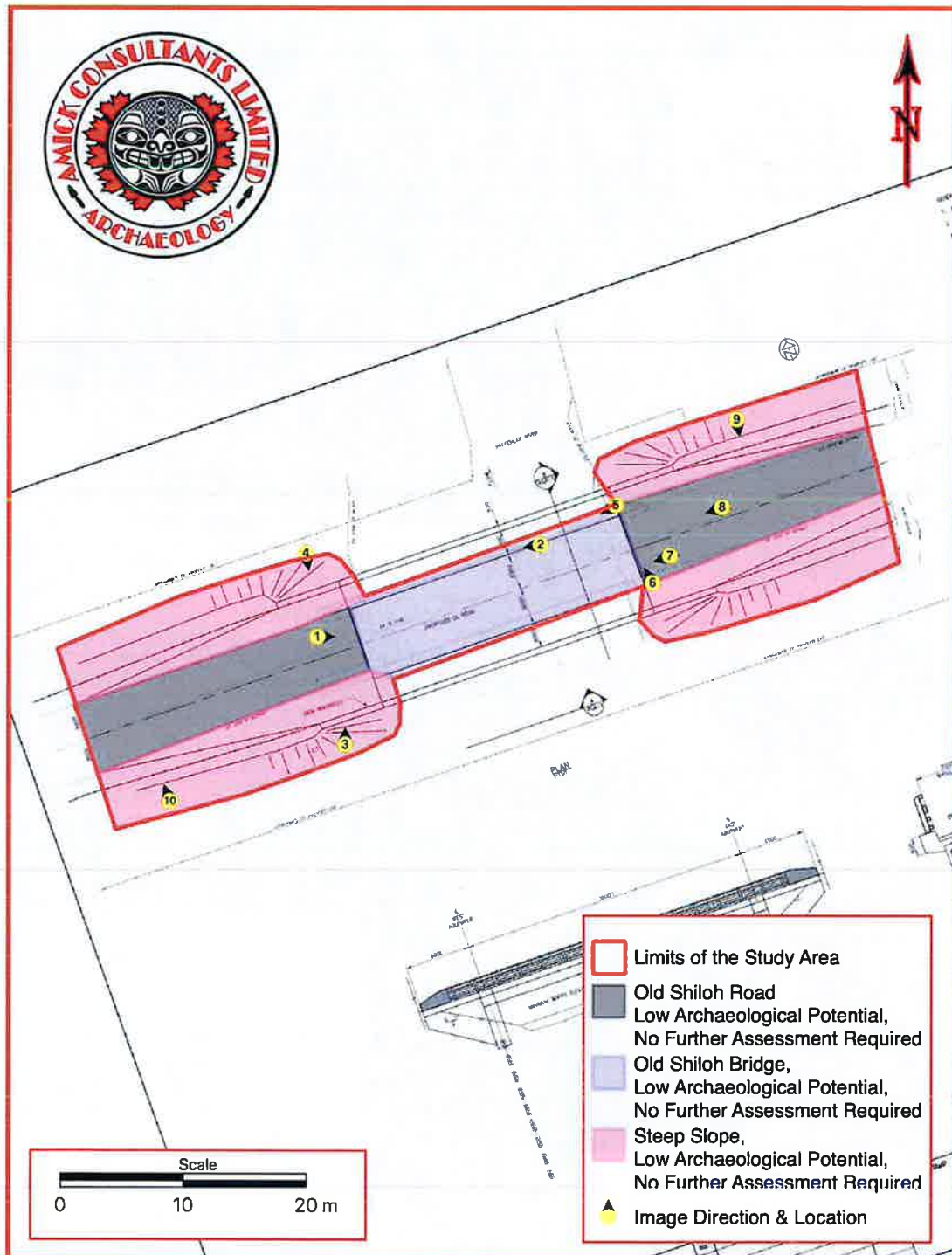
MAP 5 PRELIMINARY GENERAL ARRANGEMENT OPTION 2 (TATHAM ENGINEERING 2023)



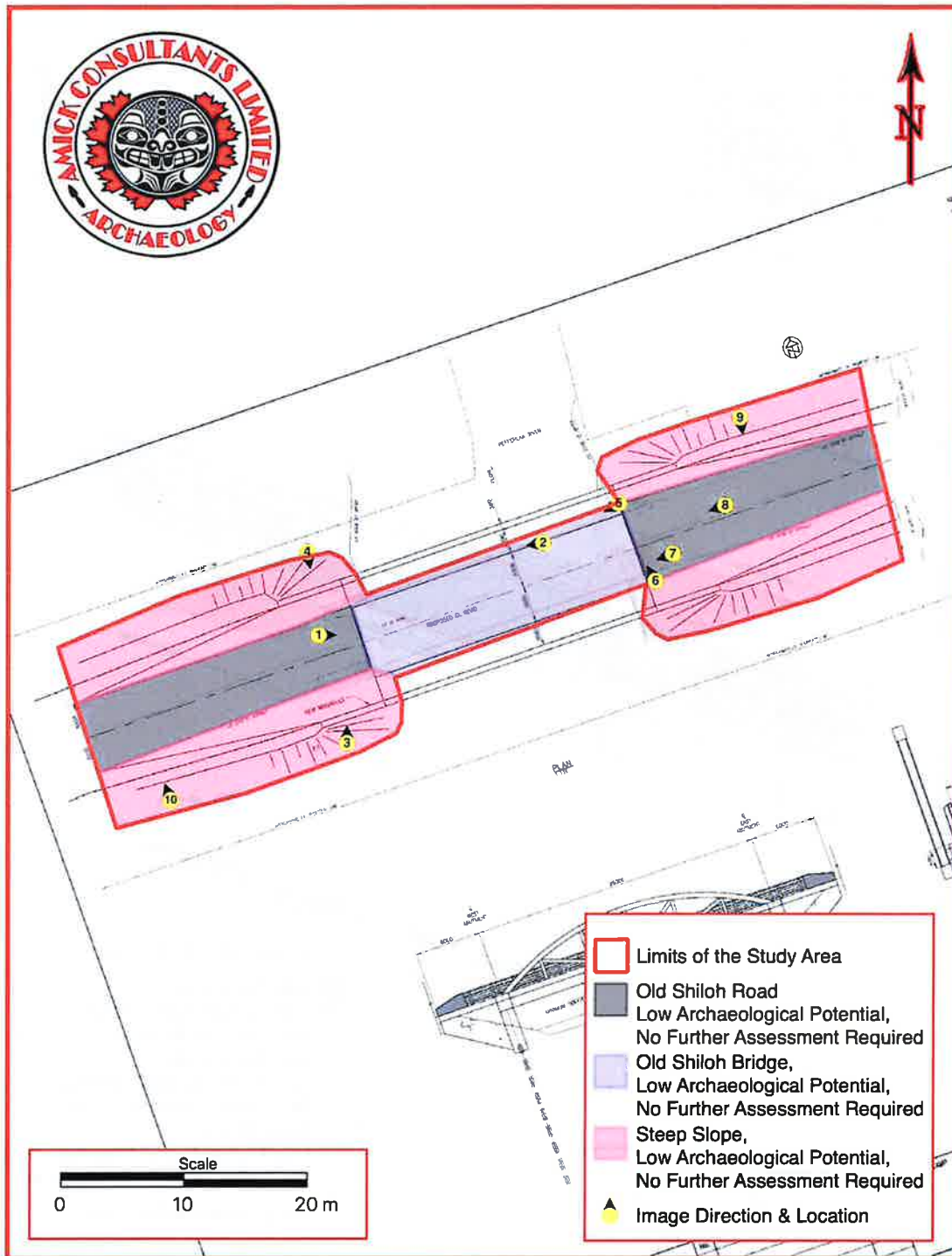
MAP 6 PRELIMINARY GENERAL ARRANGEMENT OPTION 3 (TATHAM ENGINEERING 2023)



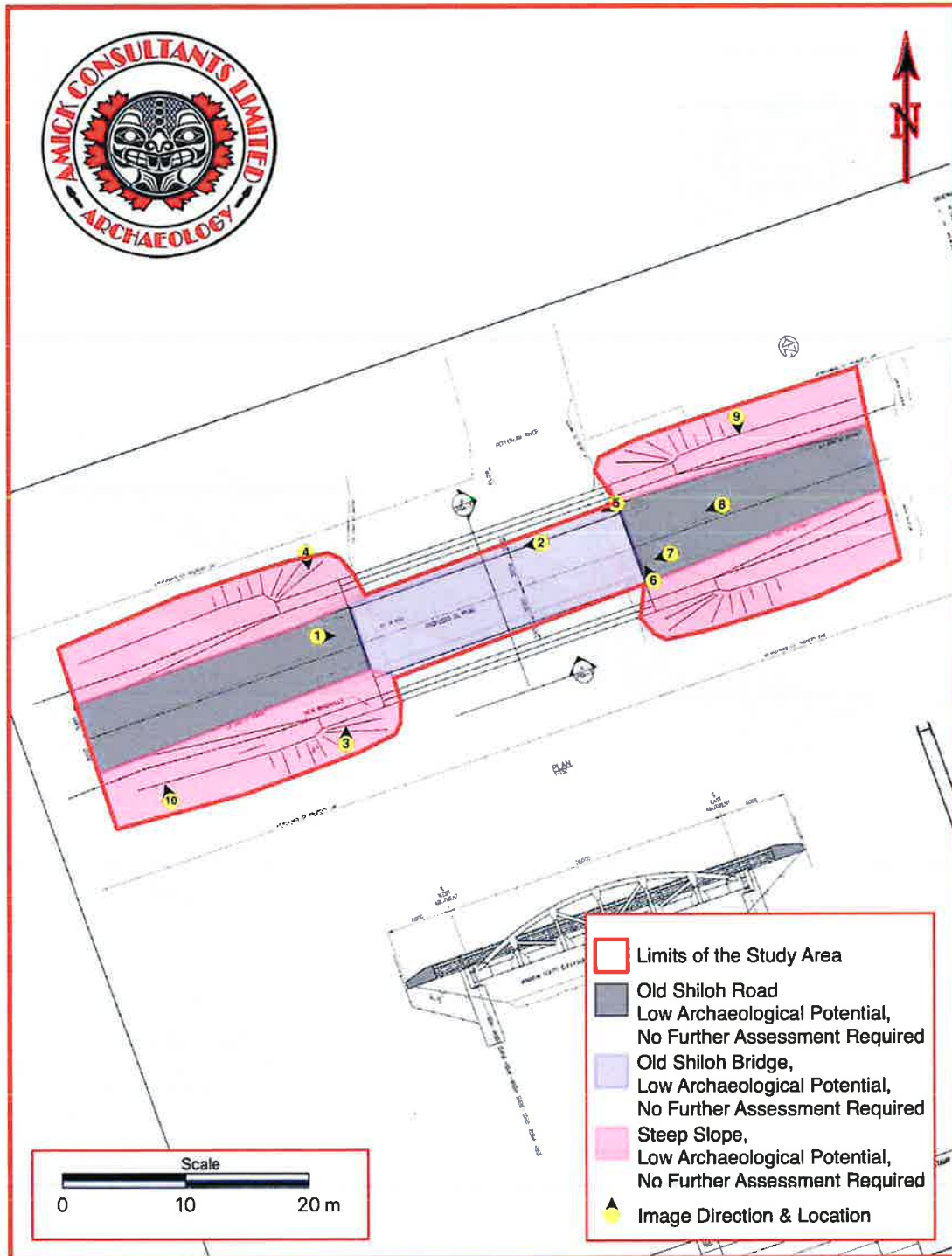
MAP 7 AERIAL OF THE STUDY AREA (GOOGLE EARTH 2016)



MAP 8 DETAILED PRELIMINARY GENERAL ARRANGEMENT OPTION 1 (TATHAM ENGINEERING 2023)



MAP 9 DETAILED PRELIMINARY GENERAL ARRANGEMENT OPTION 2 (TATHAM ENGINEERING 2023)



MAP 10 DETAILED PRELIMINARY GENERAL ARRANGEMENT OPTION 2 (TATHAM ENGINEERING 2023)



MAP 11 YORK REGION ARCHAEOLOGICAL POTENTIAL



MAP 12 ARCHAEOLOGICAL POTENTIAL (GOOGLE EARTH 2016)

IMAGES



IMAGE 1 VIEW OF OLD SHILOH BRIDGE EAST



IMAGE 2 VIEW OF CONCRETE BOWSTRING ARCH OF OLD SHILOH BRIDGE EAST



IMAGE 3 STEEP SLOPE



IMAGE 4 STEEP SLOPE



IMAGE 5 UNDERSIDE OF OLD SHILOH BRIDGE EAST



IMAGE 6 CONCRETE PILASTER OF OLD SHILOH BRIDGE EAST



IMAGE 7 VIEW OF CONCRETE BOWSTRING ARCH OF OLD SHILOH BRIDGE EAST



IMAGE 8 OVERVIEW OF OLD SHILOH BRIDGE EAST



IMAGE 9 STEEP SLOPE



IMAGE 10 STEEP SLOPE