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Executive Summary

The archaeological sites that are the physical remains of the City of Windsor's 13,000-year settlement history represent a fragile and non-renewable cultural heritage resource that must be conserved and protected. This document and associated mapping, developed on a geographical information system (GIS) platform, update Windsor's archaeological management plan (WAMP) based on best practices in archaeological resource management. With this updated WAMP, the City of Windsor can more easily identify where archaeological assessments are required in the land use planning and development process—or any other municipal processes involving land disturbance—and manage archaeological resources within its jurisdiction.

Through its GIS mapping of known archaeological sites and areas of archaeological potential, the WAMP allows the City of Windsor's Planning and Building Services Department, along with other city departments, property owners, developers, and prospective land buyers, to know whether archaeological investigations are necessary prior to land disturbing activities. Thus, the WAMP reduces the risk of unfortunate surprises occurring during land altering activities (such as disturbing an Indigenous burial site or a nineteenth century building foundation), and considerably enhances public awareness of archaeological resources. The WAMP also allows residents to know and appreciate their community's history better. For example, caring for and sharing information about Windsor's Indigenous archaeological heritage is an important step towards reconciliation with local Indigenous nations.

More specifically, the City of Windsor's archaeological management plan has three major objectives, as follows:

- the compilation of detailed, reliable inventories of registered archaeological sites within Windsor;

- the development of an archaeological site potential model specific to the City of Windsor, based on known site locations, past and present land uses, environmental and cultural-historical data, and assessment of the likelihood for survival of archaeological resources in various contexts; and,
- the provision of recommendations concerning the preparation of archaeological resource conservation and management guidelines for the City of Windsor.

The development of an archaeological site potential model was undertaken based on both an inductive and deductive approach to predicting where additional pre-contact Indigenous sites are most likely situated and detailed historical research to map historical archaeological potential. It was determined that the pre-contact Indigenous archaeological site potential layer captures all previously identified pre-contact Indigenous sites in Windsor excluding isolated finds.

The identification of areas in the Colonial Period archaeological potential layer involved the digitization of relevant nineteenth century residential, commercial, and industrial features and transportation routes from historical mapping and cemeteries, and captures all the colonial period archaeological sites previously discovered in Windsor.

The role of the City of Windsor in the conservation of cultural heritage resources is crucial. Although heritage conservation is regulated by the Province of Ontario, planning and land use control are predominantly municipal responsibilities and the impact of municipal land use decisions on archaeological resources is significant. This is particularly the case since municipally approved developments constitute most land disturbing activities in the Province. The primary means by which these resources may be protected is through the planning and development approval process.

The WAMP provides a series of policy recommendations within the planning and

development approvals process, to be integrated into Windsor's Official Plan, which will ensure the conservation of these valuable cultural heritage resources within the overall process of change and growth in the city. The WAMP policy recommendations are consistent with the Provincial Policy Statement (2020) and the Ontario Heritage Act (2005).

Development of the WAMP also benefitted from engagement with Indigenous nations. Windsor lies within the traditional territory of the Anishinaabe nations that comprise the Three Fires Confederacy: Ojibwa (Chippewa), Odawa (Ottawa), and Potawatomi. It is also within the scope of treaties signed by the British Crown, including Treaty #2 (also known as the 1790 McKee Purchase), signed with representatives of these Anishinaabe nations together with representatives of the Huron (Wendat/Wyandot) Nation, and the 1701 Nanfan treaty, signed with the Haudenosaunee Confederacy (Five Nations) at Albany, NY. These nations were also signatories of the 1701 Great Peace of Montreal treaty, negotiated between the government of New France and thirty-nine Indigenous nations, that ratified the Dish With One Spoon principle for sharing resources while respecting sovereign territories (Jacobs & Lytwyn, 2020). The WAMP recommends continued engagement with Indigenous nations in Windsor's archaeological review and planning approvals processes.

In summary, in having developed and updated this archaeological management plan, the City of Windsor joins with other major Ontario municipalities in pursuing the best approach available to ensuring archaeological site conservation within its jurisdiction.

1 Introduction

1.1 Study Objectives

The WAMP represents a comprehensive approach to the conservation of archaeological resources. The most effective means of protecting archaeological sites is through adoption of planning and management guidelines that are informed by both the known distribution and character of archaeological sites and by assessment of the potential location of additional sites that have yet to be discovered.

This report presents an archaeological potential model and planning and management guidelines that are consistent with provincial legislation. The archaeological potential model was developed using an ArcGIS® Geographic Information System to summarize and map various data sets as separate, but complementary layers. Modelling criteria specific to Windsor were then derived through analysis of these layers and applied to produce a final archaeological potential zone. This layer will be used by Windsor staff to evaluate planning applications and other municipal infrastructure projects for the necessity of carrying out archaeological resource assessments. While the archaeological potential zone has been derived with respect to land-based archaeological resources, adjacent water bodies may also have archaeological potential.

The report is divided into two main parts. Part I presents the archaeological potential model for both pre-contact Indigenous and colonial period sites. Part II addresses archaeological resource management, including outlines of the threats to archaeological resources and the legislative framework at the provincial and municipal levels to address those threats; how Windsor will apply the archaeological potential model across departments that participate in planning and development processes and infrastructure projects; and an explanation of the various roles that different agencies play in these processes. The report also addresses contingency planning for unexpected archaeological emergency finds, ownership and curation of archaeological artifacts, and periodic review of the archaeological potential model.

There are four appendices to the report as follows:

- Appendix A: Pre-contact Indigenous Archaeological Site Potential;
- Appendix B: Colonial Period Thematic History;
- Appendix C: Contingency Plan for the Protection of Archaeological Resources in Urgent Situations;
- Appendix D: Proposed Policy Revisions to the City of Windsor Official Plan.

1.2 Defining Archaeological Resources

Archaeological resources are scarce, fragile, and non-renewable and therefore must be managed in a prudent manner if they are to be conserved. The Government of Ontario, through various statutes and policies, asserts the stewardship interests of the provincial Crown on behalf of its citizens with respect to archaeological resources. In addition, the City of Windsor lies within the traditional territory of the Anishinaabe nations that comprise the Three Fires Confederacy: Ojibwa (Chippewa), Odawa (Ottawa), and Potawatomi. The land was acquired by the British Crown in the late eighteenth and nineteenth centuries through Treaty #2 (also known as the McKee Purchase) and a series of subsequent negotiated purchase agreements signed with representatives of these Anishinaabe nations together with representatives of the Huron (Wendat/Wyandot) Nation. Windsor also lies within the precincts of the Beaver Hunting Ground Deed (also known as the Nanfan treaty) signed between the Haudenosaunee Confederacy (Five Nations) and the British Crown at Albany, NY, in 1701. In addition to the provincial Crown, these nations assert their interests with respect to archaeological heritage management.

Effectiveness in incorporating archaeological heritage conservation and management within the overall land-use planning and development process requires a clear

understanding of the physical nature, variety of forms, and overall significance and value to society of archaeological resources.

The Provincial Policy Statement (2020), which is issued under the authority of Section 3 of the Planning Act, defines archaeological resources (Section on Definitions) as including “artifacts, archaeological sites, and marine archaeological sites.”

Individual archaeological sites are distributed in a variety of locational settings across the landscape, being locations or places that are associated with past human activities, endeavours, or events. These sites may occur on or below the modern land surface or may be submerged under water. The physical forms that these archaeological sites may take includes the following: surface scatters of artifacts; subsurface strata which are of human origin or incorporate cultural deposits; the remains of structural features; or a combination of these attributes.

The Ontario Heritage Act (Ontario Regulation 170/04) provides the following definitions:

- “archaeological site” is “any property that contains an artifact or any other physical evidence of past human use or activity that is of cultural heritage value or interest;”
- “artifact” is “any object, material or substance that is made, modified, used, deposited or affected by human action and is of cultural heritage value or interest;”
- “marine archaeological site” is “an archaeological site that is fully or partially submerged or that lies below or partially below the high-water mark of any body of water;” and,
- “archaeological fieldwork” is “any activity carried out on, above or under land or water for the purpose of obtaining and documenting data, recovering artifacts and remains or altering an archaeological site and includes monitoring, assessing, exploring, surveying, recovering, and excavating.”

1.3 Archaeological Background

Windsor is an area rich in cultural heritage resources and diverse cultural traditions. The Detroit River corridor is unquestionably an area of high cultural and historical significance not only to the First Nations who have lived here for millennia, but to the Europeans who settled here in the more recent centuries. For thousands of years, the river has facilitated the movement of both peoples and goods throughout the interior of the continent. In addition, the rich resources found in the water and the surrounding lands encouraged intensive Indigenous and early European settlement along its banks.

The shoreline comprises the earliest continuous European settlement in Ontario. The European influx began in the early eighteenth century with French settlement that grew up around Fort Pontchartrain (later Fort Detroit) on the north side of the river. The south shore, now Windsor, was settled later in the eighteenth century by French families from the St. Lawrence River settlements. By the 1790s, British settlement of the area was well underway, but although the interior of Essex County was surveyed, the population remained concentrated along the lakes and river shores for many decades. On the main thoroughfare of the Great Lakes, the Windsor area was pivotal as a base for the expansion of the eighteenth and nineteenth century fur trade and settlement throughout much of the interior and saw military action during the War of 1812, and the 1837 Upper Canada Rebellion. By the late nineteenth century, Windsor was becoming an industrial city important for international trade and shipping, a trend which expanded rapidly in the twentieth century with the influx of automobile plants and other manufacturing complexes.

Due to the limited extent of archaeological research undertaken in the Windsor area, the complexity of its archaeological heritage is poorly understood. Traces of Windsor's significant cultural and historical legacy have, however, been evident in the relatively small number of archaeological sites that have been identified within or immediately adjacent to the City. Documented Indigenous sites within the Windsor area include camps and villages spanning more than 10,000 years of habitation. Of particular

sensitivity are the various burial sites relating to both pre-contact and colonial period Indigenous settlement in the Windsor area. Colonial period sites include a wide range of domestic, military, commercial and industrial features primarily scattered along the Detroit River shoreline. Despite the minimal amount of systematic archaeological investigation carried out in the Windsor area, the presence of these sites indicates the potential for other similar sites throughout the region, reflecting over 13,000 years of human history.

Part 1: Archaeological Potential Model

2 Pre-contact Indigenous Archaeological Site Potential

2.1 Introduction

Only limited locational data exist for pre-contact Indigenous archaeological sites in the City of Windsor. While access to distributional information for all sites would be a significant advantage to land-use planners and heritage resource managers, the undertaking of a comprehensive archaeological survey of Windsor to compile a complete inventory is clearly not feasible. As an alternative, therefore, staff must depend on a model which predicts how sites are likely to be distributed throughout the city.

Archaeological site potential modelling can trace its origins to a variety of sources, including human geography, settlement archaeology, ecological archaeology, and paleoecology. The basic assumption is that pre-contact Indigenous land use was constrained by ecological and socio-cultural parameters. If these parameters can be discovered, through archaeology and paleoecology, pre-contact Indigenous land-use patterns can be reconstructed.

Two basic approaches to predictive modelling can be described. The first is an empirical or inductive approach, sometimes referred to as correlative (Sebastian and Judge 1988) or empiric correlative modelling (Kohler and Parker 1986). This method employs known site locations, derived from either extant inventories or through sample surveys, as a guide for predicting additional site locations. The second is a theoretical or deductive approach, which predicts site locations based on expected behavioural patterns as identified from suitable ethnographic, historical, geographical, ecological, and archaeological analogues. While data requirements or availability tend to influence the orientation of the study, every

modelling exercise will incorporate both inductive and deductive elements. Foremost is the need to employ all available data effectively and expeditiously.

Appendix A presents the detailed model of pre-contact Indigenous archaeological site potential developed for the City of Windsor. It begins with a brief review of the method and theory associated with pre-contact Indigenous site potential modelling and is followed by delineation of the modelling approach, which employs a descriptive reconstruction of pre-contact landscapes in Windsor together with a reconstruction of pre-contact Indigenous land-use patterns informed by both known site locations as well as archaeological and ethnographic analogues. This information is brought together in a list of criteria which are used to define a zone of pre-contact Indigenous archaeological potential on GIS mapping for Windsor.

2.2 Deductive Model

Throughout much of pre-contact Indigenous history, the inhabitants of Windsor were hunter-gatherers who practiced an annual subsistence round to exploit a broad range of natural resources for food and raw materials for such needs as shelter construction and tool manufacture. Assuming that access to natural resources influenced and constrained the movement and settlement of Indigenous peoples, the goal was to understand what these resources were, how they may have been distributed, how their use and distribution may have changed over time, and how the landscape itself may have constrained movement and access to resources as well as settlement location. The investigation proceeded chronologically since certain aspects of Windsor have changed dramatically through the period of human occupation.

2.2.1 Late Pleistocene/Early Holocene (ca. 13,000 – 11,000 cal BP)

The First Peoples began to move into what is now southwestern Ontario as the continental ice sheet retreated at the end of the last ice age. As populations increased in southeastern North America around 13,000 years ago, small groups of people gradually moved north into a newly revealed land (Chaput et al., 2015; Lothrop et al., 2016). The landscape that greeted them would have been open and

cold, sparsely vegetated with tundra plants such as lichens and sedges, with spruce and tamarack trees growing up over time (McCarthy et al., 2015; Stewart, 2013; Yu, 2003). The spruce parkland was home to mammoth, mastodon, stag-moose, giant beaver, caribou, arctic fox and snowshoe hare, California condors, and many other boreal species which no longer call the area home (Ellis, 2013; Stewart, 2013; Storck & Speiss, 1994). The first peoples would have moved across this post-glacial landscape in small groups, following herds of migrating animals and searching for food. As they travelled, they often followed the shoreline of glacial Lake Algonquin or one of the waterways that shifted across the clay plains, camping close to the water's edge (Deller, 1976, 1979; Jackson et al., 2000; Storck, 1984, 1988). They gathered nearby stones to support a portable shelter, cooked meals prepared from animals hunted, trapped, or fished, and resharpened large, fluted spear points or remade them into smaller tools for other uses (C.A.R.F., 1992; Ellis, 2013; Julig & Beaton, 2015).

Archaeological sites left behind by these First Peoples are usually small and ephemeral, the results of short-lived camps located close to ancient shorelines or at strategic inland locations (Jackson, 1997, 1998). Artifacts at these sites tend to consist of a few large spear points coupled with waste stone from the production of these tools, as organic materials such as wood, bone, and furs do not preserve on these exposed strandlines over the millennia. In combination with Indigenous oral histories, the archaeological record of these sites has the potential to illuminate the lives of the original residents of Windsor.

Sites dating to this earliest period are sparse in Ontario, and none have been identified within the bounds of the City of Windsor. There is, however, an unconfirmed report of contemporary artifacts having been recovered during an archaeological survey of the Turkey Creek valley conducted in 1968 and 1969 by Father Jack Lee (Baumann, 1978). Unfortunately, the sites from where these artifacts were recovered were not registered and their exact character and location are unclear. Sites which have been identified elsewhere in the province are located primarily on relict strandlines of glacial Lake Algonquin and its correlate in the Erie basin, and many have been discovered through targeted survey of these geological features

(Storck, 1984, 2004). If any of the earliest sites exist in Windsor, they would likely be situated near or above the estimated level of glacial Lake Algonquin (186 metres asl), although sites dating to later phases of this period may occur on recessional strandlines below this elevation.

The closest sites to Windsor, dating to the latter phase of this period, are the Holcombe Beach group of sites located about 15 kilometres north of Detroit. The Holcombe Beach sites were interpreted as temporary camp sites used to process barren ground caribou and make and repair stone tools and were located on a sand ridge overlooking a shallow glacial lake (Fitting et al., 1966). Chert types and the workmanship identified on projectile points link Holcombe to sites in Ohio, the Delaware Valley of the eastern US, and to quarrying areas around Saginaw Bay in Michigan and on the northeastern shore of Lake Erie (Ellis & Deller, 1990, p. 41; Fitting et al., 1966, pp. 90–92); groups moving between these areas would have passed through Windsor. Isolated Holcombe and Hi-Lo projectile points have been located within Windsor including within Sandwich West along the drainage of Turkey Creek, and on the grounds of the Windsor Airport along the drainage of the Little River (Ellis & Deller, 1990, p. 55; Garrad, 1971; Stantec, 2014), and it is possible that undiscovered sites also exist. Desirable site locations would have shifted as animal habitats and migratory routes changed with the retreat of glacial Lake Algonquin and early Lake Erie and the resulting alterations of local watersheds and drainages but raised sand ridges and glacial strandlines possess significant potential for sites from this period.

As time passed and Indigenous communities became more familiar with the seasonal changes and the habits of local animals, they began to establish regular camps to return to on a seasonal basis. Resources may have been initially quite limited, as the forest evolved from a conifer-dominated community to a more mixed community with nut-producers like oak. Although the ability of interior habitats to sustain hunter-gatherer bands through the warm season improved over time, reduced cold season carrying capacity would require bands to spread out their population over the winter. During the cold seasons, these bands likely dispersed themselves by smaller kinship groups into interior hunting territories.

Such hunting territories would likely have been organized on a sub-watershed basis, with individual families occupying adjacent stream catchment areas. Riparian wetlands and swamps would have provided fuel, building materials, roots and tubers, and small game. Archaeological evidence of such sites may be difficult to distinguish from warm season hunting camps, although the sustained occupation of a site over several months would likely leave a more substantial artifact assemblage. The few sites of this period in Windsor are situated in the middle and upper reaches of headwater streams and may reflect seasonal forays from coastal base camps later eradicated by the Nipissing highstand.

Throughout the lower Great Lakes there is evidence of seasonal camps being situated at toolstone (e.g., chert) sources, at wetlands where waterfowl gathered annually to lay eggs and raise young, or at river crossings where migrating herds of caribou were forced to slow down and bunch up (Ellis, 2013; Roosa & Deller, 1982). The most evocative example of large, seasonally visited sites is the evidence, now submerged beneath the waters of Lake Huron, of caribou hunting structures on the Alpena-Amberley Ridge (AAR). The network of hunting blinds, drive lines, cairns, caches, stone rings, and shelters are all that remains of a landscape in which, between 10,000 and 7,000 years ago, many of those living in the Great Lakes area would gather to take advantage of a constricted area on the annual caribou migration route (Julig & Beaton, 2015; Lemke & O'Shea, 2015; O'Shea & Meadows, 2009). While this is a good distance to the north of what is now Windsor, there are few landscapes like the AAR which can be examined on a large scale archaeologically, but the identification of sites of a similar age near Windsor is difficult due to their probable scarcity and small size. It is also possible that the Windsor area was less desirable during the lowstands in the Huron-Michigan and Erie basins, when flow into the St. Clair River and through Lake St. Clair and the Detroit River to Lake Erie was minimal or suspended.

2.2.1 Early/Middle Holocene (ca. 11,000 – 5,000 cal BP)

As the climate continued to warm after 11,000 years ago, the land in southern Ontario became more hospitable and food resources more abundant. Isostatic

rebound altered drainages and caused water levels in the Great Lakes basins to begin rising again, but Lake Stanley (in the Huron basin) still drained northward via the North Bay outlet and not through the Detroit River and Lake St Clair. Some groups began to establish claims over specific areas of land and to follow the seasonal round within a more restricted territory, often within a particular watershed (Ellis 2013). One side effect was that access to the highest quality tool stone—none of which outcrops in the Windsor area—was no longer available to all groups (Fox 2013). Poorer quality local chert sources were sufficient for making everyday tools, but as a result the spear points and other lithic objects were never as finely made as those carried by earlier hunters (Ellis 2013; Fox 2013). Ground stone axes and adzes were added to the toolkit as coniferous forests established themselves in southern Ontario and the people made wooden dugout canoes and cooking troughs; other new ground stone tools were used to process a diversifying array of plant resources, or as weights for fishing nets (CARF 1992; Ellis 2013; Kapches 2013).

Ways of life changed over the next few millennia, as deciduous woodlands replaced the coniferous forests, and the post-glacial tundra became a distant cultural memory. Adaptive patterns would have completed the shift from the initial ecological framework outlined above in response to the establishment of the hardwood forest, with many nut-producing trees, abundant wetlands, and the wider range of available plant and animal resources. Warm season macroband camps would have still been situated at coastal river mouths to intercept spawning fish while interior stands of mast-producing trees (e.g., oak, hickory, beech) would have attracted both Indigenous foragers and game animals (e.g., deer, raccoons, squirrels, passenger pigeons) in the fall.

Warmer waters in the Great Lakes, and stable stream- and riverbeds provided new habitats for many of the fish species still found in the region today. These were caught using fishhooks made of bone or antler, or copper transported by canoe from the western end of Lake Superior (Ellis 2013; Fox 2013). Increasingly, large groups of people gathered together during spring and autumn fish spawning runs to catch fish in nets and to cooperate in the cleaning and processing of large catches

(Needs-Howarth, 2013). In parts of Ontario, fish weirs built at river narrows during this period were subsequently used for thousands of years; even when no longer used to harvest fish, the weirs still served as important gathering places for ceremonies and trading (Needs-Howarth, 2013). More changes to food gathering came with the introduction of the bow and arrow, which allowed hunters to target smaller game with something other than traps and snares (Needs-Howarth, 2013). A surplus of food, hides, or fur could be exchanged in trade or as gifts for exotic materials, allowing copper from Lake Superior, marine shells from the Atlantic coast and the Gulf of Mexico, and finely made Onondaga chert bifaces from the Niagara Peninsula to find their way into the hands of people living in diverse parts of eastern North America (Ellis, 2013; Fox, 2013). By about 3,500 years ago, favoured resource sites on the seasonal round were being re-inhabited year after year, with some groups beginning to establish cemeteries for their dead, marking ritually and territorially important places on the landscape (Ellis, 2013; Spence, 2013; Stewart, 2013).

2.2.2 Late Holocene (ca. 5,000 – 400 cal BP)

After the Nipissing highstand, water levels in the Huron-Michigan and Erie basins gradually fell to modern levels (Morrison, 2017) and by about 4,000 cal BP the physical and biotic landscape of Windsor was essentially similar to that which existed immediately prior to the colonial period. While the environment continued to fluctuate and evolve as a result of natural processes such as forest fire and windthrow, re-modelling of waterways, organic in-filling of wetlands, animal population cycles, and others, these generally cannot be resolved with currently available paleoenvironmental data. Nor is it necessary to do so given the scope and analytical scale of this study. The lifestyle of Late Holocene hunter-gatherers seems to have been relatively unchanged from that practiced by their ancestors.

Around 3,000 years ago, people in southern Ontario began to make low-fired ceramics, a change in technology which would eventually have a profound impact on ways of life. The earliest pots broke or wore out quickly, and so were made and used in the same camp and disposed of before moving on to a new location

(Kapches, 2013). They did not at first replace the string bags, birch bark containers, and skin sacks which were already being used as storage vessels but were instead used to cook foods at a simmer, allowing the integration of more plant foods into the diet (Kapches, 2013; Williamson, 2013).

Changes that had begun on a small scale in earlier times were now more entrenched, especially regarding treatment of the dead. The ancestors were buried in knolls, sandbanks, and other visible natural features, often close to a favoured camp re-inhabited on an annual basis (Spence, 2013; Williamson, 2013). The remains of those who died close to the cemetery were buried soon after death, some with finely made stone objects, or with red ochre, or with exotic traded materials like marine shells or galena (natural form of lead sulphite) obtained through exchange networks built up over the preceding millennia (C.A.R.F., 1992; Spence, 2013; Williamson, 2013). The remains of those who died at a distance from the cemetery were temporarily laid to rest on platforms or cremated, until they could be reunited with their community in the cemetery, often bundled together with other ancestors (C.A.R.F., 1992; Spence, 2013). The gatherings around this reinterment may have coincided with the spring resource harvest and included feasting and the presentation of gifts to the ancestors in the form of caches of stone tools, gorgets, and food such as turkey, deer, fish, and dog which were buried within the bounds of the cemetery but not necessarily with any particular individual (Spence, 2013).

Over the next several centuries, the daily life and sense of identity of those living in the Windsor area began to diverge from that of people living farther east. Some of this was a result of the widespread influence of mound-building peoples in the Ohio and Mississippi river valleys, whose extensive trade networks introduced new materials such as Flint Ridge chalcedony for stone tools, and new ceremonies involving the construction of earthworks and burial mounds (C.A.R.F., 1992; Fox, 2013; Watts, 2016; Williamson, 2013). These earthworks usually consisted of a circular or semicircular embankment with associated ditches and mounds, enclosing an open area “from around 100 m² to more than a hectare”; their use

likely varied depending on time and context, providing defensive capabilities, an open space for trading, or for ceremonies (Watts, 2016, p. 1).

Life continued to follow a seasonal round; people congregated in larger groups for the warm season, usually in a succession of camps near the Detroit River, and dispersed to smaller, single-family camps in the interior during the cold season, with visits to numerous other small satellite camps throughout the year to take advantage of specific resources as they became available (Spence, 2013). Harvesting fish formed a major dietary focus, with different water and environmental conditions requiring the use of a wide variety of tools: harpoons, spears, leisters, and fishhooks to catch single fish; and seine nets to take advantage of spawning runs of fish such as walleye in spring, and freshwater drum in summer (Foreman, 2011; Needs-Howarth, 2013). Ceramic construction improved during this time: grit temper was added to clay to strengthen the fabric, and coil-built pots were fired at higher temperatures than they had been previously (C.A.R.F., 1992; Kapches, 2013). Regional differences in ceramic decoration and stone tool knapping across southern Ontario indicated that people held distinct identities tied to their places of settlement, which would be further delineated as life became increasingly settled (Monckton, 2013; Williamson, 2013).

By about 1,200 years ago, those living in the Windsor area shared their way of life with the people living in what would become southeastern Michigan and northwest Ohio but lived according to a different pattern than those living in south-central Ontario (Lennox & Dodd, 1991; Stothers & Abel, 2002). Spring was a time of gathering, when people reconnected to harvest spring spawning fish and to feast and hold ceremonies with the ancestors buried nearby (Killion et al., 2019; Lennox & Dodd, 1991; Stothers & Abel, 2002; Wright, 1977). The warm season, from spring until early autumn, was spent in large, multi-family settlements on the shores of the Detroit River. Houses were small, oval, bark-covered structures for one or two families each, which could be disassembled and moved to new locations (Ferris, 2013; Warrick, 2013). Here, the coastal marshes provided an abundance of animal and plant resources, as well as a defensive advantage in the event of the inter-

group violence which was on the rise (Stewart, 2013; Warrick, 2013; Williamson, 2013).

Women of the villages gathered clay from well-known spots along the riverbank, prepared it to remove impurities and strengthen it, then shaped the vessels and fired them in shallow pits covered in brush and wood, situated a good distance away from the settlement to avoid setting structures alight (Kapches, 2013). In most cases women made pots for themselves and their daughters and decorated them with motifs with personal or ancestral significance; children learned to make pots by watching their mothers, and by playing with clay to make small, rudimentary pinch pots of their own (Kapches, 2013; St John & Ferris, 2019; Williamson, 2013).

Both directly and indirectly, favoured wild plants were encouraged to establish themselves close to re-inhabited settlements, whether through replanting them just outside the village or by depositing food waste in nearby middens (Monkton 2013). These husbanded plants included raspberries, plums, elderberries, and other fruits along with chenopod, sumac, cattail, and spikenard. Techniques developed in husbanding wild plants began to be applied to new crops which had spread to Ontario from central America along exchange networks developed over the preceding millennia: first maize, then later squash, beans, sunflowers, and tobacco (Carroll, 2013; Monckton, 2013; St John & Ferris, 2019; Stothers & Abel, 2002; Williamson, 2013).

Deep storage pits were excavated to cache surplus food in large ceramic pots for later use (Ferris, 2013; Kapches, 2013). With the arrival of autumn, people dispersed from the warm season villages to small, one- or two-family cabins in the interior, located to take advantage of nut harvests, and as a base from which to set trap lines and for sugaring in winter (Ferris, 2013; Lennox & Dodd, 1991; Warrick, 2013). The autumn nut harvest was also an opportunity to hunt terrestrial animals such as deer, turkeys, squirrels, and raccoons, all of which were attracted to nut groves for their own subsistence purposes (Foreman, 2011). The colder months were also the most intensive time for deer hunting using blinds, drives, and corrals

in addition to the bow and arrow (Needs-Howarth, 2013). In addition to meat, deer were a critical source of hides for clothes and shoes, antlers for tools, bones for awls and needles, and marrow and grease for food flavouring; a surplus of hides could potentially have been exchanged with those living to the east around Lake Ontario (Foreman, 2011; Needs-Howarth, 2013).

In the following centuries maize and other imported crops, initially consumed only at feast times or as a minor supplement to husbanded or wild local plant foods, began to form an increasingly significant part of the daily diet (Monckton, 2013; Stothers & Abel, 2002; Williamson, 2013). The greater investment in time required to grow large quantities of these domesticates conflicted with the timed gathering of other food resources: spring planting occurred around the time of fish spawning runs, and the autumn harvest conflicted with nut gathering and deer hunting (Foreman, 2011).

As a result, warm season settlements were located in places with good ground for crop planting, as well as access to a wide variety of aquatic foods which would be available for most of the season (Foreman, 2011; Needs-Howarth, 2013; Stothers & Abel, 2002). Women and children would catch turtles and amphibians and gather shellfish from the rich marsh environments; deer, squirrels, raccoons, turkeys, and other animals attracted to the crops were hunted in small numbers year-round rather than primarily in the autumn (Foreman, 2011; Lennox & Dodd, 1991; Needs-Howarth, 2013). The crops did not require constant monitoring and so smaller groups still spent time hunting and fishing at satellite camps, with locally available fish from the Detroit River forming an increasingly important part of subsistence (Foreman, 2011; Lennox & Dodd, 1991).

Warm season residences began to resemble the longhouses of the peoples to the east, though with a smaller footprint and different internal structure. Settlements were surrounded by palisades and sometimes by earthworks to add some measure of protection and were inhabited for more months out of the year (Ferris, 2013; Lennox & Dodd, 1991; St John & Ferris, 2019; Stothers & Abel, 2002). The increased time spent living in large communities had an effect on social organisation, with

more emphasis placed on matrilineal descent and identification with lineage groups (Carroll, 2013; Ferris, 2013; Spence, 2013; Williamson, 2013). Inter-community conflict borne out of stronger internal group identities and competition for access to exchange networks was partially mitigated through lavish feasting and gift giving, maintaining social networks across the lower Great Lakes region (Carroll, 2013; Jamieson, 2013; Killion et al., 2019; Spence, 2013; Stothers & Abel, 2002). Political leaders were men, selected by influential women, responsible for diplomacy with nearby settlements, scheduling the seasonal round, organising raids, and other tasks, and governance was by consensus rather than by decree (Jamieson, 2013).

By the early 1500s, pressure from the westward expansion of Iroquoian peoples living around Lake Ontario caused many of those living in the Windsor area to relocate west and south for several decades, beginning to return to the area just before the onset of profound changes set in motion by European contact (C.A.R.F., 1992; Lennox & Dodd, 1991).

2.3 Inductive Model

While the preceding deductive model paints a general picture of pre-contact Indigenous land use in Windsor throughout the millennia, the sample of registered pre-contact Indigenous sites also allows for the development of an inductive model from which to extrapolate pre-contact Indigenous archaeological potential based on locations of known sites. This requires some understanding of site types and ages since land-use patterns changed over time. The inductive modeling also included observations based on distance to water, soil types and slope.

The total number of archaeological sites in Windsor is 115, of which 25 have pre-contact Indigenous components. Some, however, are isolated finds of flakes or projectile points lost while traveling through the landscape and are therefore not useful in the modeling exercise. Thus, the total number of pre-contact Indigenous sites used for inductive modeling was 14.

2.3.1 Distance to Water

For pre-contact Indigenous sites, the proximity of major lakes and rivers is considered to have always been a significant factor influencing land-use patterns in Windsor by acting as travel and settlement corridors. While the locations of the major shorelines have changed significantly over time, the layout of the inland drainage systems has remained relatively constant since the late Pleistocene. The middle and upper reaches of the inland drainages may have comprised seasonal hunting grounds analogous to those recorded historically throughout the Great Lakes-St. Lawrence region.

While the main source of hydrographic data used in the inductive site potential model was modern watercourse data, the dataset was found to be missing certain streams noted on various historical map sources. Accordingly, these were added manually to the hydrographic layer of the GIS.

Based on the above data, it was determined that a buffer of 250 metres from water sources captures 100% of the modellable registered pre-contact Indigenous sites in Windsor.

2.4 Summary of the Pre-contact Indigenous Potential Model

In light of these deductive and inductive modeling considerations reviewed above, ultimately four water-based criteria (Table 1) were chosen as the most useful predictors of pre-contact Indigenous archaeological potential (In a relatively small area such as a city, especially one like Windsor with very limited topographical/geophysical variability, other factors were decided to be excluded as irrelevant or as redundant due to overlaps). The criteria used to create the pre-contact Indigenous archaeological site potential layer, were as follows: all current and former watercourses; all waterbodies, including lakes, ponds, and wetlands. First, all river and major stream segments—defined as those represented by two lines (i.e., banks) on the hydrographic layer—were buffered at 250 metres from the top of bank. Second, all subordinate streams—defined as those watercourses represented by a single line on the hydrographic layer—were buffered by 250

metres on both sides of the line. Third, all lakes, ponds, and wetlands were buffered at 250 metres. The 250-metre buffer was employed since it captures 100% of the sites employed for inductive modeling within Windsor. Figure 1 presents the pre-contact Indigenous archaeological site potential layer.

Table 1: Pre-contact Indigenous Archaeological Potential Modelling Criteria

Environmental or Cultural Feature	Buffer Distance (metres)	Buffer Qualifier
Rivers and streams	250	<ul style="list-style-type: none"> from top of bank for former; from centreline for latter; on all soil types
Lakes and ponds	250	<ul style="list-style-type: none"> exterior buffer from current limits, all soil types
Wetlands	250	<ul style="list-style-type: none"> 200m exterior buffer and 50m interior buffer. Only for verified wetlands
Registered Indigenous archaeological sites	100	<ul style="list-style-type: none"> Camps and other small sites
	250	<ul style="list-style-type: none"> Villages and other large settlements

Figure 1: Pre-contact Indigenous Archaeological Potential Layer

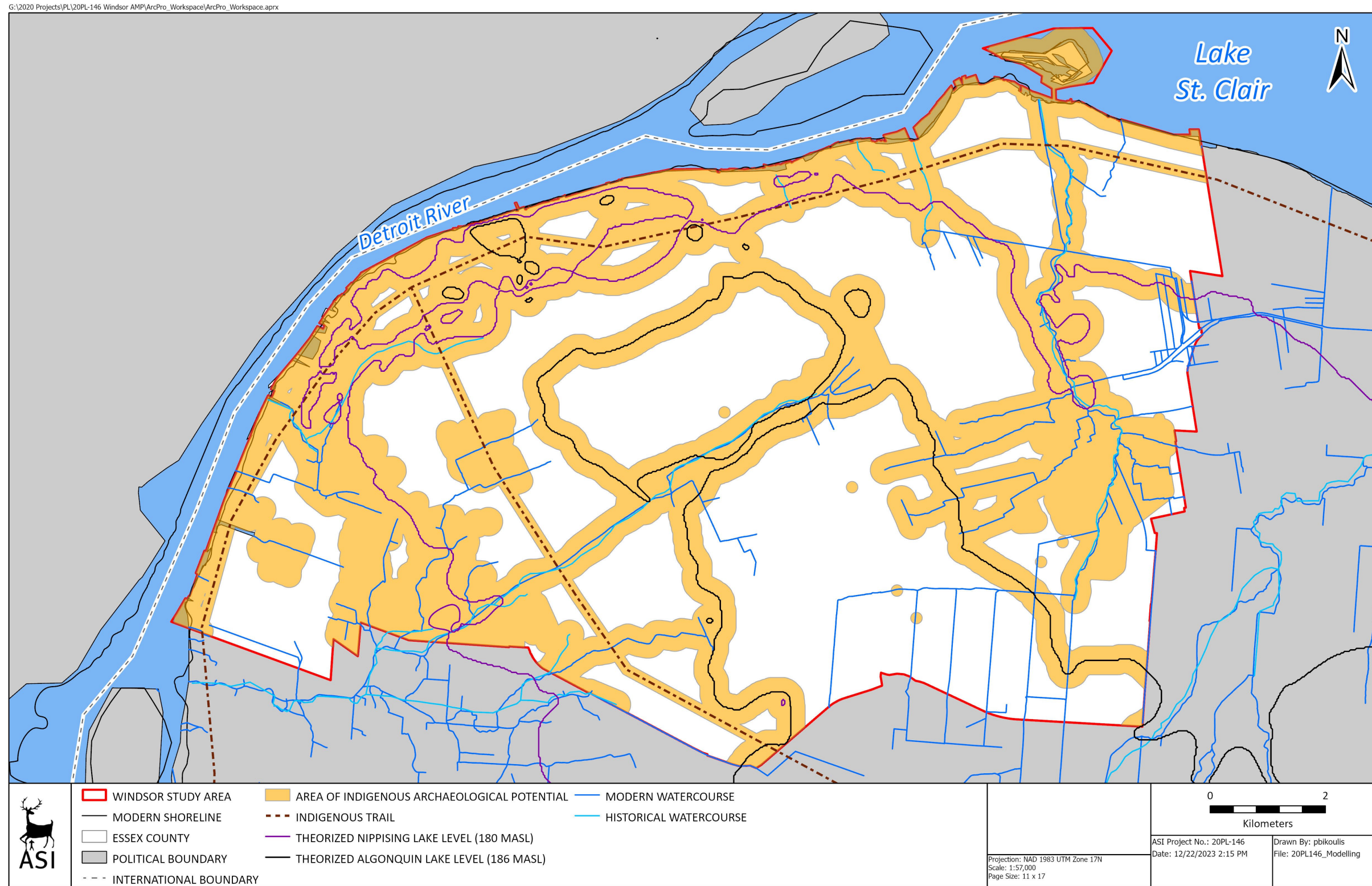


Figure 1: Precontact Indigenous Archaeological Potential

3 Colonial Period Archaeological Site Potential

3.1 Introduction

In contrast to the deductive and inductive modelling employed to create the pre-contact Indigenous archaeological site potential layer, the colonial period archaeological site potential layer was created primarily from historical mapping, historical thematic research, and the application of buffers to some features of historical interest. While it is primarily a terrestrial model, certain features (e.g., water-powered mills) may have marine archaeological components associated with them. In accordance with provincial standards and guidelines for consultant archaeologists, as detailed in Appendix B, attribution of archaeological significance focussed on historical features dating prior to 1900 (MTC, 2011, p. 41), especially those dating prior to 1870 (MTC, 2011, p. 59).

Europeans began mapping North America—commonly known as Turtle Island by Indigenous nations—soon after their arrival in the sixteenth century, and over the course of the seventeenth century several maps of Nouvelle France had been created by various explorers and cartographers working from their notes. One of the earliest maps depicting Indigenous settlement in the Windsor area is the 1641 “Novvelle France” map that shows locations of Great Lakes Indigenous peoples prior to the dispersals of the late seventeenth century (Heidenreich, 1988; Steckley, 1990). Peoples named just west of the Detroit and St. Clair Rivers include the Sauk and the Potawatomi (Steckley, 1990, p. 21). Other Algonquian-speaking peoples were living to the south and west in an area that is collectively marked “Gens du Feu” or Fire Nation.

Following the establishment of Fort Pontchartrain at present-day Detroit, more detailed mapping of the area ensued. Henri-Louis Deschamps de Boishébert, commandant of Detroit, produced several important early maps, including one entitled “Carte du Detroit et Partie du Lac Erie, et du Lac Ste. Claire” (Boishebert, 1731) that indicates the locations of several Indigenous villages on both sides of the river. Other eighteenth- and nineteenth-century maps of the area provide locations

of Indigenous communities, military installations, farmsteads, early roads and railways, crossroad communities, urban cores, public buildings, cemeteries and some early industrial sites (Belden, 1881; de Lery, 1764; McNiff, 1791; McPhillips, 1892; Pinney, 1857; Walling, 1877).

In the eighteenth century, the land use patterns of Indigenous and settler cultural groups overlapped (for details, see Appendix B). Farmsteads laid out during the French regime using the seigneurial system of land tenure, which provided waterfront access to all, situated all the early French farms along the Detroit River in a zone that also exhibits high potential for pre-contact Indigenous settlement. In contrast, nineteenth-century settlement under the British regime imposed an artificial grid structure on the inland landscape as townships were surveyed in rectangular patterns, lands drained, and roads constructed along concession boundaries throughout Essex County. Potential for finding the archaeological remains of historical structures exists within early urban boundaries, along settlement roads or waterways, and within the vicinity of known sites. The 1881 urban boundaries of Windsor, Sandwich and Walkerville, as indicated in the *Illustrated Historical Atlas of Essex County* (Belden, 1881), are useful in this regard.

3.2 Recording Location of Features Present on Historical Maps

Several sources of historical mapping were used to identify the location of historical features of interest as well as settlement centres within the City of Windsor (Belden, 1881; McPhillips, 1892; Pinney, 1857). Digital versions of these maps were imported into GIS software and georeferenced using present lot boundaries as well as modern landmarks. The locations of historical features of interest identified on these maps were then digitized into geographic space in order to be included in the colonial period archaeological potential layer.

While every effort was made to reduce potential errors, there are numerous potential sources of error inherent in such a process. These include the vagaries of map production (both past and present), the need to resolve differences of scale and resolution, and distortions introduced by reproduction of the sources. To a large degree, the significance of such margins of error is dependent on the size of

the feature being plotted, the constancy of reference points, the distances between them, and the consistency with which both they and the target feature are depicted on the period mapping.

3.3 Recording Location of Features Identified through Thematic History

A thematic history of the City of Windsor was compiled to identify extant or former historical features that might yield associated archaeological deposits (Appendix B). Each of these was checked against the historical site archaeological potential layer generated from Pinney's 1857 map (Pinney, 1857), Belden's historical atlas (Belden, 1881) and other sources (see Section 3.1, above) to ensure that they were included in the mapping. For those features that were not represented by either the 1857 or 1881 maps, further research was conducted to ascertain the true location so that they could be included in the historical site potential layer.

Early roads were identified by comparing nineteenth-century maps to twentieth-century topographic and City of Windsor mapping. Since a portion of the original Front Road, along the Detroit River, south of Sandwich, appears to have fallen into disuse and perhaps eroded into the river, between 1881 when the Belden atlas (Belden, 1881) was produced and the 1909 topographic mapping, part of that original trail could not be placed accurately. Most of the road alignments, however, appearing in Belden 1881 and on Walling 1877 (Walling, 1877), are still in existence. These include Riverside Drive, Huron Church Line, and Talbot Road lying along former Indigenous trails, and Grand Marais Road associated with the Turkey Creek marsh. Concession and sideroads in place by the mid-nineteenth century include Howard Avenue, Walker Road, Pilette Road, Lauzon Road and Malden Road running north to south, and Tecumseh Road, Cabana Road/Division Road and the former Second Concession aligned with E.C. Row expressway. Sprucewood Avenue and Morton Drive in Ojibwa are also early settlement roads with Sprucewood providing access to LaFrere's mill on Turkey Creek. With the exception of E.C. Row, all of these may retain some archaeological potential along portions of their routes.

The Great Western (now CNR) was the first railway into Windsor (1854). It was followed in the subsequent decades by several others, most of which still maintain their original corridors. These include the Lake Erie, Essex and Detroit River (later Pere Marquette, now CSX), the Canadian Pacific, Conrail (formerly Canada Southern, Michigan Central), and the Essex Terminal built to join up the various lines. The Sandwich, Windsor and Amherstburg, and The Windsor and Tecumseh electric street railways have also been mapped, as remnants of them may remain below current pavements, and former stations and terminals may still exist along the routes.

Although private and public wharves have been added along the Windsor shoreline, several shoreline structures on the Detroit River in Sandwich, apparent on the Belden (Belden, 1881) map, have not been mapped, as it was impossible to place them accurately along the shoreline. As the full extent of industrial land making along the riverfront through Sandwich and Ojibway is not known, the presence of early shoreline structures, now under water or fill, should be considered along with land-based archaeological resources during shoreline alterations in those areas.

Some well-known early industrial sites have been noted, including the Walker Distilleries (Walling, 1877), the early Ford factory (McKay, 1905), and Walkerside industrial dairy (1908 topographic). Detailed information on such sites is not consistently accessible and undoubtedly many other significant small industries, located in the urban cores, will be located as individual properties are assessed. Many small craft industries, such as blacksmith shops, mills and harness or carriage makers, often located in crossroad service communities, would all be considered to be of potential archaeological interest. Only one such operation, a blacksmith shop depicted on the northwest corner of Talbot Road and Howard Avenue (Belden, 1881), could be specifically located within the city limits. Early mill sites are also located within the city limits. Baby's mill in Sandwich has not yet been definitively located, but the site of the Badichon-Labadie (alternatively known as the Lassaline-Montreuil) windmill, which stood on what is now Walker distillery land, has likely been destroyed. Windsor now encompasses several nineteenth-century crossroad villages such as Meros Corners (Pilette Corners), Jackson's Corners (Roseland),

Pelton (Walker Junction) and North Pelton (Belden, 1881; Walling, 1877). These have been plotted according to the general boundaries indicated in Belden (Belden, 1881). Crossroad communities traditionally are the sites of important local services such as craft industries, hotels, churches, and schools.

Military sites in the Windsor area include two barracks sites, an 1812 American encampment, and several American landing sites along the river. The location of General Hull's 1812 American camp, sometimes referred to as Fort Gowie, could be mapped as it is known to have been on Lot 76, Concession I, a property purchased by Robert Gowie *circa* 1805 (Museum Windsor record M214 3/RR). The bastioned fortification has been depicted on an 1812 military engineer's map (Archives of Ontario record RG1 B-11) but due to various inconsistencies, the site could not be accurately mapped. With the exception, however, of the Windsor Barracks in Civic Square, all are within the high potential strip identified along the Detroit River frontage. The Sandwich barracks on the site of Brock School has been excavated.

All cemeteries identified on the historical mapping and the Ontario Genealogical Society, City of Windsor, and Bereavement Authority of Ontario databases were added to the colonial period archaeological site potential layer. Unregistered family burial plots may also be found unexpectedly on any early farmstead. The Ontario Genealogical Society's listing of cemeteries in Essex County was examined for unmapped family plots, but none were identified within the City boundary. Sometimes churchyards, which were in use as cemeteries in the past, no longer display evidence of grave markers. The Sandwich Baptist Church on Peter Street may be one example, as it is thought to have been used for burials in the nineteenth century.

The oldest church burial ground in Windsor is the Assumption Parish cemetery. It has, however, occupied several locations throughout its 250-year history, the latest of which is still in use and has been mapped. The earlier cemetery grounds are poorly documented and could not be pinpointed. They exist in the general areas north of Assumption Church in association with Vista Place and Patricia Road. Some parts of

these burial areas may be intact where buildings have not been constructed over them.

The two large eighteenth-century Indigenous cemeteries are shown generally on several early maps, particularly McNiff's map (McNiff, 1791). Both are also associated with village sites. Unfortunately, neither the villages nor cemeteries can be mapped with precision due to the inherent inaccuracy of the original maps. Nevertheless, an attempt has been made to place them generally in relation to landmarks such as unregistered Indigenous burial finds, French lot locations, and oral history about burial locations. In addition, certain parcels within the City of Windsor, including the Huron Reserve and the Huron Church Reserve (Surtees, 1984, p. 51), are of archaeological and other interest to regional First Nations (see also Section 7.2, below).

3.4 Summary of the Colonial Period Potential Model

The modelling of colonial period site potential is based on the premise that archaeological resources, including structures, are most likely to be found in and around documented cultural features. The proximity model assumes that most buildings and landscape alterations were built with access to nearby transportation routes, business trade, or specific resources such as waterpower. Urbanization on several scales also engenders clustering of structures creating city neighbourhoods and crossroad villages. Aspects of the roads, railways, and wharves themselves also contain potential for technological information.

Although historical maps provided general locations for former structures, they could not be relied upon for pinpoint accuracy because of differences of survey methodology, scale, and completeness. To allow for these variances, buffer zones using criteria listed in Table 2 were applied to the mapped features to determine general areas of potential. A 100-metre buffer zone was drawn around each specific registered archaeological site, early residential, institutional, or commercial structures where known, in order to capture associated outbuildings and make allowance for unreliable eighteenth- and nineteenth-century mapping. Buffer zones were not added to historical sites which fell within areas of high potential for pre-

contact Indigenous occupation, as they would already be captured. Several known wharves along the Detroit River, which represent both underwater and land-based potential, are marked with a 50-metre buffer zone to allow for approximate historical mapping.

Settlements and transport routes from the first half of the nineteenth century were considered to hold high potential for attracting roadside dwellings, businesses, utility buildings and route stations. Early routes considered significant were Riverside Drive (Front Road), Tecumseh Road (the first inland concession road), Grand Marais Road, Huron Church Road, Talbot Road, and farm lot sideroads leading from Riverside to Tecumseh (Howard, Walker, Lauzon, Pillette). The locations of farmsteads along settlement roads, although roughly illustrated on McNiff (McNiff, 1791) and Walling (Walling, 1877), were not individually plotted, as almost all lie within a short distance of an early road or the Detroit River within a buffer zone of 100 metres to either side of roadways. The buffer zones were plotted to catch most of these potential structures associated with the corridor rights-of-way. Similarly, 50-metre buffer were applied for early railways.

Developed urbanized areas, referenced as historical settlement centres, cannot automatically be eliminated from having potential because of the assumed disturbance of heritage resources by later construction. All areas within early to mid-nineteenth-century urban limits were considered to have archaeological potential, as many of them may encompass relatively undisturbed green patches and paved areas. Development dating prior to the 1950s has often been shown to only partially affect the integrity of pre-existing archaeological sites, and portions of such sites are often found to remain intact (see Section 4.1, below).

Registered cemeteries were given a buffer of 10-metres beyond known limits and other suspected or pioneer ones were marked with 100-meters buffer around a point.

Figure 2 presents the colonial period archaeological potential layer.

Table 2: Colonial Period Archaeological Potential Modelling Criteria

Environmental or Cultural Feature	Buffer Distance (metres)	Buffer Qualifier
Historical settlement centres	polygon as mapped	<ul style="list-style-type: none"> • none
Early residential, institutional, or commercial structures	100	<ul style="list-style-type: none"> • none
Early settlement roads	100	<ul style="list-style-type: none"> • none
Early wharves	50	<ul style="list-style-type: none"> • none
Early railways	50	<ul style="list-style-type: none"> • none
Cemeteries	10 100	<ul style="list-style-type: none"> • Registered cemeteries with known limits. 10 m beyond limits of cemetery • Suspected cemetery or pioneer cemetery. 100 m around point
Registered archaeological sites	100	<ul style="list-style-type: none"> • none

Figure 2: Colonial Period Archaeological Potential Layer

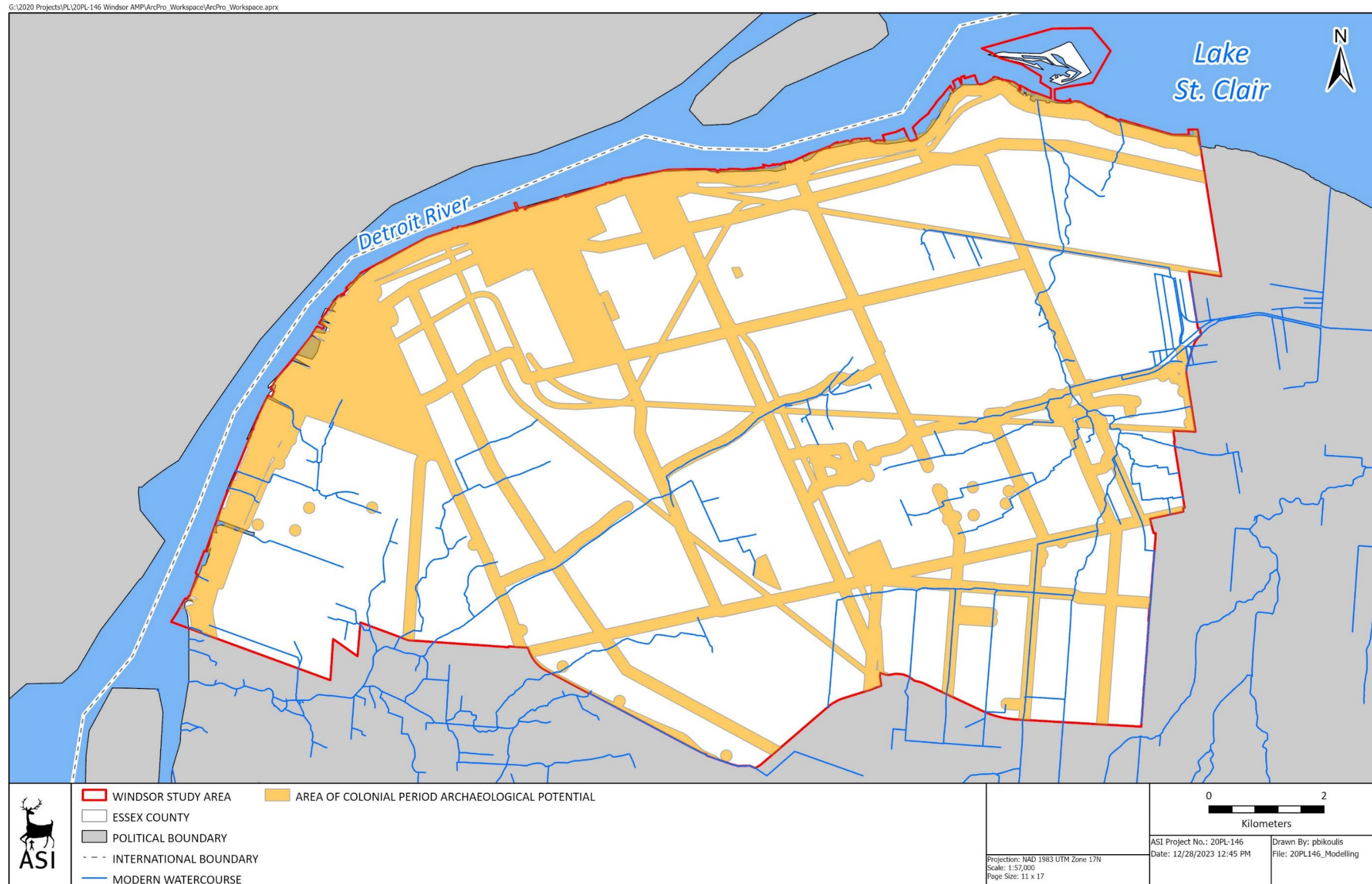


Figure 2: Colonial Period Archaeological Potential

4 Creating the Archaeological Potential Map

4.1 Archaeologically Sensitive Area Layer

Several known archaeological localities and settlement centres have been defined as “Archaeologically Sensitive Areas” (ASAs). In general, ASAs represent concentrations of interrelated features of considerable scale and complexity, some of which are related to single particularly significant occupations or a long-term continuity of use. Some may have an array of overlapping but potentially discrete deposits, including human burials. As such, the risk of encountering archaeological resources within an ASA are significantly elevated from the remainder of the archaeological potential zone. For Windsor, the following criteria were used to define ASAs: 250 metre proximity to the Detroit River; estimated area of the Huron Village and Jesuit Mission; estimated area of the Odawa Village and cemetery; approximate settlement limits of pre-1800 Sandwich; approximate limits of pre-1800 Euro-Canadian settlement; approximate limits of 1835 Euro-Canadian settlement.

4.2 Composite Archaeological Potential Layer

The composite archaeological potential layer (Figure 3) consolidates the pre-contact Indigenous archaeological potential layer (Figure 1) and the colonial period archaeological potential layer (Figure 2), as defined through application of the various modelling criteria (Tables 1-2).

As indicated in Tables 1 and 2, registered archaeological sites are included in the archaeological potential buffers. The original 2005 WAMP included discussions of unregistered archaeological sites and Indigenous burials (Sections 3.3 and 3.4, respectively). Although these sections have not been included in this update, the information has been reviewed and incorporated into Appendices A and B if the sites have been registered or sufficient information is provided to contribute to potential modeling. The remainder have not been included in this update, so readers are referred to the 2005 WAMP for details.

4.3 Integrity and Previously Assessed Lands Layers

The term archaeological integrity refers to the extent that development has modified or disturbed the physical landscape and, consequently, impacted archaeological resources through such activities as excavating, grading, filling, or compacting the soil. Land that has been extensively disturbed typically retains little or no archaeological integrity, whereas land that has been subjected to little or no disturbance exhibits a high degree of integrity. The latter may include parking lots, schoolyards, parks, farm fields, and golf courses. Certain settlement centres and registered archaeological sites that have not been completely excavated were also considered to retain integrity. The integrity GIS layer identifies areas that are deemed to possess low archaeological integrity and therefore do not warrant archaeological assessment.

The original WAMP integrity layer was compiled utilizing land use information within the city limits, aerial photographs flown in the year 2000, and a windshield survey through most major areas of the City of Windsor. For this update, integrity was reviewed using Google Earth ortho-imagery. Since detailed visual reconnaissance for integrity on a property-by-property basis was not feasible, and property-specific datasets for details such as individual building footprints with year of construction and presence of basements do not exist, the evaluation of integrity was based on a number of secondary sources. Areas such as landfills, brine holding areas, major industrial areas, and other large-scale landscape alterations were considered to have low integrity and were identified as such. City street maps were also utilized to check for street names which may have held some clue as to the history of a particular area, and to identify green spaces. Earlier topographic maps were also consulted, since some areas currently designated as green spaces were in fact, former land fill areas, which would have low integrity. Minimal visual reconnaissance was conducted to assess the general condition of green spaces, the overall age of various neighbourhoods, and any recent unmapped disturbances.

Areas deemed to have no remaining archaeological integrity were excluded from the zone of archaeological potential. Buffers extending from paved road

centrelines, sufficient to capture standard roadbeds (7.5 metres), are considered to have been disturbed and not retaining integrity. Additionally, those portions of active quarry sites which have been subject to deep excavation were considered to not retain integrity. It should be noted that refinements to the integrity layer may result from a detailed Stage 1 archaeological resource assessment which demonstrates clearly that a study area has been severely disturbed, thereby negating archaeological potential.

Certain areas in Windsor have already been subject to archaeological assessments by licensed archaeological consultants and deemed to be free of further archaeological concern. As with lands with no archaeological integrity, these areas are also excluded from the archaeological potential zone. The areas with no archaeological integrity and/or having already been cleared of further archaeological concern are illustrated in Figure 4.

4.4 Archaeological Potential Map

The archaeological potential map will be used when assessing a development application or municipal infrastructure project area for archaeological potential. This map is the composite archaeological potential layer minus areas that have no archaeological integrity and/or have previously been subject to archaeological assessments and require no further work. The archaeological potential map also features the Archaeologically Sensitive Areas (ASA), and is illustrated in Figure 5.

Figure 3: Composite Archaeological Potential Layer

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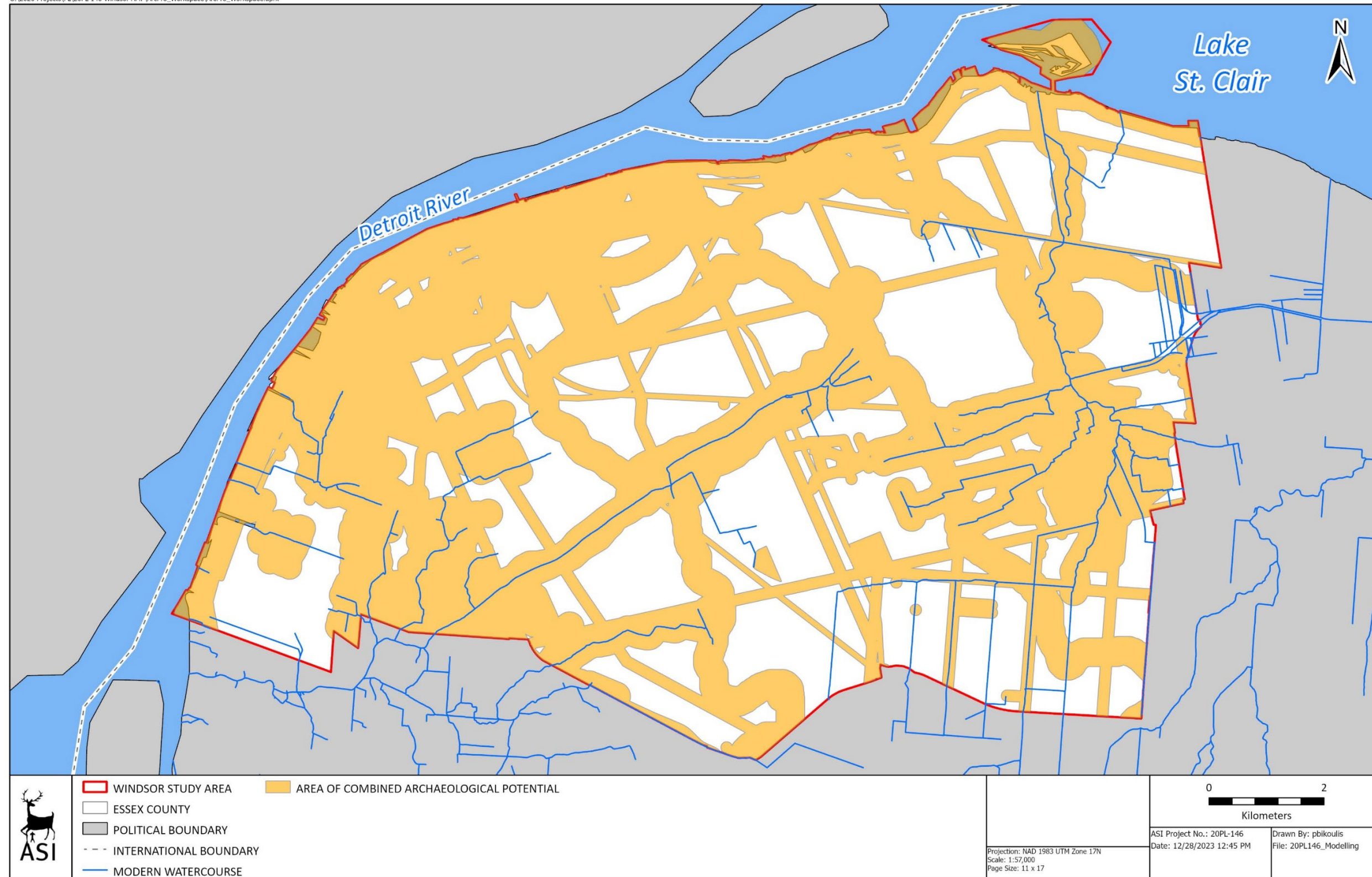


Figure 3: Combined Archaeological Potential

Figure 4: Lands With No or Low Archaeological Integrity

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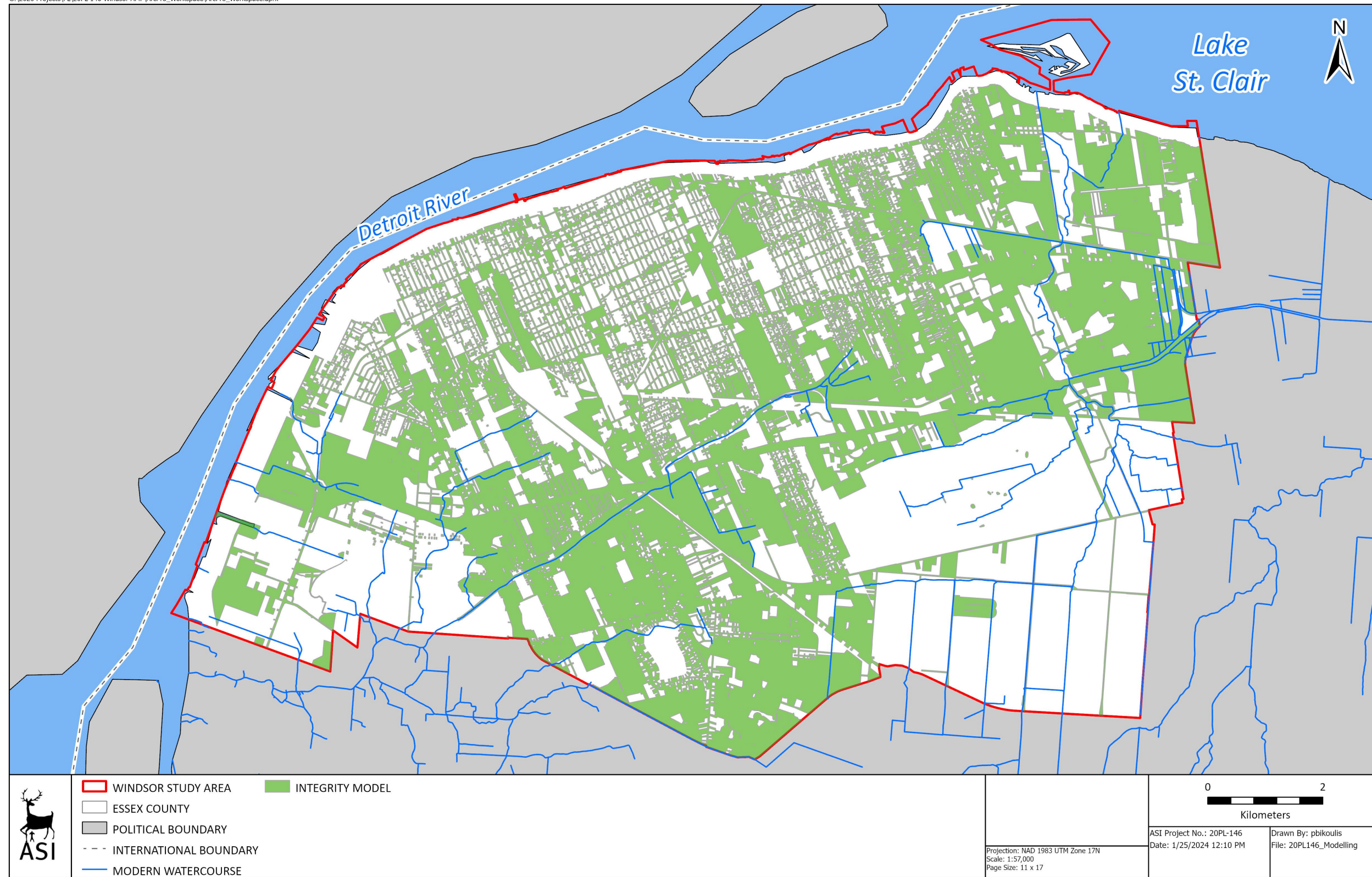


Figure 4: Archaeological Potential Zone and Lands with No Integrity or Previously Assessed and Cleared

Figure 5: Archaeological Potential in the City of Windsor

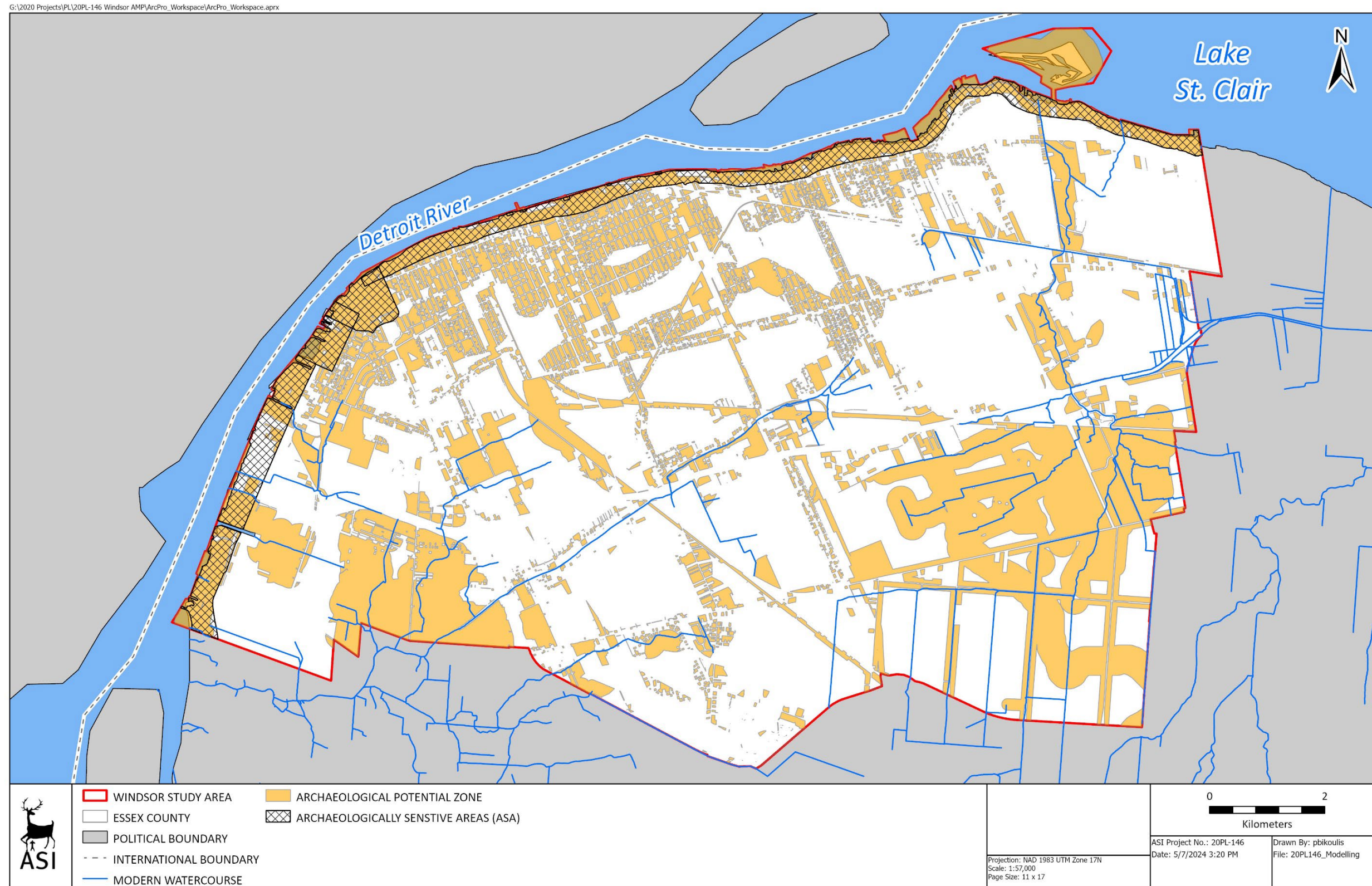


Figure 5: Archaeological Potential Zone and Archaeologically Sensitive Areas

Part 2: Archaeological Resource Management

It is the principal objective of Windsor’s archaeological management plan to judiciously and uniformly apply the archaeological potential model across the city. The archaeological resource review and management approaches presented in this part of the Windsor Archaeological Management Plan are consistent with provincial legislation regulating archaeological resource conservation.

This part of the archaeological management plan also addresses site identification and mitigation through excavation, Indigenous nation engagement for archaeology, artifact care and the encouragement of greater citizen awareness of Windsor’s archaeological record.

5 Archaeological Resource Conservation and Planning

In Ontario, the conservation of cultural heritage resources is an objective of planning activity, as it is in many other provinces and countries. As Section 2 of the Planning Act states, “the conservation of features of significant architectural, cultural, historical, archaeological, or scientific interest” is a matter of provincial interest.

This provides a key mechanism for protecting archaeological resources in Windsor to ensure that future development (e.g., residential, industrial, recreational and infrastructure construction) clearly respects and follows provincial policy. In response to this provincial direction, the conservation of archaeological resources is addressed in Windsor’s Official Plan, which sets the goals and priorities to shape the future growth, conservation, and evolution of the city.

5.1 Threats to Archaeological Resources

Protecting archaeological sites has become especially important in southern Ontario

where landscape change has been occurring at an ever-increasing rate since 1950, resulting in substantial losses to non-renewable archaeological resources.

The scale of the threats facing the finite and non-renewable archaeological record of southern Ontario was considered in a study in which rates of demographic and agricultural change were examined over the last century for south-central Ontario, and estimates generated of the number of archaeological sites that have been destroyed (Coleman & Williamson, 1994). The period of initial disturbance to sites was from 1826 to 1921 when large tracts of land were deforested and cultivated for the first time. During this period, disturbance typically resulted in only partial destruction of archaeological data as most subsurface deposits remained intact.

Unprecedented population growth in the post-World War II period, however, resulted in large amounts of cultivated land being consumed by urban growth, significantly threatening Ontario's archaeological resources. It is possible that more than 10,000 sites were destroyed in the period between 1951 and 1991. Of these, 25% represented significant archaeological features that would have merited some degree of archaeological investigation since they could have contributed meaningfully to an understanding of the past (Coleman & Williamson, 1994).

Archaeological sites also face a less direct, but equally serious threat from man-made changes to the landscape that inadvertently alter or intensify destructive natural processes. Increased run-off of surface water in the wake of forest clearance, for example, or hydrological fluctuations associated with industrial and transportation development may result in intensified rates of erosion on certain archaeological sites due to natural processes such as inundation. The amount of land (and hence the potential number of archaeological sites) which has been subjected to these destructive forces is impossible to quantify but is likely considerable.

There has been a marked reduction in the rate of archaeological site destruction since provincial planning regulations were strengthened in the 1990s and almost all major

municipalities in southern Ontario have carried out archaeological management plans and adopted progressive planning policies concerning archaeological site conservation. The potential for the loss of archaeological resources in the future remains great, however, due to continuing growth and development.

In the process of landscape change, archaeological resources may be affected in several ways. Change may result from some action that is purposefully induced in the environment, such as development activities (e.g., road construction, residential building). Change may also be a gradual and natural process of aging and degeneration, independent of human action, which affects artifacts, building materials, human memories, or landscapes. One objective of land use planning is to ensure that change, when it does result from human activity, is controlled. Any impacts upon archaeological resources resulting from land disturbing activities must be either averted or minimized.

5.2 Provincial Legislative Framework

One of the objectives of the preparation of the WAMP was to review and ensure the City of Windsor is compliant with all current applicable provincial legislation and policy. This section outlines this legislation and policy, and the following sections provide guidance on how Windsor will adhere to it.

5.2.1 Provincial Legislation

The specific provincial legislation governing planning decisions is complex but provides for several opportunities for the integration of archaeological conservation at the municipal level. The two main pieces of provincial legislation that create triggers for archaeological resource assessment are the Planning Act and the Environmental Assessment Act, while the Ontario Heritage Act regulates archaeological practice and conservation and protection of cultural heritage resources. The Provincial Policy Statement, 2020 (PPS) encourages municipalities to develop and implement archaeological management plans. Approximately 500 to 800

archaeological sites have been documented annually in southern Ontario since 1990 because of municipalities implementing this provision.

5.2.2 Planning Act & Provincial Policy Statement

Conservation of features of significant archaeological interest is identified as a matter of provincial interest under Section 2 of the Planning Act. Section 2 of the Planning Act also indicates that municipalities “shall have regard to” matters of provincial interest when making decisions pursuant to the Planning Act. This is reinforced through the PPS, which is issued under Section 3 of the *Planning Act*. Section 3(5) of the *Planning Act* also lays out municipal responsibilities in regard to the Provincial Policy Statement:

a decision of the council of a municipality, a local board, a planning board, a minister of the Crown and a ministry, board, commission or agency of the government, including the Municipal Board, in respect of the exercise of any authority that affects a planning matter, “shall be consistent” with this policy statement.

Thus, all decisions made during the land development process, regardless of the nature of the proposed development or site alteration, should address known or potential impacts to archaeological resources. The provisions in the Planning Act make it clear that archaeological resources must be conserved on public or private lands prior to the approval of a planning or development application.

Section 51 (17) of the *Planning Act* sets out the information required to be submitted with an application for subdivision approval. Schedule 1 of O. Reg. 544/06 (under the Planning Act), indicates the prescribed information that the applicant has to provide to the approval authority (i.e., City of Windsor) as follows:

Section 23. Whether the subject land contains any areas of archaeological potential.

Section 24. If the plan would permit development on land that contains known

archaeological resources or areas of archaeological potential:

- a) an archaeological assessment prepared by a person who holds a license that is effective with respect to the subject land, issued under Part VI (Conservation of Resources of Archaeological Value) of the Ontario Heritage Act; and
- b) a conservation plan for any archaeological resources identified in the assessment.

Additionally, Section 34 (3.3) of the Planning Act indicates that Zoning by-laws may be passed by the councils of local municipalities for “prohibiting any use of land and the erecting, locating or using of any class or classes of buildings or structures on land that is the site of a significant archaeological resource.”

The Provincial Policy Statement (PPS) provides policy direction on matters of provincial interest related to land use and development. This vision and policy statement now guide all provincial and local planning authorities in their land use planning decisions. With respect to archaeological resources, the PPS states that:

Development and site alteration shall not be permitted on lands containing archaeological resources or areas of archaeological potential unless significant archaeological resources have been conserved.... [Conserved]“means the identification, protection, management and use of built heritage resources, cultural heritage landscapes and archaeological resources in a manner that ensures their cultural heritage value or interest is retained under the Ontario Heritage Act. This may be achieved by the implementation of recommendations set out in a conservation plan, archaeological assessment, and/or heritage impact assessment that has been approved, accepted or adopted by the relevant planning authority and/or decision-maker. Mitigative measures and/or alternative development approaches can be included in these plans and assessments (Provincial Policy Statement, Ontario Ministry of Municipal Affairs and Housing, 2020).

In PPS archaeological resources are defined as those which “includes artifacts, archaeological sites and marine archaeological sites, as defined under the Ontario Heritage Act. The identification and evaluation of such resources are based upon archaeological fieldwork undertaken in accordance with the *Ontario Heritage Act*.” Areas of archaeological potential “means areas with the likelihood to contain *archaeological resources*. Criteria to identify archaeological potential are established by the Province. The Ontario Heritage Act requires archaeological potential to be confirmed by a licensed archaeologist.”

The PPS also includes policies recognizing Indigenous interests in the land use planning and development process. This recognition acknowledges the importance of Indigenous peoples’ history and cultural heritage and the need to engage with Indigenous communities when planning decisions are made that may affect their Aboriginal or treaty rights in accordance with Section 35 Constitution Act, 1982.

Note: At the time of preparation of this document the Province of Ontario proposed amendments to the Provincial Policy Statement 2020 through PPS 2024, which may impact the above provision. Therefore this document may need to be updated in the future to incorporate the provisions of proposed PPS 2024.

5.2.3 Environmental Assessment Act

The Environmental Assessment Act applies to public sector projects and designated private sector projects. Private sector projects that are designated by the Province as subject to the *Environmental Assessment Act* are usually major projects such as landfills. The purpose of the *Environmental Assessment Act* is “the betterment of the people ... by providing for the protection, conservation and wise management in Ontario of the environment” (Section 2).

Environment is very broadly defined to include “the social, economic and cultural conditions that influence the life of humans or a community” [Section 1(c) (iii)] and “any building, structure, machine or other device or thing made by humans” [Section

1(d) (iv)]. Within this definition, archaeological artifacts are included in the “things” made by humans, and archaeological remains of residential structures, for example, fall within the “buildings” and “structures” made by humans.

The Environmental Assessment Act requires the preparation of an environmental assessment document, containing inventories, alternatives, evaluations, and mitigation. It is subject to formal government review and public scrutiny and, potentially, to a tribunal hearing. In Section 6.1 (2), it is noted that “the environmental assessment must consist of,” among other things, “(i) a description of the environment that will be affected or that might reasonably be expected to be affected, directly or indirectly; (ii) the effects that will be caused or that might reasonably be expected to be caused to the environment, and (iii) the actions necessary or that may reasonably be expected to be necessary to prevent, change, mitigate or remedy the effects upon or the effects that might reasonably be expected upon the environment.” Studies of archaeological resources, as well as built heritage resources and cultural landscapes, are therefore necessary to address the requirements of the *Environmental Assessment Act*.

The Municipal Class EA process is a streamlined environmental assessment used for proposed municipal infrastructure projects like water supply, sanitary sewage, and road/transportation projects. These projects are categorized under four schedules according to their impacts on the environment; Schedule A and A+ projects are anticipated to have negligible to minimal effect on the environment and do not often require cultural heritage or archaeological assessments. Archaeological assessments are more commonly undertaken as part of Schedule B and Schedule C Municipal Class EA projects, where environmental impacts range from adverse to significant. Impacts to the Cultural Environment (archaeological resources and built heritage resources) must be inventoried to adequately consider the effects of a project on the environment. Archaeological assessments are a critical piece in the suite of considerations that inform the Municipal Class EA process, as it reviews existing conditions and develops and assesses alternatives for the proposed infrastructure

project.

Various provincial ministries are establishing protocols related to activities subject to the environmental assessment process in order to ensure that cultural heritage resource conservation in their respective jurisdictions is addressed. The Ontario Ministry of Transportation's *Environmental Reference for Highway Design* (2006), for example, ensures that archaeological assessments are undertaken in advance of all new road construction to ensure that no archaeological sites will be unknowingly damaged or destroyed. Similarly, the Ontario Ministry of Natural Resources and Forestry prepared the *Forest Management Guide for Cultural Heritage Values* (2014) to help protect archaeological sites, areas of archaeological potential, cultural heritage landscapes, historical Indigenous values, and cemeteries during forest operations.

5.2.4 Ontario Heritage Act

The Ontario Heritage Act governs the general practice of archaeology in the province to maintain a professional standard of archaeological research and consultation.

Pursuant to s.2 of the Ontario Heritage Act, the Minister is responsible for determining policies, priorities, and programs for the conservation, protection, and preservation of the cultural heritage of Ontario. These goals are partially accomplished through the provisions of the PPS and the legislated processes, such as those in the Planning Act and Environmental Assessment Act, rather than directly through the Ontario Heritage Act.

The Heritage Branch of the Ministry ¹ has the primary administrative responsibility

¹ Provincial management of cultural heritage resources has been carried out by operation units attached variously to the Ministry of Citizenship, Culture and Recreation (1993-1998), the Ministry of Tourism, Culture and Recreation (1998-2002),

under the Planning Act and Ontario Heritage Act for matters relating to heritage conservation. The Archaeology Program Unit is responsible for licensing archaeologists and reviewing archaeological assessments. The Heritage Planning Unit provides advisory services related to conservation of cultural heritage resources within the land use planning framework. Under the Planning Act, it is the responsibility of the Approval Authority (e.g., municipality) to ensure that land development applicants have undertaken archaeological resource identification and mitigation in advance of development through an archaeological assessment carried out by an archaeologist licensed under the Ontario Heritage Act for lands that contain any areas of archaeological potential.

Under Section 48 (1) of the Ontario Heritage Act, no person shall carry out archaeological fieldwork or, knowing that a site is a marine or other archaeological site within the meaning of the regulations, alter the site or remove an artifact or any other physical evidence of past human use or activity from the site unless the person applies to the Minister and is issued a licence that allows the person to carry out the activity in question.

The Ontario Heritage Act also contains significant penalties for altering an archaeological site without a permit. Under Section 69 (1) of the Ontario Heritage Act, anyone who disturbs or alters an archaeological site or removes an artifact from a site without a licence can be fined or imprisoned. A person or a director of a corporation on conviction under the Ontario Heritage Act or its regulations can face a fine of up to \$50,000 or imprisonment for up to one year or both. A corporation on conviction

the Ministry of Culture (2002-2010), the Ministry of Tourism, Culture and Sport (2011 to 2019), Ministry of Heritage, Sport, Tourism and Culture Industries (2019 to 2022), Ministry of Tourism, Culture, and Sport (2022), and Ministry of Citizenship and Multiculturalism (2022).

under the Ontario Heritage Act or the regulations can face a fine of up to \$250,000.

While the filing of charges is at the discretion of the Ontario Provincial Police, Section 62 (1) of the Ontario Heritage Act empowers the Minister, should they and the Ontario Heritage Trust be of the opinion that property is of archaeological or historical significance and is likely to be altered, damaged, or destroyed by reason of commercial, industrial, agricultural, residential or other development, to issue a stop work order directed to the person responsible for such commercial, industrial, agricultural, residential or other development and prohibit any work on the property for a period of no longer than 180 days. Within that period the Minister or any person authorized by the Minister in writing may examine the property and remove or recover artifacts from the property.

All archaeological assessment reports are submitted to the Ministry as a condition of an archaeological license and are reviewed by Ministry staff to ensure that the activities conducted under a license meet current technical guidelines, resource conservation standards, and the regulations of the Ontario Heritage Act.

5.2.5 Renewable Energy Approvals Regulation

The Renewable Energy Approvals regulation (O. Reg. 359/09), issued under the Environmental Protection Act, sets out the cultural heritage resource identification and mitigation requirements for obtaining approval to proceed with a renewable energy project. The regulation provides a streamlined approvals process, while simultaneously ensuring that the proposed project considers and avoids or mitigates impacts to the environment, including the cultural environment. O. Reg. 359/09 separates cultural heritage resources into “archaeological resources” and “heritage resources” (including both built heritage and cultural heritage landscapes) and addresses each separately (Sections 19 through 23 of O. Reg. 359/09). The Ministry has also issued a bulletin entitled Cultural Heritage Resources: An Information Bulletin for Projects Subject to Ontario Regulation 359/09 – Renewable Energy Approvals (2013).

The Renewable Energy Approvals regulation requires the development proponent to conduct archaeological and heritage assessments that identify and consider potential impacts to cultural heritage resources and propose strategies for mitigation of those impacts. Applicants may choose to undertake a self-assessment if there is reason to believe that there is low likelihood for archaeological and heritage resources to be present at the project location. The “self-assessment” is undertaken using Ministry checklists to determine if there is potential for archaeological resources present.

5.2.6 Aggregate Resources Act

The Ministry of Natural Resources and Forestry, which administers the Aggregate Resources Act (1990), recognizes the potential impact quarrying activities may have on cultural heritage resources such as archaeological sites. Pursuant to O. Reg. 244/97 under the Aggregate Resources Act, the process for addressing archaeological concerns is similar to that outlined for Planning Act related projects. This regulation indicates that a background study, field survey and detailed archaeological investigations are required in accordance with the Aggregate Resources of Ontario-Technical Reports and Information Standards. Furthermore, the development of a pit or quarry will often require an Official Plan Amendment or Zoning By-law Amendment, and thus would require involvement by the municipality.

5.2.7 Funeral, Burial and Cremation Services Act

The Funeral, Burials and Cremation Services Act, 2002 (formerly the *Cemeteries Act*, which was repealed in 2012) addresses the need to protect human burials, both marked and unmarked, which are yet another valuable link to the past. Burial locations uncovered on archaeological sites constitute “burial ground”. The discovery of such burials requires further archaeological investigation in order to define the extent and number of interments, and either the registration of the burial location as a cemetery, or the removal of the remains for re-interment in an established cemetery. The actual workings of this process are complex and vary depending on the nature of the burial(s) (e.g., isolated occurrence or part of a more formal cemetery)

and on the cultural affiliation of the remains. In all cases, the success of the process is dependent upon the co-operation of the property owner, the next of kin (whether biological or prescribed), and the Registrar of Burial Sites in the Ministry of Public and Business Service Delivery (formerly Ministry of Government and Consumer Services). The role of the Ministry is to assist in co-ordinating contact and negotiation between the various parties and ensuring that burial site investigations by licensed archaeologists meet provincial policies, standards, and guidelines.

5.3 Compliance and Enforcement

The City of Windsor has an important role to play when municipal approval is engaged, in not only ensuring compliance with the statutory obligations outlined above, but in facilitating and enforcing compliance in conjunction with the Windsor Police Service, the Ontario Provincial Police, and the Archaeology Program Unit of the Ministry. If municipal approval processes are not engaged, then only provincial jurisdiction and enforcement applies.

Protections afforded to archaeological resources under the Ontario Heritage Act make it illegal to alter or remove artifacts from a site except under licence issued by the Ministry (see Section 5.2.4, above). This pertains not only to archaeological management in the context of various approvals processes and other major soil-disturbing activities, but also activities pursued by avocational archaeologists and hobbyists, including artifact hunting on cultivated agricultural lands, prospecting on archaeological sites, or metal detecting. To pursue such activities legally, individuals must obtain an Avocational Licence from the Ministry.

The WAMP is a tool that Windsor can use to inform all stakeholders of the locations of archaeological potential to comply with the obligations under various legislation. Additionally, the City of Windsor issues Metal Detecting Permits for City Parks outside of archaeological potential zones. The permit system and protocol began around 2020, after approval and review by the Ministry and First Nations representatives.

However, the provisions of WAMP and all relevant legislation apply in the event that any archaeological resources are encountered.

6 Municipal Policy

6.1 Official Plan

The City of Windsor Official Plan enables the implementation of the WAMP.

The current Official Plan's heritage policies (Chapter 9 Heritage Conservation) provide for the identification and conservation of archaeological sites in accordance with the Ontario Heritage Act. For reference, these policies are included here in Appendix D, Section 2.

These policies provide a strong foundation for the protection and sound management of archaeological resources in the City of Windsor. As part of the preparation of this archaeological management plan, the Official Plan policies will be amended to align with the 2020 Provincial Policy Statement under the Planning Act as it relates to archaeological conservation and engagement with Indigenous nations. Accordingly, amendments to some of the existing policies are presented in Appendix D, Section 3, of this report.

7 Indigenous Engagement in the Archaeological Assessment Process

7.1 Principles and Methods of Indigenous Engagement

Canadian society is striving to rebalance the relationship with Indigenous peoples guided by statutory rights and obligations, including those established in the Canadian constitution and developing case law, principles, such as those outlined in the United Nations Declaration on the Rights of Indigenous People (UNDRIP), and recommendations, such as the Calls to Action of the Truth and Reconciliation

Commission of Canada (TRC) (Association of Municipalities Ontario, 2021a; Ontario Professional Planners Institute, 2019).

This section is intended to provide Windsor with contextual information to help understand its Indigenous engagement role specifically as it pertains to the protection of Indigenous archaeological heritage resources. It may help inform Windsor's broader role and Indigenous engagement responsibilities, but it should not be considered a substitute for enterprise-level municipal engagement policies and procedures, nor for advice from legal counsel who specialize in Indigenous law and the constantly evolving case law and government policy.

7.1.1 Crown Duty to Consult and Accommodate

Public sector agencies who represent the Crown, including federal, provincial, and territorial governments and certain Crown agencies and regulatory bodies in some situations, bear the Crown duty to consult and accommodate Indigenous nations when making decisions that may affect Aboriginal and/or Treaty rights. These agencies are generally alert to this duty and often have professionals in their ranks with the responsibility of guiding the process. While they cannot delegate the Crown duty, they may delegate procedural aspects to other agencies and municipalities to assist in its fulfillment (Kleer et al., 2011).

Since municipalities are not identified as the Crown in Canada's constitutional legislation, municipalities do not have the Crown's duty to consult Indigenous nations. However, from a practical point of view municipalities and their service providers (such as consulting archaeologists – described below) are often either subject to regulatory requirements related to the Duty to Consult Indigenous peoples or are actually delegated responsibilities related to these duties.

The PPS mandates Indigenous engagement in the planning process. Private sector land development proponents also need to be aware of these changes and the fact that engagement with Indigenous peoples is becoming a more rigorous feature of the

planning approvals process across Ontario and throughout Canada (Yarahmadi, 2021).

7.1.2 Engagement Obligation of Licensed Archaeologists

The Ministry licenses archaeologists under the provisions of the Ontario Heritage Act. In carrying out their work, licensees have a statutory obligation to comply with *Standards and Guidelines for Consultant Archaeologists* (MTC, 2011). These include engaging with Indigenous nations when dealing with Indigenous archaeological sites.

Support for engagement by licensed archaeologists is in the best interest of the development proponent and the approval authority (City of Windsor) to develop and maintain positive working relationships with interested Indigenous nations.

In an effort to facilitate the engagement process, the archaeological resource management industry works with Indigenous nations to develop best practices for engagement. The approach that has gained the most widespread acceptance has been the training and inclusion of Indigenous practitioners, variously referred to as liaisons, monitors, or field liaison representatives, to work alongside consultant archaeologists in the field. With costs for these workers underwritten by development proponents, Indigenous nations gain both capacity funding, allowing them to participate in the engagement process, and first-hand knowledge of the archaeological fieldwork dealing with their cultural patrimony. Working with Indigenous liaisons, often from more than one Indigenous nation with overlapping treaty lands or traditional territories, has become routine practice for licensed archaeologists.

7.2 Legislative Context

Section 17 of the Planning Act requires that the Chief of every First Nation Council on a Reserve within one kilometer of proposed official plan or official plan amendments is circulated on notices for those applications, as part of the public notice process (O.

Reg. 543/06, s. 3 (9); O. Reg. 467/09, ss. 2, 3).

While there are no Reserves that fall within that distance of the boundaries of the City of Windsor, planning authorities in Ontario are further required to engage with Indigenous nations having interest in the area in the planning approvals process. This is affirmed in the PPS which states that:

“The Province’s rich cultural diversity is one of its distinctive and defining features. Indigenous communities have a unique relationship with the land and its resources, which continues to shape the history and economy of the Province today. Ontario recognizes the unique role Indigenous communities have in land use planning and development, and the contribution of Indigenous communities’ perspectives and traditional knowledge to land use planning decisions. The Province recognizes the importance of engaging with Aboriginal communities on planning matters that may affect their section 35 Aboriginal or treaty rights. Planning authorities are encouraged to build constructive, cooperative relationships through meaningful engagement with Indigenous communities to facilitate knowledge-sharing in land use planning processes and inform decision-making.” (Part IV, Vision for Ontario’s Land Use Planning System).

The Provincial Policy Statement also states the following:

- Planning authorities shall engage with Indigenous communities and coordinate on land use planning matters (Policy 1.2.2, Section 1.2 Coordination);
- This Provincial Policy Statement shall be implemented in a manner that is consistent with the recognition and affirmation of existing Aboriginal and treaty rights in Section 35 of the *Constitution Act, 1982* (Policy 4.3, Section 4.0 Implementation and Interpretation).

The Indigenous engagement process should be distinct and separate from the general public engagement process. While Indigenous nations may be invited to the public engagement meetings, they will expect to discuss these matters on a government-to-

government basis.

With respect to archaeological resources, the Provincial Policy Statement states that:

- Planning authorities shall engage with Indigenous communities and consider their interests when identifying, protecting and managing cultural heritage and archaeological resources (Policy 2.6.5, Section 2.6 Cultural Heritage and Archaeology).

It is therefore recommended that the City of Windsor adopt an administrative process for engagement with the Indigenous nations identified in Section 7.4. This process should be tailored to the engagement and accommodation preferences of each community. It should involve relationship development and maintenance of a dialogue that is responsive to changing needs and capacities. Indigenous input can ultimately influence the development of plans which protect ecologically sensitive lands, significant archaeological sites, and other important areas, as well as the development of interpretation plans to share information about Indigenous heritage through plaques, signage, exhibits, social media posts, etc. The above-noted applications and projects have the greatest potential for impacting land use decisions and therefore would benefit from meaningful engagement with Indigenous nations. In turn, Indigenous input can ultimately influence the development of plans which protect ecologically sensitive lands, significant archaeological sites, and other important areas, as well as the development of interpretation plans.

Also, the Ministry *Standards and Guidelines for Consultant Archaeologists* (MTC, 2011) mandate engaging with Indigenous nations for Stage 3 and Stage 4 archaeological assessments as follows:

- In Stage 3, when assessing the cultural heritage value or interest of an Indigenous archaeological site that is known to have or appears to have sacred or spiritual importance or is associated with traditional land uses or geographic features of cultural heritage interest or is the subject of Indigenous oral histories [Section 3.4].

- At the end of Stage 3, when formulating a Stage 4 strategy to mitigate the impacts on the following types of Indigenous archaeological sites through avoidance and protection or excavation [Sections 3.4 and 3.5]:
 1. rare Indigenous archaeological sites;
 2. sites identified as sacred or known to contain human remains;
 3. Woodland period Indigenous sites;
 4. Indigenous archaeological sites where topsoil stripping is contemplated;
 5. undisturbed Indigenous sites; and,
 6. sites previously identified as of interest to an Indigenous community.

These standards are emphasized in the Ministry bulletin entitled *Engaging Aboriginal Communities in Archaeology: a Draft Technical Bulletin for Consultant Archaeologists* (Ministry of Tourism, Culture and Sport, 2011), which provides additional resources and guidelines to help licensed archaeologists fulfill their statutory obligation for engagement with Indigenous nations.

Much has changed since this engagement obligation came into effect and the engagement process continues to evolve as Indigenous nations seek to participate more fully in all stages of archaeological assessment and mitigation. For example, many nations now seek funding from development proponents to assign Indigenous monitors to Stages 2 through 4 archaeological fieldwork and this is becoming common practice throughout the province. It is expected that the engagement process will continue to develop through the coming years as Canadian society seeks to rebalance its relationship with Indigenous peoples in accordance with developing case law and other guiding declarations and principles (e.g., the Crown Duty to Consult and Accommodate Indigenous nations, the Truth and Reconciliation Commission Calls to Action (2015), and the United Nations Declaration on the Rights of Indigenous Peoples

(UNDRIP) with its tenet of Free, Prior and Informed Consent (FPIC)). All those involved in managing archaeological resources in the land-use planning process—including Indigenous nations, municipal planning approval authorities, development proponents, and licensed archaeologists—have important roles in proactively developing a respectful engagement process that best serves the needs of all concerned.

It is often assumed that the Indigenous nation that is geographically closest to a given project is the most suitable group with whom to engage. However, the complex histories of the Indigenous peoples of Windsor and vicinity, both before and after European contact and colonial settlement, means that such assumptions can be simplistic and detrimental to the success of the entire engagement process. Under these circumstances there should be an effort to identify all groups that are appropriate (on culture-historical grounds) to act as the designated descendants of those who occupied the region in the past, and who are willing to participate. This identification process is best achieved through communication with a variety of Indigenous nations and communities in order that they may arrive at the final decision. In this way, ancient sites are represented by several nations together.

7.3 Indigenous Treaty History and Traditional Territories

The City of Windsor lies within the traditional territory of the Anishinaabe nations that comprise the Three Fires Confederacy: Ojibwa (Chippewa), Odawa (Ottawa), and Potawatomi. The land was acquired by the British Crown in the late eighteenth and nineteenth centuries by Treaty #2 (also known as the McKee Purchase or the 1790 Treaty of Fort Detroit) and a series of subsequent negotiated purchase agreements signed with representatives of these Anishinaabe nations together with representatives of the Huron (Wendat/Wyandot) Nation. The latter community had taken sanctuary in the area at the invitation of their Anishinaabe allies in the early eighteenth century (Jacobs & Lytwyn, 2020; Walpole Island Heritage Centre, 2018).

The land also lies within the precincts of the Beaver Hunting Ground Deed (also known as the Nanfan treaty and the 1701 Treaty of Fort Albany) signed between the Haudenosaunee Confederacy (Five Nations) and the British Crown at Albany, NY, in 1701. That same year, the Anishinaabe and the Haudenosaunee signed the Great Peace of Montreal treaty, negotiated between the government of New France and thirty-nine Indigenous nations, that ratified the Dish With One Spoon principle for sharing resources while respecting sovereign territories (Jacobs & Lytwyn, 2020).

The advent and significance of historical treaties are rooted in the Royal Proclamation of 1763, issued by King George III. The Proclamation affirmed that Indigenous people live under the protection of the Crown and that they were not to be “molested or disturbed in the Possession of such Parts of Our Dominions and Territories as, not having been ceded to, or purchased by Us, are reserved to them, or any of them, as their Hunting Grounds...” This statement recognized the existence of Aboriginal rights and title to vast areas within North America and beyond. In particular, the Royal Proclamation identified the lands west of the Appalachian Mountains, not including Rupert’s Land in the north as being Indigenous land, and therefore subject to land acquisition agreements between the Crown and the affected nations.

Between 1764 and 1815, the government acquired the lands of the shoreline of the upper St. Lawrence as well as the lower Great Lakes. While the earliest treaties were related to the use of land for military and defensive purposes, following the American Revolutionary War many treaties were for the purposes of settling the roughly 30,000 United Empire Loyalists who refused to accept American rule. After the War of 1812, the colonial administration of Upper Canada focused on greater settlement of the colony, and land purchases were then concerned with those lands beyond this first range of settlement. These involved a swath of about seven million acres from the Ottawa River to the eastern shores of Georgian Bay. After 1836, many portions of the northern and northwestern sections of the province were acquired, including the Saugeen Peninsula, Manitoulin Island and the north shores of Lake Huron and Lake Superior (Hall, 2019; Indigenous and Northern Affairs Canada, 2010; Surtees, 1984).

While the Royal Proclamation of 1763 established that all lands had to be purchased by the Crown before being allocated to settlers, several land purchases in the Detroit area, including the Thames Valley, had been privately negotiated with Indigenous groups or were being occupied by illegal squatters (Surtees, 1984, p. 47). The fact that these land purchases had been negotiated prior to a formal agreement placed additional pressure on the Crown to legitimize these purchases and to protect these lands from encroachment from American or French settlement (Surtees, 1984, p. 51). To regulate the situation, and to ensure the protection of the western part of its territory, the Crown appointed Alexander McKee to negotiate on its behalf the cession of the lands north of Lake Erie.

McKee was Deputy Agent for the Crown and had strong relationships with Indigenous communities in the Detroit area, having served in this capacity for both American and British forces through the latter half of the eighteenth century (Horsman, 1979). Aware of the political situation, McKee toured the area to discuss with Indigenous nations the potential negotiation of lands North of Lake Erie. McKee's request was met positively, and he convened a meeting to formalize the purchase at Detroit in May 1790. Present at the meeting were the officers of the 60th Regiment at Detroit, fur traders, officials of the Indian Department and 27 chiefs, representing the Odawa, Chippewa, Potawatomi and Huron (Wendat/Wyandot) Nations (Surtees 1984:51). Communities received a single payment of £1,200 in Quebec currency worth of goods (Surtees, 1984, p. 51). The Treaty was signed on June 22, 1790 and covers a 5,440 square kilometre area north of Lake Erie going from the Detroit River to the west to the base of Long Point to the east and as far north as the Thames River (Crown-Indigenous Relations and Northern Affairs, 2016a; Surtees, 1984, p. 51).

As part of the original purchase, all the islands in the St Clair River were excluded from the purchased lands as well as two small tracts of land in the Windsor area, known as the Huron Reserve and the Huron Church Reserve (Surtees, 1984, p. 51). These lands were renegotiated throughout the nineteenth century, beginning with the cession of the 1,078-acre (436 ha.) Huron Church Reserve in 1800 under Treaty #12 (Crown-

Indigenous Relations and Northern Affairs, 2016b). The remaining Huron Reserve was ceded through multiple small transactions through the remainder of the nineteenth century and was concluded in 1876 when the Wyandots of Anderdon applied for enfranchisement under the Indian Act, thereby removing the land rights for the band (Surtees, 1984, p. 127).

In 2014, Walpole Island First Nation filed a specific claim with the Federal Government stating that the Crown did not fulfill its obligations to set apart the proper amount of land to form the Huron Church Reserve for the ancestors of the Walpole Island First Nation. This claim is still under negotiation (Aboriginal and Treaty Rights Information System, 2020).

7.4 Indigenous Nations With Interests in the City of Windsor

There are currently seven Indigenous nations that have an expressed interest in archaeological heritage in the City of Windsor, as follows:

- Walpole Island First Nation
- Caldwell First Nation
- Chippewas of the Thames First Nation
- Aamjiwnaang First Nation
- Haudenosaunee Confederacy Chiefs Council
- Six Nations of the Grand River
- Huron-Wendat Nation

These Indigenous nations have been provided the opportunity to comment on this WAMP update and the City of Windsor met with representatives of Walpole Island First Nation, Caldwell First Nation, Chippewas of the Thames First Nation, and

Aamjiwnaang First Nation in the course of the project.

7.5 Indigenous Perspectives on Stage 4 Mitigation

In 2013, during the preparation of archaeological policies and guidelines for York Region, a discussion was held with thirteen Indigenous nations that resulted in an outline of Stage 4 mitigative recommendations for sites of various time periods and types. The indicators for cultural heritage value that these Indigenous nations communicated for Indigenous sites were not based in any way on the provincial indicators outlined in Table 3 in Section 8.3.5. In their view, any Indigenous site should be deemed to be of significant cultural heritage value. As such, there is a preference by Indigenous nations in favour of protection and preservation of all Indigenous sites. In any case, engagement with Indigenous nations is a statutory requirement of licensed archaeologists, whether pursuing avoidance and protection or excavation as Stage 4 mitigative options (see Section 8.3.6).

While conversation is ongoing as it relates to policies and protocols within the City of Windsor, the City's archaeological policies similarly encourage protection as the preferred option to mitigate the impacts of proposed development on any archaeological feature.

8 Archaeological Assessment in the Development Review Process

Heritage conservation planning and management is generally concerned with ensuring that valued cultural heritage resources, including archaeological sites, are conserved and protected in a sound and prudent manner in the continuing and unavoidable process of change in the environment. The role of custodian and steward of these resources generally falls to the private property owner, as it is neither possible nor desirable that all resources be brought into public ownership. Therefore,

cultural heritage conservation management is undertaken by a variety of actors, and it is necessary, through legislation and education, to bring all of these actors together in pursuit of a common goal. In many instances, it is traditional planning mechanisms that seek to ensure that cultural heritage resources are conserved and/or maintained within the process of land use change.

8.1 Archaeological Review Process in Ontario – Roles and Responsibilities

8.1.1 Role of Province

Under the Planning Act, the Ministry has only limited responsibility for matters relating to cultural heritage including archaeological resources. Where the provincial government is involved in a process under the Planning Act (for example when a municipal planning document is circulated for provincial review through the Ministry of Municipal Affairs and Housing's One Window service), the Ministry's Heritage Planning Unit is the government's lead with respect to cultural heritage, including archaeological resources. Otherwise, the role of the Ministry with respect to archaeology is defined primarily by the Heritage Act, under which the Archaeology Program Unit of the Ministry is responsible for issuing archaeological consulting licenses to qualified individuals. All consultant archaeologists who undertake Stage 1 to 4 archaeological assessments in Ontario must be licensed by the Ministry. All work conducted by the consultant archaeologist must conform to the standards set forth in the most current *Standards and Guidelines for Consultant Archaeologists* authorized by the Ministry and the accompanying bulletins, such as, but not limited to:

- Engaging Aboriginal Communities in Archaeology: A Draft Technical Bulletin for Consultant Archaeologists in Ontario (2011);
- Land-Based Archaeological Licensing: A Bulletin for Archaeologists in Ontario (2017);

- Archaeological Reports: An Administrative Bulletin for Archaeologists in Ontario (2017);
- The Archaeology of Rural Historical Farmsteads: A Draft Technical Bulletin for Consultant Archaeologists in Ontario (2021);
- Project Information Forms: Protocols and Support for Licensed Archaeologists using Ontario's Past Portal (2013);
- Winter Archaeology: A Technical Bulletin for Consultant Archaeologists in Ontario (2013); and
- Forest Operations on Crown land: A Draft Technical Bulletin for Consultant Archaeologists in Ontario (2009).

The Ministry also has numerous fact sheets and memoranda on its website to explain the process of consultant archaeology in Ontario and, together with the *Standards and Guidelines for Consultant Archaeologists*, these supporting documents form the basis for evaluating archaeological fieldwork and determining whether it is compliant with the terms and conditions of the specific archaeological license and the Ontario Heritage Act. In order to determine where archaeological assessments are required, the Ministry has prepared checklists entitled *Criteria for Evaluating Archaeological Potential: A Checklist for the Non-Specialist* (2015) and *Criteria for Evaluating Marine Archaeological Potential: A Checklist for Non-Marine Archaeologists* which provide generic criteria for anyone to use to assess archaeological potential. Completion of the latter checklist indicates whether proposed in-water impacts require a marine archaeological assessment. Licensing, fieldwork and reporting on marine archaeology differs from the land-based archaeology process and are separate from the *Standards and Guidelines for Consultant Archaeologists*. Municipalities with archaeological management plans, like the City of Windsor, have access to much more detailed information specific to their jurisdictions which provide more effective and accurate means of determining archaeological potential and the need for archaeological assessments than the provincial checklists.

Most approval authorities rely on the Ministry review of archaeological assessment reports when deciding whether concerns for archaeological sites have been addressed by a development proponent. After reviewing an archaeological assessment report, Ministry staff will provide the consultant archaeologist with a review letter. If the archaeological assessment report complies with the Ontario Heritage Act, specifically the Ministry's *Standards and Guidelines for Consultant Archaeologists*, the letter will inform the consultant archaeologist that the archaeological assessment report has been accepted and entered into the Ontario Public Register of Archaeology Reports. The Ministry provides a copy of the review letter to the approval authority and development proponent, as identified by the consultant archaeologist, when submitting the report. The letter, in conjunction with the archaeological assessment report, can be used by the City of Windsor to verify that concerns for archaeological sites have been addressed for the property that was assessed or that further work is required.

The Ministry is also ultimately responsible for all matters related to the management of the archaeological resources documented, mitigation strategies proposed, and can provide advice or direction as needed should disputes arise between interested parties from the conservation of archaeological resources under the land use planning and development process.

8.1.2 Role of Consultant Archaeologists

As part of the land use planning and development process, development proponents rely on consultant archaeologists who hold a professional license issued by the Ministry. Consultant archaeologists carry out archaeological assessments to ensure that requirements for archaeological sites and features have been addressed and that previously unknown archaeological sites are identified. They also provide technical advice on appropriate measures for the mitigation and conservation of archaeological sites.

Only Ministry-licensed consultant archaeologists, engaged with descendant

communities, may determine the cultural heritage value or interest of archaeological sites. Moreover, **only licensed archaeologists have the skills and authority to evaluate archaeological potential and integrity on a parcel of land or underwater.**

8.1.3 Role of the Private-Sector Development Proponent

When an archaeological assessment is required by the City of Windsor for planning or development applications, it is the responsibility of the development proponent to retain a consultant archaeologist to carry out the requisite archaeological work (see Section 8.1.4 for similar responsibilities for municipal projects). In order to carry out any necessary archaeological work (typically Stage 1 and/or 2 assessments to begin with), the consultant archaeologist will usually require the following from the development proponent:

- signed consent to enter the property and carry out the fieldwork;
- a copy of the most recent development plan, if available, or plan of topographic survey, ideally in a digital format (e.g., GIS, CAD); and,
- the study area limits clearly marked on the plan/survey; this map should show existing conditions, including contour lines, trees and tree lines, fence lines, property lines, structures, driveways, watercourses, etc.

Should an archaeological resource with potential cultural heritage value or interest be found during Stage 2 field assessment, it must be subject to Stage 3 investigations prior to its protection or mitigative excavation (Stage 4). However, a Stage 3 assessment of that resource is not required should the development proponent decide to not proceed with the development that triggered the Stage 2 assessment provided that long-term protective measures are addressed in the Stage 2 report. In such an instance, the archaeological resource will be protected from further disturbance by Section 48(1) of the Ontario Heritage Act.

It is the responsibility of the development proponent to provide to the City of Windsor

copies of all archaeological assessment reports, including any revised reports, and GIS mapping of archaeological study area, produced in support of a proposed development as part of a complete application.

All licensed archaeological activities must comply with the most current Ministry *Standards and Guidelines for Consultant Archaeologists*. If the development proponent submits documentation for archaeological activities that pre-date the current standards and guidelines, the Ministry will assess the sufficiency of the documentation in accordance with the current standards and guidelines.

Frequent issues that arise between development proponents, their consultant archaeologists, and the Ministry include whether consultant archaeologists are able to undertake field assessments when there is snow on the ground (including Stage 1 assessments), whether a consultant archaeologist can provide a summary letter to the Ministry rather than a full Stage 1 report, whether a marine archaeological assessment is required, and if there is built-in flexibility in the *Standards and Guidelines for Consultant Archaeologists* which allows for a consultant archaeologist to deviate from the provincial requirements. Resolution to these issues often requires communication between the consultant archaeologist, the proponent, the Approval Authority, and the Ministry.

The Ontario Heritage Act mandates the reporting requirements of archaeological investigations carried out under license, and these requirements are detailed in the Ministry's *Standards and Guidelines for Consultant Archaeologists*. The Approval Authority should refuse to issue clearance to a property until an archaeological assessment report has been submitted and reviewed and a letter of review issued by the Ministry. Copies of all archaeological assessment reports, GIS mapping of the project area, and correspondence with the Ministry must be filed with the City of Windsor Planning and Building Services Department for purposes of updating and maintaining the WAMP GIS.

8.1.4 Role of the City of Windsor

An approval authority “is any public body (municipality, conservation authority, provincial agency, and ministry) that has the authority to regulate and approve development projects that fall under its mandate and jurisdiction (*Standards and Guidelines for Consultant Archaeologists*: 162).” It approves those planning applications where development proponents have met all local by-laws, other legislated requirements, and public concerns, including whether the lands to be developed contained archaeological potential that merited an archaeological assessment.

For the City of Windsor, the Council is the Approval Authority for land use planning applications. The City’s Planning and Building Services Department is responsible for advising Council on matters concerning the mitigation and protection of archaeological resources related to the planning process. . Planning and Building Services Department staff, in particular a Heritage Planner, will also review archaeological assessment reports submitted by consultant archaeologists to ensure that the City’s policies have been met.

If the City of Windsor determines that a property has archaeological potential using the archaeological potential map in the WAMP GIS (and the Ministry’s *Criteria for Evaluating Marine Archaeological Potential* checklist, if applicable), it will advise the development proponent to retain a licensed consultant archaeologist to carry out an archaeological assessment before any soil disturbance, development, and/or site alteration occurs. This requirement will be communicated during the pre-application process as part of any application for Official Plan Amendments, Zoning By-law Amendments, Site Plan Control, Plans of Subdivision or Condominium, or Committee of Adjustment applications.

The City of Windsor must receive copies of all archaeological assessment reports conducted as part of proposed development as part of a complete application, including the Ministry letter(s) of acceptance for those reports. All archaeological

assessment reports will be submitted to the Heritage Planner at City of Windsor by the development proponent once completed. The Ministry will provide a copy of the acceptance letter to the consultant archaeologist and the development proponent, and may sometimes also copy the Heritage Planner at the City of Windsor. Regardless, the development proponent is responsible for providing the Ministry letter to the Heritage Planner. The archaeological assessment should be conducted early in the development process and Stages 1 and 2 if recommended, be submitted as part of the complete application.

It is also the responsibility of the City of Windsor that when it undertakes soil disturbance, development, and/or site alteration activities associated with project work in an archaeological potential zone, a consultant archaeologist must be retained to carry out an archaeological assessment before any soil disturbance occurs. Copies of all archaeological assessment reports, GIS mapping of the project area, and correspondence with the Ministry prepared by the City are to be filed with the City of Windsor Planning and Building Services Department for purposes of updating and maintaining the WAMP GIS.

All municipal public works projects must conform with Windsor's Official Plan which include its cultural heritage and archaeological resources policies. Works must also be consistent with the Provincial Policy Statement. It is understood that there are instances where public works may have an impact on known archaeological sites or lands identified within the archaeological potential map in the WAMP, such as the development or replacement of infrastructure (e.g., roads, bridges, sewage and water systems), the construction and maintenance of municipal assets (e.g., public service facilities), and public realm improvements such as parks and open spaces within Windsor's jurisdiction. While many of these examples are regulated by other legislation, such as the Environmental Assessment Act, the Ontario Water Resources Act and Drainage Act, an archaeological assessment is also required.

Refer to Section 8.3, Figure 6: Archaeological Review Process Flowchart for a graphic

summary of the process.

8.2 When Does the Archaeological Potential GIS Layer Apply?

An archaeological assessment may be required for the following types of development applications, if any portion of the subject lands is within the archaeological potential zone of the WAMP GIS:

- Official Plan Amendments (including Secondary Plans/ Secondary Plan Amendments) (as per Planning Act s.22);
- Zoning By-law Amendments (as per Planning Act s.34);
- Site Plans (as per Planning Act s. 41);
- Plans of Subdivision (including Plans of Condominium) (as per Planning Act s. 51);
- Consents or Minor Variance applications (where there is soil disturbance, which may include activities such as excavation and compaction.) (as per Planning Act sections 53 and 45 respectively);
- Permits involving Site Alteration (meaning activities, such as grading, excavation and the placement of fill that would change the landform and natural vegetative characteristics of a site as per the Provincial Policy Statement Section 2.6.2); and,
- City of Windsor public works (as per Planning Act, s. 24). (ie. City of Windsor municipal works and projects)

In exceptional situations, when a development proponent can demonstrate to the satisfaction of city officials that all archaeological integrity has been completely removed (eradicated) by previous development of the entire subject property (e.g., a building with a basement covers the whole property), the City of Windsor may exercise discretion in not requiring an archaeological assessment. However, given the

potential for residual archaeological resources to remain even within developed urban landscapes, a Stage 1 archaeological assessment will almost always or likely remain the minimum default requirement for the above. Only a licensed consultant archaeologist, undertaking a Stage 1 assessment, can determine that no archaeological potential survives within an area identified using the archaeological potential map of the WAMP GIS. In cases where it is clear that a property has archaeological potential, and it is assumed that a Stage 2 archaeological assessment will be required as part of the complete development application, it is recommended that the development proponent retain a consultant archaeologist to undertake a combined Stage 1 and 2 archaeological assessment.

8.2.1 Official Plan Amendments

If a property owner or development proponent wishes to use, alter, or develop a property in a way that does not conform to the Official Plan, they must apply for an Official Plan Amendment. These applications require archaeological assessments of the subject lands if any portion of those lands fall within the archaeological potential zone identified in the WAMP GIS. The resultant report may recommend further archaeological assessment to be completed prior to soil disturbance, development, and/or site alteration.

8.2.2 Secondary Plans

Secondary Plans establish local development policies to guide growth and change in a defined area of a municipality. Secondary Plan policies adapt and implement the objectives, policies, land use designations and overall planning approach of the Official Plan to fit local contexts and are adopted as amendments to the Official Plan. Archaeological assessments undertaken at the Secondary Plan stage provide the best opportunity for protecting significant archaeological sites through development design. Typically, this is conducted as a Stage 1 archaeological assessment during the development of the Secondary Plan, and is the responsibility of the applicant of the Secondary Plan. Any future assessment is the responsibility of the development

proponent; a combined Stage 1 and 2 archaeological assessment can also be conducted, if feasible.

8.2.3 Zoning By-law Amendments

Section 34 of the Planning Act, authorizes municipalities to implement land use controls through Zoning By-laws. The Zoning By-law is the legal mechanism that implements policies and objectives described in the Official Plan and regulates the use and development of buildings and land by:

1. stating what types of land uses are permitted in various areas. Examples of these uses are residential, commercial, mixed commercial-residential, institutional, and industrial; and,
2. outlining how the land can be developed by establishing regulations for factors such as lot size and frontage, building setbacks, the height and built form of structures, the number and dimensions of parking and loading spaces and requirements for open space.

If a property owner wishes to make changes to a property that deviates from the permitted uses or the regulations of the Zoning By-law, the owner must apply for a Zoning By-law Amendment. A Zoning By-law Amendment process could be used to manage a known archaeological resource.

8.2.4 Holding Provision By-laws

In order to protect known archaeological resources, where an archaeological assessment cannot be undertaken immediately, a municipality may use its authority under Section 36 of the Planning Act to enact a holding provision by-law. As the Section states:

36. (1) The council of a local municipality may, in a by-law passed under section 34, by the use of the holding symbol “H” (or “h”) in conjunction with any use designation, specify the use to which lands, buildings or structures may be put at such time in the future as the holding symbol is removed by amendment to

the by-law. R.S.O. 1990, c. P.13, s. 36 (1).

The wording of the holding provision by-law should be consistent with the objective to ensure that archaeological resources are investigated and if found are conserved in accordance with the provisions of the Ontario Heritage Act, the Planning Act, and/or the Provincial Policy Statement, such as:

- that the development proponent shall complete required archaeological assessment(s);
- that the development proponent shall conserve significant archaeological resources identified through the completed archaeological assessments;
- that the development proponent shall complete required engagement with Indigenous nations; and,
- that no soil disturbance, development, and/or site alteration shall take place on the subject property prior to the issuance of a letter of review by the Ministry.

8.2.5 Site Plans

Section 41 of the Planning Act authorizes municipalities to establish areas to be designated as areas of Site Plan Control. In Windsor, all lands within city limits have been designated areas of Site Plan Control .

Site Plan Control ensures that new developments or redevelopments meet municipal standards, policies, and guidelines. This authority provides a process that examines the design and technical aspects of a proposed development or redevelopment to ensure it is compatible with the surrounding area. Features such as building location, site access and servicing, waste storage, parking, loading, and landscaping are all subject to review.

Should a property subject to site plan application approval fall within an archaeological potential zone and ground disturbance is contemplated, an archaeological assessment report will be required.

8.2.6 Plans of Subdivision and Plans of Condominium

When a property owner wants to divide a piece of land into multiple parcels and offer them for sale, the subdivision provisions of the Planning Act require the submission of an archaeological assessment.

Applications for plans of subdivision and condominiums require archaeological assessments of the entire property if any portion of the property falls within the archaeological potential zone in the WAMP GIS. The resultant report may recommend further archaeological assessment to be completed prior to any soil disturbance, development, and/or site alteration.

8.2.7 Consent Applications

Consents provide property owners with some flexibility within the land subdivision control process. A consent application is required to sever land into new lots, add land to an existing lot, establish easements or rights-of-way, and lease land in excess of twenty-one years or register a mortgage.

Archaeological assessments will be required when the consent application will create two or more new lots and falls within an Archaeological Potential Zone (and where soil disturbance will occur or might be reasonably anticipated). When a consent application creates less than two new lots, archaeological assessments will not be required unless the application falls within Archaeologically Sensitive Areas (ASA) in the WAMP GIS.

For clarity, when a consent application falls within Archaeologically Sensitive Areas (ASA) and when soil disturbance will occur or might be reasonably anticipated, archaeological assessment(s) will be a condition of the consent application regardless of the number of lot(s) created. Where the intent is to develop the severed lands and not the retained lands, only the severed land is required to be archaeologically assessed.

8.2.8 Minor Variance Applications

Minor variance applications that fall within the Archaeologically Sensitive Areas (ASA) in the WAMP GIS, and where soil disturbance will occur or might be reasonably anticipated, must be subject to a condition requiring that an archaeological assessment be completed prior to approval. An accessory building constructed on slabs without footings, or a typical-sized garage or addition maybe exempt (eg. new construction of 50 square metres).

8.2.9 Building Permits

Building Permits do not require archaeological assessments since archaeological assessments are not defined as applicable law for the purposes of issuing building permits. However, during the Building Permit process, the City of Windsor may wish to advise owner(s) of properties containing a registered archaeological site of the provincial statute prohibiting its disturbance and provide notification of archaeological precautions. Standard archaeological warning clauses are recommended to be added to Building Permits.

8.2.10 Site Alteration

Site alteration include any construction activities requiring permits or approvals under legislation including the Building Code Act; this includes, but is not limited to, Fill Permits, Foundation Permits, Right-of-way Permits, etc.

Section 2.6.2 of the Provincial Policy Statement stipulates that development and site alteration shall not be permitted on lands containing archaeological resources or areas of archaeological potential unless significant archaeological resources have been conserved. Section 48.1 of the Ontario Heritage Act prohibits alteration of an archaeological site by anyone without an archaeological license.

Site alteration is defined as activities such as grading, excavation, and the placement of fill that would change the landform and natural vegetative characteristics of a site.

As a result, any activities (beyond normal gardening) such as landscaping, work on existing or new driveways and sidewalks, and the installation of patios, decks, pools, sheds, outbuildings, and utilities, may be considered as “site alterations.”

City of Windsor departments issuing the site alteration permits should require public-service proponents (such as Utility companies who conduct work resulting in large ground disturbing impact) to undertake archaeological assessment when the proposed work falls within the Archaeological Potential Zone, prior to the issuance of a permit or the proponent starting any work under their city-issued permit.

Should site alteration be contemplated in an area that falls within the Archaeologically Sensitive Area (ASA) in the WAMP GIS, and this work has not been subject to a statutory trigger (e.g., Class EA, Planning Act approval), City of Windsor departments issuing the site alteration permits should recommend to proponents that an archaeological assessment be undertaken prior to issuance of the permit.

Standard archaeological warning clauses is recommended to be added to Site Alteration Permits.

8.2.11 City of Windsor Departments

Any improvement of a structural nature or other undertaking that is within the jurisdiction of the City or a local board, conducted by all City Departments, must conform to Windsor’s Official Plan; this includes its cultural heritage policies. Works must also be consistent with the Provincial Policy Statement. It is understood that there are instances where municipal infrastructure, works, projects may have an impact on known archaeological sites or lands identified within the archaeological potential zone in the WAMP GIS. These include the development or replacement of infrastructure (e.g., roads, sidewalks, utilities), the construction and maintenance of municipal assets, and public realm improvements including urban cores as well as in all parks and open spaces in Windsor.

In particular, where any soil disturbance, development, and/or site alteration is proposed, the City's Project Manager must refer to the WAMP GIS to determine if any lands associated with the project are within archaeological potential areas. The Project Manager should then consult with the City's Heritage Planner to confirm their determination. If the lands are ultimately identified as being within an area with archaeological potential, the City's Project Manager must retain a consultant archaeologist to undertake the requisite archaeological assessments prior to soil disturbance. Infrastructure projects must therefore include adequate budgets to address any archaeological requirements. Copies of all archaeological assessment reports, GIS mapping of the project area, and correspondence with the Ministry must be filed with the City of Windsor Planning and Building Services Department for purposes of updating and maintaining the WAMP GIS.

Some Schedule A projects listed under Municipal Road Projects, Municipal Water and Wastewater Projects and Municipal Transit Project Systems in the Municipal Class Environmental Assessment (March 2023) document (MCEA) may be exempt from the provisions of Environmental Assessment Act (EAA). The MCEA also lists Schedule A projects that are identified as eligible for screening, subject to the archaeological screening process (identified as "ASP") may also be exempt from MCEA as determined by the archaeological screening process as set out in Appendix 1 MCEA. All Schedule B and C projects are subject to the requirement for an archaeological assessment. Where the project area impacts water bodies that are identified as areas of archaeological potential zone, the proponent shall utilize the Ministry's Criteria for Evaluating Marine Archaeological Potential to determine if a marine archaeological assessment is required or proceed directly with a marine archaeological assessment. For projects abutting known archaeological sites or cemeteries, an archaeological assessment is also required

Asset Management Plans and similar Lifecycle renewal studies/plans must ensure that areas of archaeological potential are clearly identified within the areas of their concern and include adequate budgets to undertake the necessary archaeological

assessments prior to any work that will result in soil disturbance, development, and/or site alteration beyond existing disturbance.

One method of providing for the archaeological needs of city projects is to establish a corporate archaeological assessment fund to address archeological issues on projects. Pro-active archaeological assessment of City properties where development involving ground-disturbing activities may occur would also be useful. This would require budgeting of archaeological costs well in advance of any such City project.

Note: At the time of preparation of this document the Province of Ontario proposed amendments to the Environmental Assessment Act and to MCEA 2023 which may impact the above provisions. Therefore this document may need to be updated in the future to incorporate the proposed amendments.

8.3 Archaeological Review Process in Windsor

Figure 6 outlines the basic decision flow recommended for use in the development review process for all land development applications and municipal projects in Windsor. The sections below provide an outline of the archaeological assessment process and its stages and the standard condition that can be applied to all applications and projects where a portion of the property falls within the archaeological potential zone in the WAMP GIS.

8.3.1 The Archaeological Assessment Process

The archaeological assessment process in Ontario is a staged process with the results of each stage determining the requirements, if any, for the subsequent stage. The stages of assessments are described by the Ministry as follows:

Stage 1: Background study and property inspection

The archaeologist determines whether there is potential for archaeological sites on the property. They review geographic, land use and historical information for the property and the relevant surrounding area, visit the property to inspect its current condition and contact the ministry to find out if there are any known archaeological sites on or near the property. A Stage 2 assessment is required when the consultant archaeologist identifies areas of archaeological potential. Stage 1 may only be used to recommend exempting a property from Stage 2 assessment where it has been confirmed through a property inspection that potential for the entire project has been removed by extensive and deep ground disturbance. (ie. In accordance with 2011 *Standards and Guidelines for Consultant Archaeologist*, s. 1.4.2, recommending no further concern must be verified in person and cannot be a desktop study only).

Stage 2: Property assessment

The archaeologist surveys the land to identify any archaeological resources on the property. For a ploughed field, they will walk back and forth over it looking for artifacts on the surface. In forests, overgrown pasture areas or any other places that cannot be ploughed, they will dig parallel rows of small holes, called test pits, down to sterile subsoil at regular intervals and sift the soil to look for artifacts. They may use other strategies if properties are paved, covered in fill or have deeply buried former topsoils (such as floodplains or former sand dunes). The archaeologist will determine whether any archaeological resources found are of sufficient cultural heritage value or interest to require Stage 3 assessment.

Stage 3: Site-specific assessment

The consultant archaeologist determines the dimensions of the archaeological site, evaluates its cultural heritage value or interest and, where necessary, makes recommendations for Stage 4 mitigation strategies. To this end, they conduct further background research and fieldwork that expands the information gathered in Stage 2. They map the spatial limits of a site and acquire further information about the site's

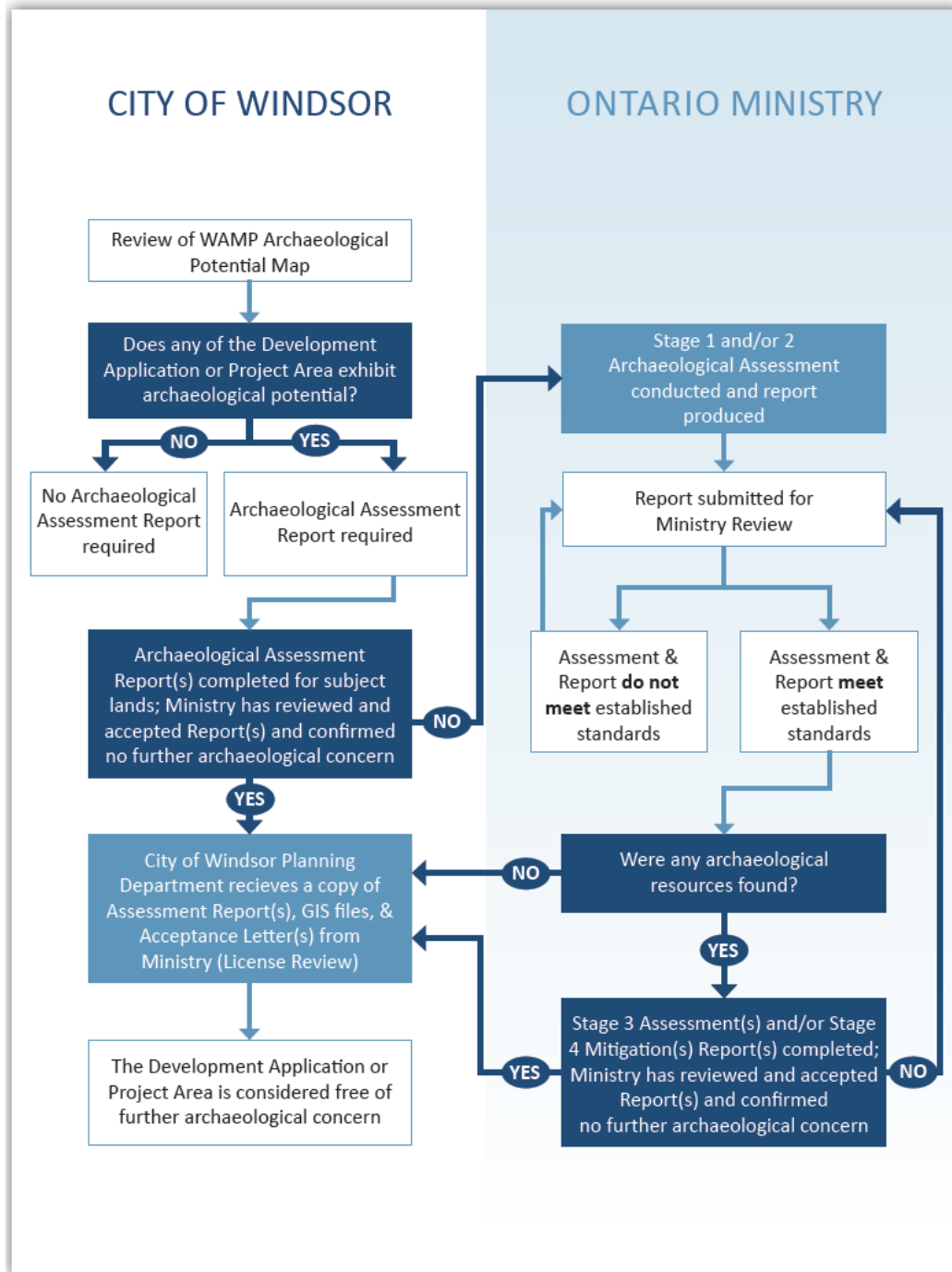
characteristics by excavating one-metre by one-metre square test units across the site. Based on circumstances, some sites (for example, ones that have been paved or are deeply buried) may require specialized methods of assessment (Safety considerations and requirements must be taken into account during excavation work. This may require consultation with a civil engineer). The archaeologist will determine whether any archaeological sites have sufficient cultural heritage value or interest to require Stage 4 mitigation of development impacts.

Stage 4: Mitigation of development impacts

This stage involves implementing conservation strategies for archaeological sites. Determining the best approach for conserving the site may include reviewing possible strategies with the development proponent, the municipality or other approval authority, Indigenous communities, and other heritage stakeholders. Conserving archaeological sites does not mean stopping development. Conservation can involve putting long-term protection measures in place around an archaeological site to protect it intact. The site is then avoided while development proceeds around it. This is called protection in situ and is always the preferred option for mitigation of development impacts to a site. If protection is not viable, mitigation can involve documenting and completely excavating an archaeological site before development takes place.

Where an Archaeological assessment predates the 2011 *Standards and Guidelines for Consultant Archaeologist*, the applicant can choose to conduct a new assessment or submit the study to the City of Windsor Planning Department, who will then forward the assessment to the Ministry for acceptability or not. The Ministry shall hold the final decision on the acceptability of the Report.

Figure 6: Archaeological Review Process Flowchart



8.3.2 Sample Wording for Conditions requiring Archaeological Assessments in Planning and Development Applications or Approvals

The development proponent shall retain an archaeologist, licensed by the Ministry under the provisions of the Ontario Heritage Act to carry out a Stage 1 (or Stage 1 and 2) archaeological assessment of the entire property and follow through on recommendations to mitigate, through preservation or resource removal and documentation, adverse impacts to any significant archaeological resources found (Stages 3 and 4). The archaeological assessment must be completed in accordance with the most current Ministry *Standards and Guidelines for Consultant Archaeologists*.

All archaeological assessment reports will be submitted to the City of Windsor in PDF format by the development proponent once completed. This also includes the letter from the Ministry stating that the report is compliant with the terms and conditions of the Ontario Heritage Act and has been entered into the Public Registry. Mapping of the study area used in the archaeological assessment(s) must also be provided to the City.

Significant archaeological resources will be incorporated into the proposed development through either in situ preservation or interpretation where feasible or may be commemorated and interpreted through exhibition on site including, but not limited to, commemorative plaque, subject to stakeholder discussions.

No demolition, construction, grading or other soil disturbances shall take place on the subject property prior to Windsor receiving the Ministry review letter indicating that all archaeological licensing and technical review requirements have been satisfied.

8.3.3 City of Windsor Planning and Building Services Department – Implementation Process

The archaeological review procedure, as it relates to planning and development applications, requires close co-operation between the Planning and Building Services Department and staff of the Archaeology Program Unit of the Ministry, as well as the development and archaeological consulting communities.

The general sequence of actions is as follows:

1. As part of the pre-application consultation process, the Planning and Building Services Department will determine if an archaeological assessment is required by means of review of the archaeological potential zone in the WAMP GIS. This will be done by reviewing the proposed development parcel against the archaeological potential zone. Should any portion of the property fall within that zone, an archaeological assessment of the entire property will be required. The archaeological assessment would be undertaken by the consultant archaeologist for the development proponent and submitted by the proponent as part of the complete planning or development application. If required, the Planning and Building Services Department will recommend that the completion of further archaeological assessments (e.g., a Stage 3 archaeological assessment) be made a condition of approval.
2. If impacts are proposed within a waterbody or watercourse, the proponent will be required to complete the Ministry's *Criteria for Evaluating Marine Archaeological Potential* checklist and submit it to the Planning Department to determine the requirement for a marine archaeological assessment. The study area to evaluate is the proposed project impact plus the extent of any construction impacts. Data about registered archaeological sites can be obtained from Windsor's GIS or from the data coordinator of the Ministry's Archaeology Program Unit.
3. Provincial legislation provides that only licensed consultant archaeologists (and/or marine archaeologist) can undertake field work, alteration or removals from of archaeological sites. The consultant archaeologist will conduct a Stage 1 or Stage 1 &2 combined archaeological assessment of the entire subject

property, not simply the portion(s) that falls within the archaeological potential zone in the WAMP GIS. The assessment of the entire subject property addresses any discrepancies between the archaeological potential zone and the actual conditions of the subject property. This is consistent with Windsor's mapping and the requirements of the most current *Standards and Guidelines for Consultant Archaeologists* and associated bulletins issued by the Ministry.

4. All work conducted by the consultant archaeologist must conform to the standards set forth in the most current *Standards and Guidelines for Consultant Archaeologists* and associated bulletins issued by the Ministry.
5. Once a Stage 1-2 archaeological assessment, consisting of background research and a field survey, has been completed, the consultant archaeologist will submit a report to the Archaeology Program Unit of the Ministry. The staff of the Archaeology Program Unit of the Ministry will review the report to determine if the assessment has met current licensing and technical standards. If this is not the case, the Ministry will require the consultant archaeologist to carry out additional field work, and/or provide more extensive documentation.
6. If the archaeological assessment complies with licensing and technical standards and did not result in the identification of any intact archaeological potential within the property (in the case of a Stage 1 assessment) or did not result in the documentation of any significant archaeological resources (in the case of a Stage 1&2 or Stage 2 assessment), the staff of the Archaeology Program Unit of the Ministry will provide an acceptance letter to the consultant archaeologist and to the City of Windsor in its capacity as Approval Authority, which will serve to notify them that all provincial concerns with respect to archaeological resource conservation and archaeological licensing have been met.
7. Upon receipt of the archaeological acceptance letter from the Ministry that archaeological conservation and licensing concerns have been addressed, and receipt of the final copies of archaeological assessment report(s) and of the GIS files for the assessed study area, Windsor will then clear the subject property/site of any further archaeological concern.
8. Should the development proponent choose not to proceed with all necessary Stage 3 and Stage 4 assessments prior to submitting a planning and development application, the completion of these activities to the satisfaction

of the Ministry must be made a condition of approval (e.g., draft plan condition of approval for a Plan of Subdivision).

9. Copies of all archaeological assessment reports, GIS mapping of the project area, and relevant correspondence with the Ministry must be filed with the City of Windsor Planning and Building Services Department for purposes of updating and maintaining the WAMP GIS.

It should be noted that completion of an archaeological assessment of a particular development property, no matter how rigorous, does not fully guarantee that all significant archaeological resources on that property will be identified prior to land disturbance. This is particularly the case in areas where natural processes, such as flooding or erosion, have resulted in the burial of original ground surfaces, or with respect to isolated human burials that are typically small features that can escape detection.

Therefore, in compliance with Ministry *Standards and Guidelines for Consultant Archaeologists*, every archaeological assessment report must contain the statement that should deeply buried archaeological remains be found on a property during construction activities, all ground-altering activities should be stopped, the Ministry should be notified immediately, and a licensed archaeologist should be retained to assess the situation (see Appendix C: Contingency Plan for the Protection of Archaeological Resources in Urgent Situations for more details). It must further specify that if human remains are encountered during construction, the development proponent must immediately contact the police, the Ministry, and the Registrar of Burial Sites, Ministry of Public and Business Service Delivery (formerly Ministry of Government and Consumer Services) (see Appendix C: Contingency Plan for the Protection of Archaeological Resources in Urgent Situations for best practices protocol). Where Stage 3 and Stage 4 archaeological assessments are required to be completed, these two warning clauses will be included in the appropriate development agreements between the City and the applicant.

8.3.4 Additional Considerations When Archaeological Resources are Identified

If the Stage 1-2 assessment resulted in the documentation of one or more significant archaeological resources as determined by the consultant archaeologist, appropriate mitigation and/or preservation options must be recommended by the consultant archaeologist and approved by the Ministry. Upon completion of the mitigation, the consultant archaeologist must provide a report detailing this work and its results to the Ministry. The Ministry will review the work and provide the consultant archaeologist, and the City of Windsor in its capacity as approval authority, with an acceptance letter that there are no further archaeological concerns or that additional mitigation measures have been recommended.

It should be noted, in this regard, that once Stage 3 assessments have been completed on the archaeological sites requiring further investigation, it is generally possible to secure partial clearance for the property, in that the archaeological requirement may be removed from the balance of the subject lands not encompassed by the archaeological site(s) and the protective buffer zones surrounding it/them, which are defined in the *Standards and Guidelines for Consultant Archaeologists*.

Similarly, as the final report of a comprehensive Stage 4 archaeological excavation may take many months to complete, final clearance for the property may be available upon the consultant archaeologist completing the fieldwork and submitting a preliminary Stage 4 excavation report to the Ministry. The preliminary excavation report process allows the Ministry to assess whether the fieldwork and reporting is compliant prior to the full evaluation and reporting of the archaeological resources.

8.3.5 Determining the Cultural Heritage Value of Archaeological Resources

The *Standards and Guidelines for Consultant Archaeologists* (MTC, 2011) set out criteria for determining the cultural heritage value of archaeological resources, including information value, value to a community, and value as a public resource. They define a set of indicators based on these criteria, outlined in Table 3 below, which helps to determine which archaeological resources are significant and therefore must be preserved or conserved. Indigenous nations may also identify values not captured in this table.

Table 3: Indicators Showing Cultural Heritage Value or Interest (reproduced from *Standards and Guidelines for Consultant Archaeologists*, 2011)

Criteria	Indicators
Information Value	The archaeological site contributes to local, regional, provincial, or national archaeological history.
Cultural Historical Value	Information from the archaeological site advances an understanding of: <ul style="list-style-type: none"> • Cultural history – locally, regionally, provincially, or nationally • Past human social organization at family, household, or community level • Past material culture – manufacture, trade, use and disposal

Criteria	Indicators
Historical Value	<p>The archaeological site is associated with:</p> <ul style="list-style-type: none"> • Oral histories of a community, Indigenous community, or specific group or family • Early exploration, settlement, land use or other aspect of Ontario’s history • The life or activities of a significant historical figure, group, organization, or institution • A significant historical event (cultural, economic, military, religious, social, or political)
Scientific Value	<p>The archaeological site contains important evidence that contributes to:</p> <ul style="list-style-type: none"> • Paleo-environmental studies • Testing of experimental archaeological techniques
Rarity or Frequency	<p>The archaeological site is:</p> <ul style="list-style-type: none"> • Unique – locally, regionally, provincially, or nationally • Useful for comparison with similar archaeological sites in other areas • A type that has not been studied or has rarely been studied, and is therefore under-represented in archaeological research

Criteria	Indicators
Productivity	<p>The archaeological site contains:</p> <ul style="list-style-type: none"> • Large quantities of artifacts, especially diagnostic artifacts • Exotic or rare artifacts demonstrating trade or other exchange patterns
Integrity	<p>The archaeological site is well preserved and retains a large degree of original material.</p>
Value to a Community	<p>The archaeological site has intrinsic value to a particular community, Indigenous community, or group.</p>
The archaeological site has traditional, social, or religious value.	<p>The archaeological site:</p> <ul style="list-style-type: none"> • Contains human remains • Is identified as a sacred site • Is associated with a traditional recurring event in the community, Indigenous community, or group (e.g., an annual celebration) • Is a known landmark

Criteria	Indicators
Value as a Public Resource	The archaeological site contributes to enhancing the public’s understanding and appreciation of Ontario’s past.
The archaeological site has potential for public use for education, recreation, or tourism	The archaeological site: <ul style="list-style-type: none"> • Is or can be made accessible to tourists, local residents or school groups • Is or can be incorporated into local education, recreation or tourism strategies and initiatives

8.3.6 Assessing Archaeological Resource Impacts and Identifying Mitigation Strategies

If no adverse impacts to an archaeological resource will occur, then development may proceed as planned. Many of the archaeological sites routinely encountered will prove to be of little or no cultural heritage value or interest and will not require further investigation, beyond the mapping, measuring, and photographing of the surface attributes of the archaeological site that occurred during the Stage 2 archaeological assessment.

8.3.6.1 Indigenous Archaeological Sites

Should an Indigenous archaeological resource with cultural heritage value or interest be discovered during an archaeological assessment, the *Standards & Guidelines for Consultant Archaeologist* require the consultant archaeologist to — engage with the affiliated Indigenous nations, or those identified in Section 7.4, and the development proponent—to assess the potential impact(s) to it and arrive at rational decisions

regarding potential mitigation options. Those may involve protection and avoidance of the archaeological site within the context of the proposed development, its mitigation by excavation, or a combination of these approaches. These decisions are subject to review and approval by the Ministry.

The relevant Indigenous nations must also be engaged throughout the agreed upon site mitigation process. Typically, engagement with Indigenous nations as it relates to archaeological assessment is undertaken by the consultant archaeologist with support of the development proponent. Engagement with Indigenous nations through the archaeological assessment process is defined by the Ministry's *Standards and Guidelines for Consultant Archaeologists* as well as the Ministry's draft bulletin entitled *Engaging Aboriginal Communities in Archaeology*. Under all circumstances there should be an effort to identify the group(s) that are the most appropriate (on cultural-historical and legislative grounds) to act as the designated descendants of those who occupied the project area in the past, and who are willing to participate and ensure that cultural heritage remains are treated in an appropriate and seemly manner.

This identification process is best achieved through communication with a variety of Indigenous nations in order that they may themselves arrive at the final decision. It should also be noted that the Ministry's bulletin *Engaging Aboriginal Communities in Archaeology* (2011) requires Indigenous engagement at Stage 3 when assessing the cultural heritage value or interest of certain types of Indigenous sites, at the end of Stage 3 archaeological investigations for formulating mitigation on significant Indigenous sites, to solicit input regarding Stage 4 mitigation strategies, and encourages engagement before Stages 2 and other Stage 3 scenarios. Section 7.4 (above) identifies those Indigenous nations that should be engaged as part of this process.

8.3.6.2 Non-Indigenous Archaeological Sites

In the case of non-Indigenous archaeological sites, the same process is involved as with Indigenous archaeological sites. Engagement with Indigenous nations may not be required, although many non-Indigenous sites also yield Indigenous artifacts, in which case engagement would be required.

In the process of determining appropriate mitigation strategies on a non-Indigenous archaeological site, it is always possible that other descendant communities, heritage stakeholders, or interest groups may express a desire to participate.

8.3.6.3 Archaeological Site Mitigation Options

There are several mitigation options for archaeological sites, including avoidance, modifications to construction techniques, long-term protection, and various degrees of documentation and/or excavation, as discussed below. Appropriate options for addressing the interpretive and educational potential of the site should be documented by Windsor through consultation with the development proponent and the consultant archaeologist. It should also be noted that detailed information regarding a site is frequently required to make a more accurate assessment of significance and to determine the potential for adverse effects. This may involve several stages of on-site investigations by the consultant archaeologist.

Avoidance and protection of archaeological sites is the preferred form of mitigation and is most viable when the cultural heritage value or interest of the archaeological site is determined early in the planning process. There are both short- and long-term components to the process of site protection, as outlined in the *Standards and Guidelines for Consultant Archaeologists*. The decision to avoid and protect a site is generally made by the development proponent in consultation with the consultant archaeologist and the Ministry.

By following this process, development proponents will have sufficient time to plan

for archaeological site protection, rather than mitigation through excavation, by considering alternative site plan designs.

Effective avoidance and protection strategies will include both avoidance measures to protect the archaeological site from impacts during construction and long-term protection measures to ensure that the site is not impacted during any future activities on the site.

In cases in which the avoidance and protection option is pursued, the limits of the site must have been fully defined through completion of Stage 3 archaeological assessment. The avoidance and protection area defined for the site must include the entire archaeological site and a minimum 20 metre buffer zone in the case of Late Woodland village sites or a minimum 10 metre buffer zone for all other site types. The buffer zone may be reduced in areas where pre-existing, permanent physical constraints to the extent of the site are present.

To ensure there are no impacts to the avoidance and protection area in the short term, during development of contiguous lands, the limits of the avoidance and protection area must be fenced (snow fencing or similar type) by the development proponent under the supervision of a consultant archaeologist prior to any soil disturbance, development, and/or site alteration. The protective fencing must remain in place for the duration of any development work resulting in land disturbance and instructions issued to all on-site contractors that there are to be no impacts of any sort within avoidance and protection area. It is a “no go” area. The avoidance and protection area must also to be identified on all project mapping.

Written confirmation from the development proponent regarding their commitment to implement this strategy and confirmation that any ground alterations will avoid the avoidance and protection area must be submitted to the Ministry prior to initiation of any such work and copied to the City of Windsor as the Approval Authority.

The maintenance and efficacy of the fencing must be confirmed through monitoring on the part of a consultant archaeologist and a report documenting this process must be submitted to the Ministry and the City of Windsor upon completion.

In terms of long-term protection, the most effective mechanisms are a restrictive covenant on title or a Zoning By-law Amendment, and preferably, the transfer of ownership to Windsor or another public landholder. The allowable uses of the protected area, under the terms of the covenant or by-law amendment, must not include any activities that would result in even minor soil disturbances or alterations, such as tree removal, minor landscaping, and installation of utilities.

Should transfer of ownership be part of the long-term protection strategy, the new property owner must provide documentation to the Ministry demonstrating that they are aware of their obligations with respect to the archaeological site and its protection and their ability to fulfil those obligations. It is also often recommended that this documentation include a proviso acknowledging that any future alterations or soil disturbances that may ultimately be proposed within the protection zone must be preceded by further Stage 3 archaeological assessment and Stage 4 mitigation of impacts in accordance with the Ministry *Standards and Guidelines for Consultant Archaeologists*.

In summary, when extensive archaeological mitigation is required, recommended mitigation options may take numerous forms, including:

- *Preservation*: the preferred mitigation option. Preservation may involve long-term protective measures such as project design changes (archaeological site protection) that integrate the resource within the overall development plan. To further avoid both accidental impact and intentional vandalism and looting, additional protective measures may include fencing, screening, or in special circumstances, capping. Windsor must determine whether preservation is to occur on the landscape scale (e.g., areas of high cultural heritage landscape integrity combined with high archaeological potential are to be preserved as a

whole), or at the scale of individual sites that are deemed to be particularly significant or sensitive (e.g., Late Woodland settlements that may contain human burials).

The site preservation/avoidance option has both short- and long-term components. The short-term component involves both the redesign of the development plan (e.g., lot layouts, parkland, road, and service alignments) and ensuring that the resource(s) to be preserved are physically protected during construction by means of fencing or other visible barriers. The long-term protective measures entail the use of prohibitive zoning by-laws, as permitted by subsection 34(1) of the Planning Act, or through other conditions or orders that prohibit any future land use activities that might result in soil disturbance for the avoidance and protection area of the site. Consideration should be given for Site Management Plans for archaeological resources retained in situ, as well as funding for perpetual care of sites transferred into public ownership.

- *Stabilization*: may be required in the case of eroding archaeological deposits. This may involve the excavation of the eroding area and/or the construction of retaining walls or barriers.
- *Systematic Data Recovery*: involves the recovery of data from significant archaeological sites when other mitigation options are not feasible. It includes a complete or partial systematic surface collection, excavation, or both; a comparative analysis and interpretation of site content and contextual information; and production of an investigative report. This mitigation strategy ultimately results in the destruction of the archaeological site and the elimination of its archaeological potential.
- *Monitoring*: monitoring may be undertaken in specific circumstances (e.g., deeply buried deposits which cannot be assessed prior to construction) to ensure that adverse impacts on archaeological sites which could not be predicted or evaluated prior to construction are addressed. Monitoring requires the presence of a consultant archaeologist during the construction phase of a project. This takes the form of scheduled site visits and on-call availability during a long-term project.

All decisions regarding mitigation options or preservation strategies are subject to

Ministry review and approval.

8.4 Archaeological Resource Management – Operations and Administration

8.4.1 Managing Geospatial Data

The layers used to create the composite archaeological potential layer are stored in Windsor's geospatial database. Access to these individual layers is granted only by permission of Windsor's Heritage Planner. These individual layers should not be publicly accessible due to the sensitivity of the information related to archaeological sites. Only the final archaeological potential map should be accessible to the public through Windsor's website.

The Planning and Building Services Department should update the archaeological potential map on a regular basis (at minimum annually) by adding all new archaeological sites with their Borden number and ensuring that all properties that have been subject to archaeological assessment and cleared of further archaeological concern are removed from the archaeological assessments layer as appropriate. Where archaeological sites are protected permanently, only the balance of the assessed property in which the site was found is removed from the archaeological assessments layer; the site and its avoidance and protection area retain their archaeological potential.

8.4.2 Contingency Planning

There exist certain situations in which unforeseen and deeply buried archaeological deposits may be discovered during construction. There are also redevelopment contexts when Windsor may have limited planning control, thus being restricted in its ability to implement the WAMP.

In any case in which deeply buried archaeological remains (including burials) are encountered, all construction activity in the vicinity of the discovery must be

suspended immediately until an appropriate mitigation strategy is identified and executed. A consultant archaeologist may be required to visit the site and assess the resource prior to the development of the mitigation strategy.

In light of these considerations, Windsor has developed a “Contingency Plan for the Protection of Archaeological Resources in Urgent Situations” (Appendix C). While a Contingency Plan is not required by legislation, it represents best planning practice. The Contingency Plan addresses:

- Notification process, involving the City of Windsor, relevant Indigenous nations, and the Ministry;
- Investigation and reporting process undertaken by a consultant archaeologist;
- A recommendation that Windsor develop a roster of pre-qualified consulting archaeologists capable of responding immediately to contingent situations.

8.4.3 Site Locations and Reports – Constraints in Sharing Information

Archaeological site locations are considered sensitive information. To protect these sensitive resources from damage and looting, Windsor shall not provide information concerning archaeological site locations to anyone externally except on an as need to know basis. To clarify, this information can only be provided externally by the City for a given property to an agent of the property owner, such as consultant archaeologists retained by the owner of a property for the purpose of site mitigation or preservation. In all other circumstances, consultant archaeologists should be referred to the Ministry for site information, as should any other external requests to Windsor for information about site locations.

Amendments to the *Ontario Heritage Act* on April 28th, 2005 created provisions in Section 65.1 for providing a register of archaeological reports. Reports filed with the ministry by licensed archaeologists on or after that date, and found to meet ministry requirements for fieldwork and reporting, are entered into the Ontario Public Register of Archaeological Reports (Register) and the Ministry of Citizenship and

Multiculturalism (MCM) is allowed to release a copy of these reports to a requestor. Redistribution of the Register report by the requestor requires authorization of the copyright owner of the work in question. Reports received prior to the creation of the Register require permission from the licensee before those reports can be released. The MCM redacts personal information from all released archaeological reports and removes site location information from reports requested by the public. City of Windsor may use archaeological assessment reports for internal purposes and provide copies to consultant archaeologists.

8.4.4 Ownership of Artifacts

The question of ownership of archaeological resources, whether they be sites or individual artifacts, remains unresolved in Ontario. Consequently, issues of ownership have often complicated the protection or conservation of the resource.

The Ontario Heritage Act governs matters related to the care and curation of artifacts. Under Section 66 (1), the Ontario Heritage Act stipulates that, “The Minister may direct that any artifact taken under the authority of a license or a permit be deposited in such public institution as the Minister may determine, to be held in trust for the people of Ontario”. Moreover, under O. Reg. 8/06, pertaining to licensing under the Ontario Heritage Act, “It is a term and condition of a license that the licensee keep in safekeeping all objects of archaeological significance that are found under the authority of the license and all field records that are made in the course of the work authorized by the license, except where the objects and records are donated to [His Majesty the King] in right of Ontario or are directed to be deposited in a public institution under subsection 66 (1) of the Act.”

The application of this section of the Ontario Heritage Act and O. Reg. 8/06 typically involves the curation of recovered artifacts by the consultant archaeologist until such time that the analyses are complete and that a place for ultimate disposition can be arranged, usually a fully accredited public repository, such as a regional museum .

8.4.5 Artifact Curation

In general, it is preferable that material from an archaeological site is ultimately deposited in a public institution located in the same community, provided that adequate storage and curatorial facilities for both artifacts and field records are available, that the institution's collections are accessible to researchers, and that the material is not transferred or disposed of without provincial approval.

The City of Windsor should consider making it Official Plan policy that all artifacts found on city-owned property are to be deposited with Museum Windsor if determined to be significant (see Section 3, Appendix D). It is understood that the Museum Windsor may also accept donations of significant artifacts found on private land, subject to their collections policy.

The Museum of Ontario Archaeology already houses collections of material from southern Ontario, including Windsor, at their Sustainable Collections Repository and are willing to accept additional material according to their policies. Some artifacts from sites in Windsor, however, are currently curated elsewhere. Indeed, most collections derived from the activities of private archaeological consulting firms, remain in the care of those firms.

It is recommended that significant archaeological assemblages resulting from future archaeological investigations within the City of Windsor be curated at Museum Windsor. Where Indigenous artifacts are involved, the repatriation of cultural artifacts will be addressed through ongoing dialogues with First Nations communities, the City, and the Ministry.

It is recommended that Windsor consider preparing an accurate and comprehensive inventory of the archaeological collections recovered from archaeological sites within Windsor currently held by consulting archaeologists and public agencies and plan for their curation, including provisions for additional storage space, as needed.

8.4.6 Periodic Update to the Plan

To ensure the long-term viability of the WAMP, it should be subject to comprehensive review in co-ordination with the review of Windsor's Official Plan as required by the Planning Act. Such a review should consider any changes in Ministry criteria for site significance, any data gaps in the site inventory, changes required to the composite archaeological potential and archaeological potential layers, and all procedures and guidelines related to the implementation of the WAMP.

It is recommended that the site inventory and repository of archaeological assessments within Windsor be subject to review and updating at minimum on an annual basis, or at a schedule which aligns with processes at the City of Windsor.

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9.1 Archives of Ontario

F47-5-1-0-44.1

RG1-100, C-34 A28 1821 Sandwich South Township Patent Plan

RG1-100, C-34 A36 1797 Abraham Iredell Survey, Sandwich South Twp.

RG1 B-11 1812? River Detroit "No.18"

RG1-100 C-35 Map 46 After 1800 Sandwich Town Site

RG1-100 C-68 1889 George McPhillips Outline Plan of Town of Windsor

RG1-100 C-81 1828 Plan showing water lots in front of Lots 40-68,

McNiff's Survey, Conc. I Town of Sandwich

RG1-100 C-82 1828 Plan showing water lots in front of Lots 63-93,
McNiff's Survey, Conc. I Township of Sandwich

RG1-100 C-83 1828 Plan showing water lots in front of Lots 94-156,
McNiff's Survey, Conc. I, Town of Sandwich

R-E 1877 H.Walling Map of Essex County, Ontario. Publ. R.M.Tackleberry

9.2 Museum Windsor

M109 3/L 1815 Captain W.R.W. Owen A Survey of the River Detroit from Lake
Erie to Lake St. Clair

M173 3/RR early 19th T.M. County of Essex, Western District

M214 3/RR 1922 G.F.Macdonald Fort Gowie property plan Land Petition G. No.7,
No.18 (1805) National Archives Lot 76, Conc. I, Sandwich Township

M380 6/L 1813 Map of Detroit River Showing Military Positions in the
Surrounding Areas.

M389A 1826 John Farmer Map of Surveyed Part of the Territory of
Michigan.

M392 6/R 1868 O. Bartley Plan of the Moy Property, Lot XCIII and part
XCII. XCIV, Con. I & II

1800 A. Iredell untitled [survey of Sandwich Twp., Western District, details
of Concession 1 along Detroit River]

1857 Charles Pinney Map of the Town of Windsor, County of Essex, Canada West.

1954 The Badichon-Labadie Windmill on Hiram Walker Property
(1808) [Lassaline-Montreuil] ca.1930 Walker Airport

1905 Owen McKay Plan showing the location of the Windsor & Tecumseh
Electric Railway Co's Line through portions of the City of Windsor, Town of Walkerville
and Township of Sandwich East.

2000 WACAC Windsor Heritage Properties Inventory

Appendix A – Pre-contact Indigenous Archaeological Site Potential

Appendix B – Colonial Period Thematic History

Appendix C – Contingency Plan for the Protection of Archaeological Resources in Urgent Situations

Appendix D – Proposed Policy Revisions to the City of Windsor Official Plan