

The City of Windsor

**ARCHAEOLOGICAL MASTER PLAN
STUDY REPORT
for the
CITY OF WINDSOR**

Submitted to:

**City of Windsor
Ontario Ministry of Tourism, Culture and Recreation**

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EXECUTIVE SUMMARY

Windsor is an area rich in cultural heritage resources, and diversified cultural traditions. As an important corridor for both First Nations peoples and the Europeans who followed, the shoreline of the Detroit River is unquestionably an area of high cultural and historical significance. 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 Native and early European settlement along its banks. However, due to limited archaeological research undertaken in the Windsor area, the complexity of its archaeological heritage is poorly understood.

Physical evidence of the City's rich archaeological heritage is increasingly threatened as modern development significantly modifies the landscape. Windsor's current population of about 200,000 occupies an area of approximately 120 square kilometres. Most of the City's land is developed for urban use, with less than 2,000 hectares (17 %) of the land mass made up of undeveloped lands. Urban expansion has been significant over the past 25 years and is expected to continue into the new millennium.

In recognition of this growing threat to Windsor's archaeological legacy, the City is preparing to take on the responsibility of making "archaeological potential determinations, and (placing) archaeological conditions on development plans themselves" (Ferris 1998: 231). In preparation for this new role, the City of Windsor has commissioned Cultural Resource Management Group Limited in conjunction with Fisher Archaeological Consulting, Historic Horizon Inc and Dillon Consulting Limited to prepare an archaeological master plan, and thus create a planning tool designed to address the specific environmental, topographical and cultural factors which influenced human history within the municipality.

The objectives of the Windsor Archaeological Master Plan study, as identified in the Terms of Reference, were as follows:

- To identify and map land containing archaeological resources or areas of archaeological potential within the City of Windsor;
- To develop appropriate policies and procedures for fulfilling the requirements of the *Ontario Heritage Act* and the *Ontario Cemeteries Act*;
- To develop appropriate policies and procedures for implementing and utilizing the master plan when assessing the requirements for archaeological review during the development approval process; and,
- To educate city administration, the development community and the public of their responsibilities relative to the preservation of archaeological resources.

To achieve these goals, the Windsor Archaeological Master Plan study team documented known cultural heritage resources, analysed the environmental, cultural and historical factors which influenced past settlement patterns, created a resource potential model which utilized these factors to identify areas of archaeological potential, and drafted policies and procedures designed to address the City's new role in archaeological resource management.

The archaeological potential model represents the first of two nets which are cast to capture (or identify) areas

of archaeological potential which would warrant further consideration when scheduled for development. Archaeological resources are not randomly distributed across the landscape but rather, human land use and resource exploitation follow patterns of resource distribution which are influenced by a variety of specific cultural, environmental and geomorphological factors. Consequently, specific areas within a general landscape will have been more or less intensively utilized through time. Through the preparation of a potential model, the study team identified the specific factors that contributed to the patterning of human land and resource exploitation and applied the factors to the specific landscapes found within the Windsor area.

Due to differences in approach, separate models were developed for Precontact Native settlement and historic period settlement. The Native model is based primarily on environmental and geomorphological criteria which would have influenced Native peoples relationship to the landscape. Although social factors have also been taken into consideration, these are difficult to re-create or interpret given both the time and cultural differences that separate the researcher from the people who lived here in the more distant past. The Euro-Canadian model, which includes the post-contact Native occupation, is based on known settlement locations drawn from historic mapping and other archival sources. The archaeological potential map created through the combination of the two models was subsequently screened to identify areas for which the physical landscape had been extensively modified or disturbed as a result of development. Since land that has been extensively disturbed retains little or no archaeological integrity, it was identified and excluded from the final archaeological potential map.

The second net used to identify areas or projects which warrant further archaeological consideration is the screening of development applications to identify the types of project which pose the greatest threat of impact to archaeological resources. The scope of this screening process has been developed specifically to address development issues within the City of Windsor. The two main factors taken into consideration were: the majority of known sites fall within areas of extensive urban development; and, a large percentage of the land mass within the City has already been developed for urban use. Consequently, it was important to establish a screening procedure which addressed urban renewal as well as 'green field' development. The resulting GIS based planning tool provides the Heritage Planner and other municipal staff with simple, 'yes/no' identification of those areas for an archaeological assessment would be required.

The major recommendations or procedures arising from the Windsor Archaeological Master Plan address the identification of archaeological potential, the recovery of human remains, the maintenance of the archaeological sites data base, restrictions on access to sensitive archaeological data, the disposition of archaeological artifacts, public awareness and the sensitivity and security of media announcements.

1.0 THE WINDSOR ARCHAEOLOGICAL MASTER PLAN

1.1 Archaeological Background

Windsor is an area rich in cultural heritage resources, and diversified cultural traditions.

The Detroit River corridor is unquestionably an area of high cultural and historical significance not only to the First Nations, but to the Europeans who followed 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 Native and early European settlement along its banks.

The shoreline comprises the earliest continuous European settlement in Ontario. The European influx began in the early 18th century with French settlement that grew up around Fort Ponchartrain (later Fort Detroit) on the north side of the river. The south shore, now Windsor, was settled later in the 18th century by French families from the St. Lawrence River settlements. By the 1790s, British settlement of the area was well underway, and 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 18th and 19th 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 19th 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. Native sites within the Windsor area include Archaic period camps (1800 to 1500 B.C.) and Late Woodland period villages (ca. A.D. 1100). Of particular sensitivity are the various ossuaries (burial sites) and isolated burials relating to both pre-contact and historic period Native settlement in the Windsor area. Euro-Canadian 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 4000 years of human history.

1.2 The City of Windsor and Archaeological Resource Management

Physical evidence of the City's rich archaeological heritage is increasingly threatened as modern development significantly modifies the landscape. Windsor's current population of about 200,000 occupies an area of approximately 120 square kilometres. Most of the City's land is developed for urban use, with less than 2,000 hectares (17 %) of the land mass made up of undeveloped lands. Urban expansion has been significant over the past 25 years and is expected to continue into the new millennium.

As part of a general transfer of the municipal plan review process from the provincial to the municipal level of government, the City of Windsor is preparing to take on the responsibility of making "archaeological potential determinations, and (placing) archaeological conditions on development plans themselves" (Ferris 1998: 231). In preparation for this new role, the City of Windsor has commissioned Cultural Resource Management Group Limited in conjunction with Fisher Archaeological Consulting, Historic Horizon Inc and Dillon Consulting Limited to prepare an archaeological master plan, and thus create a planning tool designed to address the specific environmental, topographical and cultural factors which influenced human history within the municipality.

1.3 Objectives of the Study

The objectives of the Windsor Archaeological Master Plan study, as identified in the Terms of Reference, were as follows:

- To identify and map land containing archaeological resources or areas of archaeological potential within the City of Windsor;
- To develop appropriate policies and procedures for fulfilling the requirements of the *Ontario Heritage Act* and the *Ontario Cemeteries Act*;
- To develop appropriate policies and procedures for implementing and utilizing the master plan when assessing the requirements for archaeological review during the development approval process; and,
- To educate city administration, the development community and the public of their responsibilities relative to the preservation of archaeological resources.

To achieve these goals, the Windsor Archaeological Master Plan study team documented known cultural heritage resources, analysed the environmental, cultural and historical factors which influenced past settlement patterns, created a resource potential model which utilized these factors to identify areas of archaeological potential, and drafted policies and procedures designed to address the City's new role in archaeological resource management.

The results of the study are detailed in the following report. ***Section 2: Historic Framework for Human Settlement in the Windsor Area*** provides a cultural and historic context within which to understand and interpret the relationship between the various peoples who have occupied the Windsor area over some 10,000 years of human history. ***Section 3: Archaeological Resources in the City of Windsor***, provides a summary of previous archaeological studies and known archaeological resources within the City of Windsor. In order to provide greater context, information on sites in the County and the neighbouring Detroit area is also reviewed. ***Section 4: Archaeological Potential Modelling*** details the specific environmental, cultural and historical factors around which Windsor's archaeological site potential models for Pre-Contact and Post-Contact settlement were developed. ***Section 5: Archaeological Resource Conservation and Planning in the City of Windsor*** provides a review of the provincial and municipal legislation which has been influenced by society's recognition as to the value of the province's archaeological heritage and outlines various policies and procedures intended to assist Windsor City Council achieve its goal to identify, recognize, protect, enhance and properly manage its heritage resources.

2.0 HISTORIC FRAMEWORK FOR HUMAN SETTLEMENT IN THE WINDSOR AREA

From the retreat of the last glaciers to the arrival of the new millennium, the Windsor area has been the stage upon which a series of peoples have acted out the events of human history. For over 10,000 years, America's Native peoples occupied and exploited the changing landscape of what is now Southern Ontario and eastern Michigan. As will be detailed in Section 2.2 of this chapter, the character of Native settlement adapted to changes in the environment and climate, to the movement of peoples and ideas, and to the introduction of new technologies and new cultures. These adaptations will be tracked throughout the Pre-Contact period from Paleo-Indian hunters through to Late Woodland farmers.

With the arrival of French explorers followed by European settlers some three hundred years ago, Native peoples faced their greatest challenge to their culture and very survival. The overview of Post-Contact settlement history (Section 2.3) extends from Native peoples' first contact with Europeans, through the initial stages of French and British settlement along the shores of the Detroit River, the expansion of Euro-Canadian towns and farm communities, to the late 19th century urbanization and industrialization of Windsor.

Although both ancient and recent historical themes outlined in this chapter interweave to form the tapestry of Windsor in the 21st century, resources dating from the mid-19th century and later are commonly considered to fall within the realm of historic rather than archaeological resource management. Consequently, provincial policy and general archaeological resource management practice within Ontario identify the mid-19th century as a cut-off point for the purposes of attributing archaeological significance to historic resources. As an integral part of the overall fabric, the post mid-19th century period forms a part of the master plan's discussion of Windsor's historical context, but was not ultimately included in the archaeological potential model. It should be noted, however, that post mid-19th century archaeological sites remain significant from the academic/research perspective.

2.1 Geological Setting

The glacial and post-glacial processes have greatly influenced the formation of the Great Lakes, and the history of Ontario's Native peoples. Indeed, the tangible history of the Native people in Ontario starts after the retreat of the last Ice Age. Any evidence of cultural history before the glaciers would more than likely have been swept clean after the advances of these thick ice sheets.

The maximum extent of the glaciers' southern push was reached at around 20,000 years ago (B.P.) when the massive ice sheet advanced to southern Ohio (Karrow & Warner 1990:8). This maximum extent lasted, with minor fluctuations for 3,000 years. A warming trend between 16,500 and 15,500 years ago left most of southwestern Ontario ice-free. During this warm period, Windsor was ice-free while the areas of Toronto and Hamilton were still ice locked.

During the Port Bruce Stade of around 15,000 to 14,500 years ago, there was another glacial advance and most of Ontario was again under the grinding impact of ice. It was during the Port Bruce time frame that the succession of glacial lakes was initiated, and that most of southwestern Ontario's glacial features were formed (Karrow & Warner 1990:8-9).

By around 14,000 years ago Lake Maumee was formed in the Erie basin (Karrow & Warner 1990:10). The last major ice re-advance occurred by around 13,000 years ago, and during this time the ice blocked the eastward drainage pattern, raising water levels in the Erie and Huron basins to form what is called Lake Whittlesey (Karrow & Warner 1990:12). The Windsor area would have been inundated by these lakes.

By around 12,000 years ago Lake Iroquois was established as the ice retreated further north, and isostatic rebound played a large part in the formation of drainage patterns in Ontario. Between 11,300 and 10,500 years ago, with the new drainage patterns and lake levels, Lake Algonquin was formed (Karrow & Warner 1990:15). The Lake Algonquin level in the southern Lake Huron basin is generally around 183/184 metres (600/605') above sea level (Karrow 1980). Between 10,500 and 10,000 years ago Lake Algonquin came to an end with the drainage of the lake through the "North Bay outlet" in the northeast, forming the low water levels in Lake Stanley from 10,000 to 5,500 years ago (Karrow & Warner 1990:17). This was a rapid drainage and opened up large tracts of land for colonization by flora, fauna and humans. Some of the archaeological sites in these newly opened up areas were probably later inundated when lake levels rose yet again. This is the traditional model of the events occurring around the time of Lake Algonquin, but there is another viewpoint developing. The revisionist model proposes that Lake Algonquin drained through the Kirkfield outlet only and never reached a level to drain through the Port Huron outlet into Lake Erie, and that the Main Lake Algonquin ended at around 11,500 years ago rather than a thousand years later (Ellis & Deller 2000:14).

By around the beginning of the Middle Archaic (6,000 B.C.), the climate and vegetation of Southern Ontario was essentially modern (Karrow & Warner 1990: Figure 4.1), but the Great Lakes had reversed the trend from the Early Archaic, the time of Lake Stanley, and water levels (Nipissing Transgression) were high again by the end of the Middle Archaic. The increased water levels seem to have had little impact on the forest composition, however, the associated uplift caused drainage problems resulting in changes in water levels of small lakes and ponds, and the promotion of peat development (Karrow & Warner 1990:31). The Nipissing shoreline was up to 15.2 metres, in some areas, above the approximate present-day Lake Huron level of 176.8 metres (580') ASL (Chapman & Putnam 1984:40; Ellis & Deller 2000:13). This would place the Nipissing shore up to 192 metres (610') ASL in some areas from *circa* 3,500 to 2,500 B.C. (Chapman & Putnam 1984:40; Karrow & Warner 1990). In most areas the Nipissing shoreline reached the maximum limit of the Main Lake Algonquin stage of 184 m (605') ASL. By the end of the Late Archaic (~850 B.C.), there would have been essentially modern lake levels.

2.2 Windsor Native History

After the final retreat of the glaciers and the opening up of the Great Lakes basin, people moved into the area. What is now called Ontario has been occupied by Native peoples for at least the last 11,400/11,300 years. What follows is a brief synopsis of the peoples who came before the European settlers — from Paleo-Indians to Late Woodlands people (see *Table 1*).

**TABLE 1: SUMMARY OF NATIVE CHRONOLOGY
& CULTURE OF ONTARIO**

AGE	PERIOD	POINT TYPE		GEOLOGICAL EVENTS	IMPORTANT CULTURAL EVENTS
~9,300 B.C. (11,300 B.P.)	Early Paleo-Indian	Gainey		Lake Algonquin in the Huron Basin	-Fluting of Projectile Points -Wide Ranging Foragers -Use of Primary Rock Sources
		Barnes			
		Crowfield			
8,500B.C. (10,500 B.P.)	Late Paleo-Indian	Holcombe		Low Water Stages in Great Lakes	-No Fluting of Projectiles Points -Wide Ranging Foragers -Use of More Local Rock Sources
8,000 B.C. (10,000 B.P.)		Lanceolate Points (north)	Hi-Lo Points (south)		
8,000 B.C. (10,000 B.P.) 6,000 B.C. (8,000 B.P.)	Early Archaic	Notched Point Styles -Side Notched -Corner Notched -Bifurcate		Nipissing High Water Stage	-Notched Points -Wood Working Tools -Partially Ground Stone Tools
6,000 B.C. (8,000 B.P.)	Middle Archaic	Stemmed			-Fully Ground Stone Tools -Netsinkers -Greater Reliance on Local Materials
2,500 B.C. (4,500 B.P.)		Laurentian			-Earliest Sites with -Multiple Burials -Earliest Native Copper
2,500 B.C. (4,500 B.P.) 850 B.C. (2,800 B.P.)	Late Archaic	Narrow Broad Small		Essentially Modern Lake Levels	-Earliest Evidence of Fish Weirs -Smaller Seasonal Foraging Rounds -Earliest Evidence of Cemeteries -Gorgets & Birdstones
800 - 900 B.C. ~700 A.D.	Early to Middle Woodland	Meadowood Middlesex			-Appearance of Pottery -Coil Technique (pottery) -More Sedentary
~700 to 800 A.D. 1550-1600 A.D.	Late Woodland	Jack's Reef Port Maitland Levanna/Madison			-Presence of House Structures -Presence of Storage Pits -Pottery: Many Styles

2.2.1 Paleo-Indians

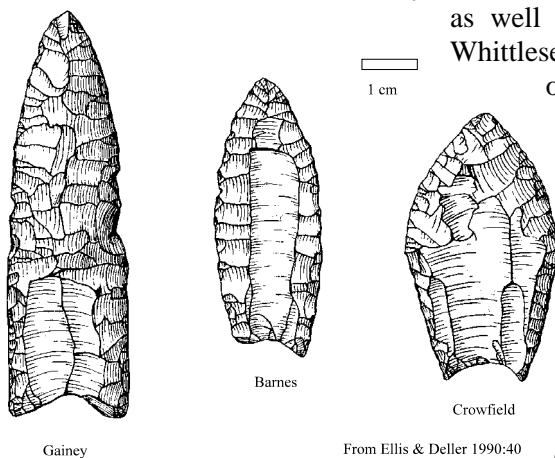
It is during the geological time frame of Lake Algonquin that there is direct evidence that people first occupied southern Ontario (Ellis & Deller 1990:39). These people, known as Paleo-Indians, depended upon

hunting and foraging to survive (*Table I*). They would have moved their camps on a regular basis to the areas that would have provided resources as they became available. People would have gathered or dispersed through the year, depending on the availability of resources and social constraints (Ellis & Deller 1990:52). The environmental conditions of spruce parkland/woodland to pine forests would have necessitated frequent moves and a large range of territory in order to acquire adequate resources.

Early Paleo-Indians

The Paleo-Indian time frame is divided into Early and Late Paleo-Indian. Early Paleo-Indians made points¹ that were fluted (a parallel sided, long flake(s) removed from the centre of the point), while Late Paleo-Indian peoples made projectile points similar to those of Early Paleo-Indians but were not fluted. Early Paleo-Indians were here 11,300 B.P. to 10,500 B.P. Based on stone tool assemblages and projectile point styles, the three major groupings of Early Paleo-Indian material in Ontario are: Gainey, Barnes and Crowfield.

Barnes Early Paleo-Indian sites have often been associated with the fossil beaches of Lake Algonquin, Lake Iroquois and other earlier beach strandlines such as Lakes Warren, Arkona and Whittlesey (Deller 1976, 1979). Paleo-Indians may have been utilizing active beach shores (such as Lake Algonquin)



as well as utilizing fossil beach shores (Lakes Warren and Whittlesey) that were formed long before any Paleo-Indian occupation. The use of these earlier shorelines and non-strandline sites would represent inland and not lakeshore environments (Storck 1988:264). While there has been a bias towards finding sites on these fossil strandlines (Storck 1984), smaller more ephemeral non-strandline (Jackson 1998) sites do occur such as the Murphy site (AeHk-1) in southern Ontario. Jackson (1998:9) has suggested that sites with Gainey material appear to be “more common inland than along the Lake Algonquin strand”.

Other tools in their assemblage included such items as miniature projectile points from the fluting flakes (channel flakes), pièce esquillée (wedge), alternately bevelled biface, and backed biface, and unifacial tools including trianguloid scrapers, spokeshaves, graters and beaked scrapers (Ellis & Deller 1990:47-49).

One outstanding characteristic of Early Paleo-Indians is their propensity for utilizing primary rock sources for the making of their stone tools. In Ontario, there generally was a focus on using Onondaga Formation and Fossil Hill Formation (Collingwood) cherts. Late Paleo-Indians continued to use Onondaga, and sometimes Collingwood, but they also began to use Haldimand, Balsam Lake and Kettle Point cherts (Ellis & Deller 1990:56).

Late Paleo-Indians

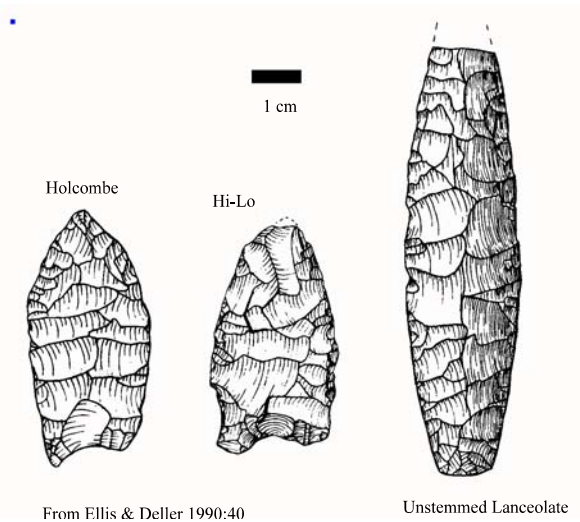
¹Points or projectile points are generic terms to refer to weapons that were mounted on shafts either to be thrown by arm or with the use of an atlatl (spearpoint), jabbed (spearpoint) or shot by arrow (arrowhead).

Late Paleo-Indian peoples are represented by three types of projectile points and associated stone tool kits. These point styles are Holcombe from *ca.* 10,300 B.P. (8,350 B.C.), Hi-Lo from *ca.* 10,100 B.P. (8,150 B.C.), and stemmed and unstemmed lanceolates from *ca.* 10,400 to 9,500 B.P. (8,450 B.C. to 7,500 B.C.) (Ellis & Deller 1990:40).

Tool kits of the Late Paleo-Indian peoples show definite continuity with the Early Paleo-Indian kits, although scrapers do change form and blunt-bitted drills are found (Ellis & Deller 1990:59).

Late Paleo sites occur throughout southern Ontario, and archaeologists would expect to find “drowned” sites on the bottom of some present-day lakes as water levels have increased. A prime example would be the Lake Huron basin as only the centre of this basin would have contained water (Lake Stanley) during the time of occupation of Late Paleo-Indians and Lake St. Clair would not have existed (Karrow & Warner 1990:19).

In the Windsor area, there is the potential for finding both Early and Late Paleo-Indian tools and sites, though for the Early sites, this is rarer given that just under 60% of the City of Windsor would have been above the Lake Algonquin strandline of 183 metres (610') ASL, and therefore available for occupation. There are no registered Paleo-Indian sites (Early or Late) in Windsor proper. For Essex County, there is only one registered site (AaHs-16) containing a Late Paleo-Indian component. This multicomponent site is situated southwest of Amherstburg at 175m (575') ASL. However, this is not to say that Paleo sites are not to be found in the region. Notes from Father Jack Lee indicated that from the Turkey Creek Survey, conducted in 1968 and 1969, there were a number of sites containing Paleo material. A multicomponent site (S.W. 18) contains a Bull Brook projectile point (regional variation of Gainey; usually cited for Massachusetts and New Hampshire (Jackson 1998:1)). The projectile point is an Early Paleo-Indian example, though it seems out of place being at an elevation of 173m (568') ASL, since at this elevation it would have been under water (Baumann 1978). Five other sites (S.W. 2, 17, 20, 23 & 24) have produced what have been identified as Paleo points, and S.W. 1 contains a questionable Paleo-type (Baumann 1978). These sites have not been registered, and their exact nature and location is unfortunately unclear.



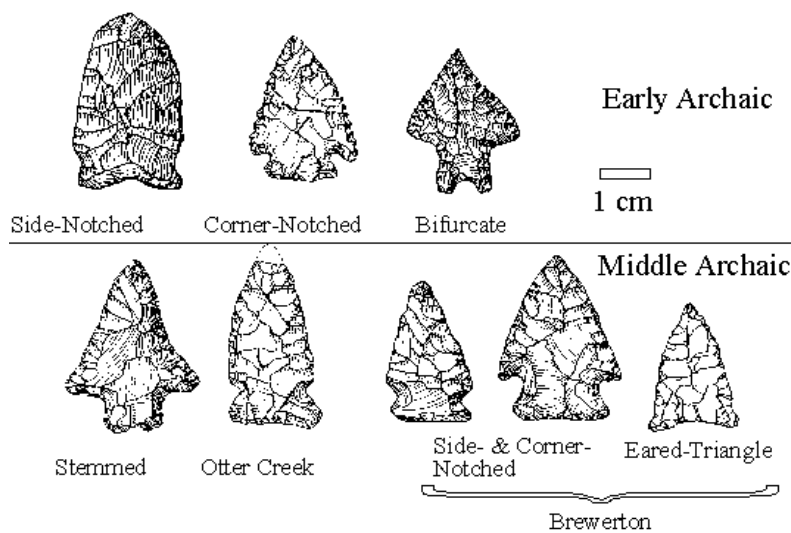
2.2.2 Native Peoples from the Archaic Horizon

While the Paleo-Indian period lasted for a millennium, the Archaic horizon lasted for approximately seven times that length spanning from 8,000 B.C. to 850 B.C. (*Table I*). There are a number of characteristics that distinguish Paleo-Indian peoples from Archaic. Briefly, they are (Ellis & Deller 1990:66-67):

- the appearance of tools made of Native copper
- an increased use of bone tools; especially for fishing (hooks)
- the appearance of tools for wood work use (axes, chisels), food preparation (manos, mortars), fishing with nets (netsinkers)
- a greater reliance on a wide range of lithic materials for stone tool manufacture
- stone tools made by polishing or grinding instead of solely by flaking
- a wider variety of projectile point styles: side and corner notched and less skill in their manufacture
- a tool kit predominated by expedient tools (non-hafted) rather than formal (hafted) as was the case with Paleo-Indians
- greater regional variability in both artifact assemblages and site locations
- greater frequencies of Archaic sites yielding larger artifact assemblages

It would appear that the Archaic peoples in Southern Ontario were subsisting in smaller territories than the former Paleo-Indians, thereby becoming more regionalized. Their population was increasing, probably due to the more reliable food resources as well as greater biodiversity in these resources. There are more comprehensive discussions of these changes; one such example may be found in Ellis & Deller 1990.

While the Archaic has been poorly understood, today there is more of a focus on the Archaic peoples as a whole. The archaeological sites that were left behind by these people have suffered the middle child phenomenon — they have neither the appeal of the Pale-Indian sites (the oldest and finest stone tools), nor the visibility and selection of artifacts of the Late Woodland sites. This oversight is changing as systematic survey techniques, introduced in 1975, have resulted in the discovery of the small ephemeral sites which make up the Archaic horizon.



From Ellis & Deller 1990:72; Justice 1987:122

2.2.3 Early & Middle Archaic

The broad divisions in the Archaic may be broken down into the Early, Middle and Late Archaic. The Early Archaic peoples continued with some characteristics from the Paleo-Indians, but developed some of their own, as no culture is ever static.

During the Early Archaic (8,000 to 6,000 B.C.), the climate of southern Ontario was approximately 4° Celsius cooler and much drier than the modern environment (Edwards & Fritz 1988:1405). The forest composition at this time would have been approximately 50% pine and 25% oak with the remainder made up

of maple, ironwood, elm and ash (Bennett 1987:1797). At that time, the lake levels would have been very low,

exposing considerably more land within the Great Lakes basin than there is today. There are no registered Early Archaic sites in the Windsor area. Any Early Archaic sites in the Windsor area may have been inundated by Lake St. Clair.

The variation in projectile point styles from the Early and Middle Archaic suggest that the Native peoples of Southern Ontario were becoming more regionally distinct. The Paleo-Indians used the same styles of tools across a wide area for a relatively long period of time. However, by the Early Archaic, Native peoples were beginning to exploit smaller hunting and foraging territories. As the environment changed, so too did the peoples' mobility patterns. They followed the seasonality of resources and moved into new areas that had become more conducive to human settlement. In addition, populations were growing.

Even though the variation and distribution patterns of projectile points suggest a growing population, the Early Archaic side-notched points are proportionally rare in Ontario. This rarity may be due to misidentification, placing them with later, Middle Archaic side-notched points (Otter Creek), or simply that the people who made these tools did not inhabit the area long or intensively enough to leave a significant mark on the archaeological record. Corner-notched points are better represented in Ontario collections than are other Early Archaic materials. The Nettling Site (Ellis *et al.* 1991) yielded an important assemblage of this type of Early Archaic material. The artifact assemblage typifies the changing tool kit, containing points, trianguloid bifaces, drills, unifacial tools, plus cobble tools, ground stone, and celts (Ellis *et al.* 1991). Wood working tools were present in the tool kits of these people.

The distribution of Kirk corner-notched points (Early Archaic) was generally along the North shore of Lake Erie, around the western end of Lake Ontario and in the Komoka area (Ellis *et al.* 1991: Figure 1). Some of the early sites were probably flooded due to the shifting lake levels resulting from isostatic rebound. Therefore, while the early sites probably existed over a wider territory, they are poorly represented in the overall archaeological database. One of the Kirk corner-notched clusters found along the north shore of Lake Erie consists of two sites and a number of findspots in the Leamington to Long Point area. There are no Kirk corner-notched findspots or sites listed for the Windsor area, and for Detroit, there is only a single, multicomponent site which lists a point similar to Kirk corner-notched (20WN165).

At around 6,900 to 6,000 B.C., bifurcated points, points bearing a deep basal notch, were being made by Native peoples. There are at least four types of bifurcate points noted from sites in Ontario and the eastern U.S. These bifurcates nicely showed the way styles change over time, yet showed how people were continuing to use characteristics from the people before them. St. Albans points are bifurcated, but corner-notched, while the later LeCroy and Lake Erie points foreshadow the early Middle Archaic Neville and Stanly Stemmed points. While Stanly/Neville points are known to occur in Ontario, there have only been 13 registered sites/findspots in whole of Ontario (as of 1995) that contained this type of material (Fisher *et al.* 1997:82). Six of those sites were multicomponent, four were isolated findspots, two were tentative in their identification, and one, the Northway 2 site located at the western end of Lake Ontario was a single component site.

By the time of the early Middle Archaic, Native peoples were utilizing fully ground stone tools (grooved axes and bannerstones), and netsinkers (stones with notches used to anchor nets), and were relying even more on local lithic sources to make their stone tools. It is also important to note that the use of lithic material was no longer restricted to siliceous type rocks (*ie.* cherts such as Onondaga or Kettle Point) but people were using rhyolite, quartz, siltstone and felsites (Ellis *et al.* 1990:81).

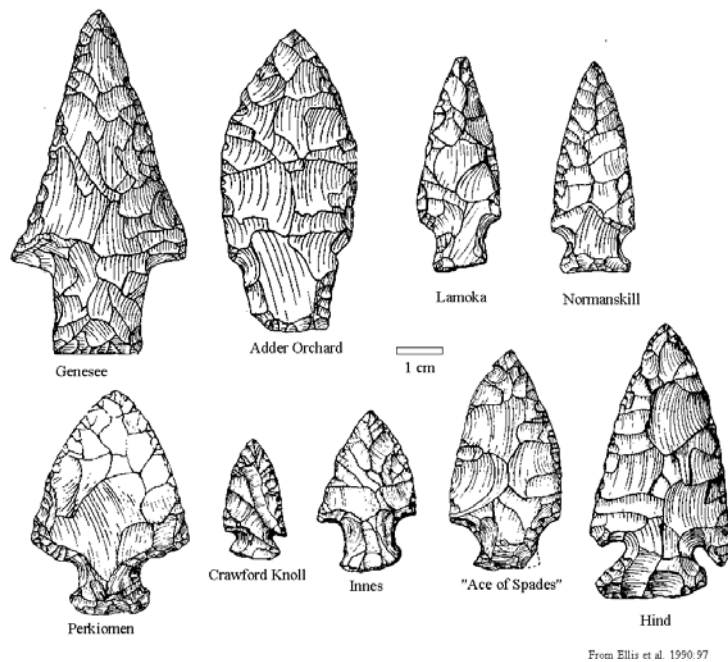
By the latter part of the Middle Archaic, the archaeological record becomes more complicated. A trend toward distinct regional distributions of artifacts becomes apparent, probably reflecting that culturally distinctive Native groups were settling into specific territories. Artifact assemblages containing side-notched points and distinctive ground stone tools, such as bayonets and semi-lunar knives, were present only in southeastern Ontario and Québec. Native copper was also being utilized. This artifact assemblage is termed the Laurentian Archaic. The Laurentian people were not burying their dead in individual graves as had been the practice, but instead were including several people within a single interment. There is no potential to find Laurentian Archaic artifacts in the Windsor area, as they had settled only in southeastern Ontario.

The Laurentian were not the only Middle Archaic people residing in Ontario. The Windsor area was inhabited by peoples using distinct point types such as Brewerton and Otter-Creek. However, by the late Middle Archaic, lake levels were high. Lake Nipissing rose as much as 15 metres above the present lake levels in some areas. The implications for Native settlement in the Windsor area during the high Nipissing water levels were significant — little of the land surface within the City of Windsor would have been above the Lake Nipissing high-water mark. While there is the potential of finding evidence of late Middle Woodland Native occupation in Windsor, it would be restricted to just over 10% of the City's land mass. The rest of the area would have been below the 189 - 192 metre (620'-630') ASL high-water level that marked the maximum coverage of Lake Nipissing.

2.2.4 Late Archaic Peoples

The designation of the Late Archaic is based on a number of factors drawn from the archaeological record. The population of the Native groups seems to have been on the rise in the Late Archaic. This period yielded the earliest evidence of fish weirs and cemeteries. There was also evidence to suggest a pattern of even smaller seasonal foraging rounds than those attributed to the preceding Middle Archaic.

The Late Archaic is further subdivided based on factors such as temporal divisions and projectile point styles. The styles present in the Late Archaic were the Narrow, Broad, and Small Points.



From Ellis et al. 1990:97

Narrow Points

Narrow Points (Lamoka and Normanskill) were the first types of Late Archaic projectiles present in the archaeological record in Ontario. Narrow Points were found from around 2,500 B.C. to 1,800 B.C. in the North American northeast, and tended to have a fairly southern distribution. Lamoka points have been found throughout southern Ontario, but are

generally represented by surface collections. The Niagara peninsula has yielded two Lamoka sites, Spyksm (Ellis 1979) and Canada Century (Lennox 1990), containing points and the Lamoka style adze. Outside of the peninsula, only the Winter Site (Ramsden 1990) near Guelph has been excavated.

Snow (1980) indicates that the people who used Lamoka Points may have been adapting to deciduous forests that contained a number of nut bearing tree species. Evidence for the reliance on plant food and nuts is seen at two of the Lamoka sites in New York State, where mullers, pestles and pitted stones plus acorn shells were found (Ellis *et al.* 1990:96). The people at these sites were hunting deer, squirrel, bear and raccoon.

Broad Points

Broad Points are aptly named, since in general, they are very large forms. The points usually have a triangular blade, with large shallow flake scars, and have had the basal corner removed to form a broad stem (Turnbaugh 1975). The distribution of Broad Points is wide spread, from Florida to Ontario, but they are perceived as having distinct regional and/or temporal variants. In Ontario, the Broad Points forms are: Adder Orchard (2000 B.C.), Genesee (~1830 B.C.), and Perkiomen (~1600 B.C.).

Adder Orchard points are well represented in southwestern Ontario and would appear generally to be restricted to this part of Ontario. Adder Orchard points have been found in the Walpole Island area (Adams 1989), but especially the Ausable Valley (Fisher 1987). Similar points from south central Ontario do exist, being found on the Thistle Hill Site in Mount Hope (Woodley 1990) and the Surma Site (Emerson and Noble 1966) in the Niagara peninsula. Adder Orchard-like points have also been noted in Michigan (Simons 1972) and Ohio (Justice 1987). Genesee points tend to be very large and exhibit the classic “Christmas tree” shape. Typically made from Onondaga chert (from the northeastern shore of Lake Erie), their distribution is heavily concentrated in New York State, but were also found in Pennsylvania, Ohio and southern Ontario (Justice 1987). In southern Ontario, Genesee points occur around the Niagara peninsula but are rarer further west (Ellis *et al.* 1990). Perkiomen points are semi-lozenged in outline and tend to be asymmetrical. Distribution is heavy in New York, but extends into Ohio, Virginia, Pennsylvania and the Niagara Peninsula (Witthoft 1953:18; Justice 1987:170).

Of the Broad Points that have some known distribution in southern Ontario, the Perkiomen points will probably not be found in the Windsor area since they seem to be geographically restricted to the Niagara Peninsula. Adder Orchard points are likely to be found, and Genesee points have already been found in the City of Windsor - sites AbHs-18 and AbHs-20.

Small Points

Small Points are present in the archaeological record from around 1,500 B.C. to 850 B.C., a time frame regarded as the Terminal Archaic (Ellis *et al.* 1990:106-107). Native people who used Small Points appear to have been located in southern Ontario and the adjacent midwestern United States. The Small Point projectiles are characterized by four main varieties: Crawford Knoll (Kenyon 1989); Innes (Lennox 1986); Hind (Spence & Fox 1986); and Ace-of-Spades (Ellis *et al.* 1990:109). Hind points are generally associated with a mortuary complex, the people of which are called Glacial Kame since they buried their dead in these geological deposits (Ellis *et al.* 1990).

Small Point sites were situated in a transitional forest environment along the shore of Lake Huron (Ramsden 1976; Wright 1972). Sites in southwestern Ontario such as Crawford Knoll (Kenyon 1989) were located in the deciduous forest environment next to lakeshores or marshlands. Small interior sites such as Innes (Lennox 1986), and Thistle Hill (Woodley 1990) are found in transitional to deciduous forest environments. The settlement-subsistence pattern for the Small Point people has been postulated as consisting of two components - a littoral/inland, summer/winter dichotomy. Littoral sites which were in rich environments, permitted exploitation of many different food resources, and represented multiseason occupations, inhabited anytime from the spring into the fall (Ellis *et al.* 1990:114). Inland or upland sites are postulated as fall or winter camps that focused on deer hunting and nut gathering (Ellis *et al.* 1990:114).

By the end of the Late Archaic, water levels of the Great Lakes were essentially modern. Windsor would have been a prime area for Native people who used Small Points, and it would have been within the corridor of movement of peoples from Michigan and Ohio up around the shores of Lake Huron. However, to-date, there are no registered Small Point sites in either the Detroit or Windsor areas.

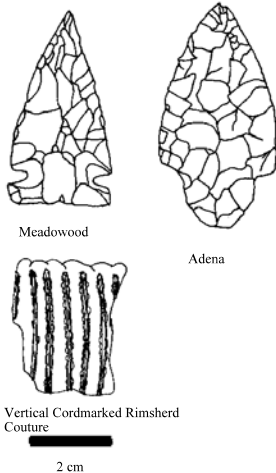
2.2.5 Early & Middle Woodland Peoples

One of the major differences between the Late Archaic and Early Woodland periods in the archaeological record of southern Ontario was the appearance of pottery. The Early Woodland is divided up into two phases: Meadowood (800-900 B.C. to 400 B.C.); and, Middlesex (*ca.* 450 to 0 B.C.).

The general characteristics of the Meadowood people's artifact assemblage included such items as: the distinctive thin cache (preform) blade; the thin side-notched point that was recycled into many other tool forms; a marked preference for Onondaga chert; Vinette I pottery using coil construction; trapezoidal gorgets (large and two holed); and bar and expanded body, pop-eyed birdstones (Spence *et al.* 1990:128-129). The Meadowood people seem to have had a direct link to the preceding Glacial Kame people of the Late Archaic. These people utilized Small Points (Hind points) but most of the information concerning them is derived from mortuary settings and not daily habitation sites. The Muskalonge Lake site in New York state is a burial site containing red ochre, copper adzes, marine shell disk beads, hammerstones, two Meadowood points and a number of corner-notched Hind points (Spence *et al.* 1990:129). The presence of both types of points would appear to indicate that the site represented a transition between the two designated groups.

One distinct difference between Glacial Kame and Meadowood peoples was the level of access to distant goods. Marine shells, and copper artifacts (beads) are less common on Meadowood sites than on the preceding Glacial Kame sites (Spence *et al.* 1990:136). The reason for this drop remains unclear.

Meadowood sites are distributed throughout southern Ontario. Windsor's closest registered Meadowood site is Liahn II, a cemetery located on a sand knoll on the shores of Lake St. Clair (Williamson 1980). Although there were no Vinette I ceramics in the graves, some are presumed to have been Meadowood. Two skeletons were accompanied by red ochre and some 55 Meadowood cache blades made from Onondaga chert. Five other graves that contained red ochre and grave goods may have been Meadowood or Terminal Archaic (Williamson 1980). The remaining graves were thought to be Late Woodland. There are no registered sites in the immediate Windsor area that include Meadowood material.



The Middlesex complex (*ca.* 450-0 B.C.) is known almost solely from burial components found in New York and the New England States. Lobate Adena points are associated with the Middlesex complex. Sites present in Ontario are in the eastern end of the Province, along the St. Lawrence to Québec, although there is a Middlesex site in Killarney Park on the north shore of Georgian Bay. There is low to non-existent potential of finding Middlesex material in the Windsor area.

The Middle Woodland represents a major shift in the way people settled the landscape and procured food. It is at that time (500 B.C. to A.D. 700) that fish became a more important aspect of their diet, although they continued to hunt and forage for food. As a consequence, rich and large sites began to appear on river valley floors. Structural remains (post moulds) and large middens were now part of the archaeological record. These sites were occupied on and off for sometimes hundreds of years, and represented a warm season macroband base camp occupation, taking advantage of

spawning fish. People kept returning to particular fish spawning grounds, and became more reliant on this resource. This produced a stabilizing effect on that people's settlement cycle; people were becoming more sedentary and exploited a more restricted band territory, compared to the people of the Archaic.

There is a variety of Middle Woodland groups and these bands were geographically restricted, and could generally be traced from their Archaic predecessors. There are three types of cultures recognized for the Middle Woodland: Point Peninsula in the southcentral to eastern parts of Ontario; Saugeen west from London, up to Bruce County and east to the north shore of Lake Erie; and Couture in southwestern Ontario (Spence *et al.* 143).

The Couture Complex is generally restricted to the drainage systems of Lake St. Clair and the northwestern shore of Lake Erie. By around 400 to 300 B.C., people from southwestern Ontario were making artifacts that began to show more affinity to materials in the central Great Lakes basin (Spence *et al.* 1990:144). Couture pottery is thick (made by coil technique) with notched rim lips. Typically, the pots are decorated on the exterior with vertical to oblique cord marked applications. Occasionally, the exteriors are decorated with dentate or pseudo-scallop shell rocker stamping, which is restricted to the upper sections of the pots (Spence *et al.*:1990:144). The lithic assemblage was variable on Couture sites. One notable characteristic was the importation of bifaces from southern Ohio. Typical projectile points were Snyders points, and later Vanport.

2.2.6 Late Woodland Peoples

Transition from the Middle to Late Woodland periods is marked by a number of distinct changes in material culture and subsistence strategies. Differences include new settlement and subsistence patterns, a focus on a new type of pottery construction, different pottery decorating techniques, and a variety of new projectile point forms. Based on these characteristics, it is generally felt that the Late Woodland period began at around A.D. 800 and continued until A.D. 1650, after which the time frame is designated as post-contact period.

It is during the Late Woodland that domesticated corn is introduced, and by the 10th century A.D., Native villages based on an agricultural economy are evident in the archaeological record. The remains of carbonized corn kernels and cob fragments on sites indicate that agriculture was beginning to be an important component of the Late Woodland economy, but it had not reached the maximum level of importance that it would in the centuries just before contact with Europeans. In response to the new subsistence base, site locations shifted from the typical Middle Woodland riverine setting to upland locales. The soils identified as good for growing corn have generally been the sandy soils as indicated by the placement of villages in the Huronia area (Campbell & Campbell 1992). Other factors such as rainfall, however, can mitigate the need for sandy soils. In fact, in areas of less or irregular rainfall, the heavier loam soils may actually be preferred (Campbell & Campbell 1992). This seems to have been the case in the Windsor area.

By the Late Woodland period, there was a distinctive Native cultural occupation of the western portion of Ontario, including Essex, Kent and Lambton Counties plus some neighbouring ones as well. This Native cultural affiliation has been labelled as the Western Basin Tradition. Murphy and Ferris (1990:189) indicate that these people had ties with people in southeastern Michigan and northwestern Ohio, and represented an *in situ* cultural development from the earlier Middle Woodland peoples. These peoples have been identified as being distinct from the Iroquoian peoples to the east, and from the Mississippian peoples to the south, and probably were Central Algonquians who maintained an Algonquian seasonal foraging round based on the rich lake environments of southwestern Ontario (Murphy & Ferris 1990:189). The Western Basin Tradition seems to have been centred in the territory of the western drainage basin of Lake Erie, Lake St. Clair and the southern end of Lake Huron. The Western Basin Tradition is divided up into four phases based on differences in settlement and subsistence strategies, and again on differences in pottery attributes. The four phases are: Riviere au Vase, Younge, Springwells, and Wolf. They are summarized in the Table below.

**TABLE 2
THE FOUR PHASES OF THE WESTERN BASIN TRADITION**

Phase	Date	Settlement and Subsistence	Pottery
Riviere au Vase	A.D. 600 - 900	-developed directly from the Middle Woodland Couture complex -seasonal mobility geared toward resource availability -summer base camps by lakeshores; fall/winter interior -no corn & beans present	-Wayne ware small, thin walled, vertical cordmarking -later wares are tool impressed
Younge	A.D. 900 - 1200	-corn & beans present -settlement & subsistence continues as before with focus on warm season gathering of groups, and winter dispersals	-pottery is larger & more elaborately decorated -body of vessels are corded, coarsely & irregularly -multiple bands of tool impressions
Springwells	A.D. 1200 - 1400	-larger more permanent warm season settlements -longhouses & palisades present -more intensive horiculture -locations near arable lands, and along the shorelines of marshes, rivers & lakes -possible use wattle & daub	-ceramics large & bag-shaped -collars & castellated rims decorated with horizontal bands of incised or impressed decoration -roughened, self slip & ribbed paddle surfaces first appear
Wolf	A.D. 1400 - 1600	-few examples of sites known -distribution limited to around Lake St. Clair, St. Clair River -large warm weather villages, often fortified by earthworks -nature of these sites is attributed to the westward expansion of Ontario Iroquoians that resulted in abandonment by the Western Basin peoples in the early 1600s	-diagnostic characteristic of Wolf phase is Parker Festooned pottery -highly ornamental style of pottery -undulating bands of dentate stamped impressions or stamped appliqué strips on vessel necks -after A.D. 1500 most vessels with strap handles & notched lips or notched horizontal rim strips, plus shell temper

*Table information from Lennox & Dodd 1992; Ferris & Murphy 1990

There has been a great deal of debate in the archaeological literature concerning the cultural designation of Native groups in the Ohio, Michigan and southwestern Ontario regions at this time period. For ease of reference, the Murphy and Ferris (1990) designation is followed, however for an alternative view see Stothers *et al.* 1994. Murphy and Ferris refute an Iroquoian affiliation of the Western Basin people, and instead favour an Algonquian designation. They note similarities to the Central Great Lakes Algonquian groups' settlement and subsistence patterns, and note similarities between Western Basin people and the Ojibwa who were occupying southwestern Ontario in the beginning of the 18th century (Murphy & Ferris 1990:276). They conclude that they are assuming that the Western Basin peoples are the ancestors of the Central Algonquian groups that resided in the Great Lakes region during the 17th century, known generally as "the Gens de Feu" (Murphy & Ferris 1990:277).

2.3 The Post-Contact Period: Thematic Overview of Euro-Canadian

Settlement

2.3.1 Post-Contact Native Peoples

The arrival of Europeans and their new diseases brought about disastrous consequences to Native groups throughout the Americas. Native populations were decimated and the social fabric which had developed over the millennia was changed rapidly and irreparably. These changes resulted in the relocation and reorganization of Native groups as European influences moved north and west from the original points of contact. In southwestern Ontario, warring that had started between the Neutral and the Algonquians in the 15th century continued into the 16th century. By the mid-16th century, the Algonkian groups were shifting out of southwestern Ontario, and the Neutral had retreated east of the Grand River (Heidenreich 1990:478).

The earliest historical references to Native villages in the Windsor area are drawn from the mid-17th century French explorers. According to these early travellers, there was a Neutral village (Skenchioe) in the Windsor area, and a mixed Neutral and Wenro village (Khioetoe) located south of the city along the Canadian shore of the Detroit River (Lajeunesse 1960:xxxii). These villages appear to have been abandoned by around 1651 (Lajeunesse 1960: xxxii). Near Detroit, a mixed Huron and Tionontati village (Teochanontian) was established in 1679. Acting on the authority of the French crown, Sieur de Lamothe Cadillac moved to establish a fort at Detroit in 1701, effectively countering an English move to infiltrate the Great Lakes region. With the establishment of Fort Pontchartrain du Détroit, on the north shore of the river, Cadillac invited the Hurons and Odawa from his post at Fort Buade (Michilimackinac) to settle at Detroit. The Odawa were amenable to this invitation since the Detroit area had been a summering ground for them since at least the 1680s (CARF 1990:3). As a result of an uprising instigated by the Fox people beginning in 1712, many Native peoples abandoned their settlements around Detroit (CARF 1990:12).

The two main Native groups to establish permanent settlements in the Windsor area during the 1700s were the Odawa (Ottawa)² and the Hurons who established a village next to the French Jesuit mission (de Léry, 1752).

The Odawa/Ottawa Village

The Odawa people are a northern Great Lakes people who were dispersed during the contact period. In the early 1600s, the Odawa lived on Manitoulin Island (Province Bay), the Bruce Peninsula (Hunter's Point Site), the northern and southern shores of Georgian Bay, and in northern Michigan (Fox 1990; Molnar 1997). By the mid 1600s, the Five Nations Iroquois of Upper New York State had pushed northward in a bid to gain control of the lucrative fur trade and decimated the Ontario Iroquoian peoples known as the Petun, Huron and Neutral nations. Facing increased threat of warfare, starvation and adoption, some of their northern neighbours and allies, including the Nipissing, the Southeastern Ojibwa nations, and the Odawa, joined the Ontario Iroquoian peoples in their westward dispersal (Molnar 1997:6). Some of the Odawa returned to Manitoulin Island in 1670, and the Straits of Mackinac between 1676-1695 (Molnar 1997:6). By 1700, Odawa peoples also returned to southern Ontario.

²The general consensus for these people is the spelling 'Ottawa', but 'Odawa' (meaning to trade or sell) is used by current Native groups and archaeologists.

In 1702, Cadillac noted the Native villages in the area. He described the village of Oppenage, located just west of Fort Pontchartrain, and then went on to add that “above this village, half a league higher up, there is a village made up of four tribes of the Outavois” (Lajeunesse 1960:22). At the beginning of the 1700s, the village was apparently located on the northern shore near the French fort. The Fox siege may have caused the Odawa to move to the Mackinac area shortly after 1712, and then move back to the Detroit area by around 1717 (Mainfort 1979:285). By 1721, the Odawa village was located on the south shore of the Detroit River. “To the south on the other side of the river are the Outaouais who, together with the Hurons and the Poutouatamis have made wastes containing about two leagues frontage by eight arpents deep” (Lajeunesse 1960:26). An interpreter for the Odawa also obtained a land grant on the south shore in the 1749-1751 period (CARF 1990:4).

The Odawa people seem to have shifted sites first from the northern shore of the Detroit River at the beginning of the 1700s to the south shore after the Fox hostilities of 1712. De Lery’s map of 1752 shows the locations of the Odawa (Ottawa) and the Huron villages on the southern side of the Detroit River and a Potawatomi village on the north shore opposite the Huron village. The general configuration of communities did not immediately change with the imposition of British rule in 1763. Montessor’s map of that year suggests that the Odawa, Huron and Potawatomi villages continued to occupy the lands held during the French regime (Lajeunesse 1960: lxii).

When the first formal British surveys were undertaken, Patrick McNiff (1790) identified a large area on the south shore extending from opposite the French fort eastward past Belle Isle (Isle au Cochon) as being the Odawa village. Within the lands of the Odawa, McNiff identified their burying ground as occupying a small knoll located directly across the river from the fort.

Only minimal traces of the Odawa village have been identified archaeologically. The Great Western Park site (AbHs-11) and an associated burial, identified as a result of an archaeological assessment in 1989 (CARF 1990), are affiliated with the Ottawa village site. The park is located along the Detroit River waterfront between Riverside Drive and the shore. However, the original area of the village and associated cemetery as indicated on McNiff’s 1790s map would have extended well inland, perhaps as far as Brant Street, and had been centred on Louis Street where a natural sand knoll still exists. During construction of the Great Western Railway along this section of the Windsor waterfront, numerous Native burials were disturbed. Newspaper accounts of the day reported that the burials contained a rich offering of European trade goods. Similar burials continued to be found into the early 20th century near the water works and at the foot of Devonshire Road (Evening Star 1903; Gladstone-White 1989). More recently, burials have been found while repairing a light fixture near the foot of Langlois, and during construction of a bikepath at the foot of Pierre Street. Although the full extent of the Odawa cemetery is not known, the distribution of burials recovered from the area suggests that it may extend as far west as Langlois Street, as far east as Devonshire Road and inland at least to Brant Street.

The Huron Village

The Huron came to the Detroit area in response to Cadillac’s 1701 invitation to relocate from the French post at Michilimackinac. According to a description provided by Cadillac, the initial Huron village was established to “...the right of the fort, at a good distance...” (Lajeunesse 1960: 21). It is assumed that Cadillac is writing

from the perspective of the fort looking south toward the river. Consequently, the Huron village would have been situated downstream from the fort. According to a report prepared by Father Charlevoix, a Royal envoy, visiting the French colonies in 1721, a Huron village was located on the north shore of the Detroit River, just down river from the fort (Lajeunesse 1960:xlvi). Upon the request of the Huron in Detroit, a Jesuit missionary, Father Armand de La Richardie, was sent to minister to them in 1728. In correspondence dating from 1741, La Richardie referred to the mission as the “Mission of the Assumption of the Blessed Virgin Mary among the Hurons” (Lajeunesse 1960: 27) which was later known simply as the L’ Assomption parish (Lajeunesse 1960: xlvi). Leaving the area briefly in 1738, more than 500 Hurons returned in 1742 to a new location on Bois Blanc (Bob-lo) Island. Before 1752, they were re-settled upriver at La Pointe de Montreal on the south shore (now at the base of Huron Church Road), where a new mission church was built within sight of the French Fort.

Several 18th century maps record the Huron Village and the Mission at Pointe de Montreal. De Lery (1752) depicted both the Huron and Odawa villages as having orderly “streets”. McNiff (*ca.* 1790) depicts an irregular cluster of houses just west of a farm lot, presumably that given originally for the Mission. A 1078 acre triangle of land in this area was reserved for the Huron when the British government made treaties for Upper Canada and started surveys in the 1780s. The town of Sandwich was established on the Reserve land in 1797, although it was not formally surrendered to Britain by the Huron until 1800 (Lajeunesse 1960: 205).

Although no formal archaeological excavations have ever been conducted on either the Mission site or the Huron village/cemetery, numerous Native burials have been found during building activity in Sandwich. Despite urban development of the area, irregular areas of archaeological integrity remain.

2.3.2 French Settlement

As early as the 1670s, Fathers Dollier and Galinee, and later the adventurer LaSalle made their way up the Detroit River to Lake St. Clair (Morrison 1954:3) and documented for France the importance of the region. Not until 1701, however, was a European settlement established on the Detroit River. In that year, Sieur de Lamothe Cadillac began construction of Fort Pontchartrain on the north side of the river in the area that later became the centre of Detroit, opposite to Windsor’s Goyeau and Ouellette streets. European settlement on the south shore of the Detroit River began in 1749 when the governor at Quebec sponsored the movement of farming families to the area in order to promote Detroit as a granary for more distant outposts.

Although settlement on the north shore had extended short distances up and down river from the fort, settlers on the south shore initially took up lots well down stream of the main settlement. The long narrow lots fronted onto the river in the Petite Cote area between the community of Sandwich and Turkey Creek. Within a few years, the south shore settlement had extended south well past Turkey Creek, as well as infilling the unoccupied lands strategically situated immediately across from the fort and between the Huron and Odawa villages. This eastern extension of the French settlement encroached on the Ottawa village.

The mid-18th century Jesuit Mission at La Pointe de Montreal is estimated to have been located north of Riverside Drive near the foot of Huron Church Road next to the Ambassador Bridge. The existing Assumption church is thought to be at least the third sanctuary to be built for the Parish. The associated French cemetery has also been moved several times.

By the time McNiff was conducting his 1780s surveys of the area, there were 13 French farm lots identified in the area of downtown Windsor, and 36 lots in Petite Cote. McNiff's 1790s map depicts irregular clusters of three to six buildings on each lot near the trail which ran along the shoreline for the length of the settlement. His map also indicated that small plots of land had been cleared and orchards planted. Much of the inland area was as yet impassable due to extensive marshlands.

As most of the French farmstead sites lie within areas that have undergone extensive 19th century development, none of them have ever been properly examined as archaeological sites. Communities such as Brighton Beach, Ojibway and LaSalle may retain the most potential, although the possibility of finds in denser urban areas cannot be ruled out, as evidenced by the recent discovery of traces of an 18th century French farmstead in downtown Detroit (Branstner 2000). This is the only French farm site that has been found and professionally examined on either shore of the Detroit River. It should be noted that amateur "treasure hunters" have for several years been actively recovering 18th century French material from construction sites in the LaSalle area. As Windsor's French settlement is the earliest of its kind in Ontario, the search for intact 18th century French sites should be given priority in all planning processes.

After the British Conquest of 1760, French Canada came under English rule. The French settlers already established in the Detroit River settlement, being far from the administrative centres were initially little affected by this governmental change and the settlement continued to grow slowly and quietly.

Windsor's local Architectural Conservancy's (WACAC) inventory of heritage properties in the city lists a number of buildings along the length of Riverside Drive as associated with French Farms. Although none of the existing buildings date to the 18th century, they undoubtedly continue to be associated with remnants of earlier structures.

2.3.3 British Settlement

Following the American Revolutionary War, the influx of United Empire Loyalists prompted formal surveys along the north shores of the lower Great Lakes. McNiff's *ca.* 1790 surveys show irregularly spaced farmsteads on both sides of the river, each with several buildings within a couple of hundred metres of the Detroit River. McNiff instigated a full survey of the French lots along the River, re-numbering them from southwest to northeast. Abraham Iradell, a few years later, re-surveyed the French Concessions. British names begin to appear on the landowner lists of the *circa* 1800 surveys of Iradell, as traders and Loyalists moved into Essex County. Not until the 19th century were the inland areas of the township surveyed, using the standard British grid system where possible. These areas were not settled until well into the 19th century, as the land was poorly drained. Even the Walling map of 1877, which is quite complete as to landowner listings shows some of the inland lots untenanted.

2.3.4 Urbanization

The City of Windsor encompasses the 19th century cores of three communities, Sandwich, Windsor and Walkerville. Several other small cross road communities have also been surrounded by city development in the 20th century. Ethnicity of settlers has varied over time, with many descendants of the original French still in the community. Scottish and Irish in the early 19th century moved into the inner township areas, followed

by other Europeans by the late 19th and early 20th century, attracted by work and business opportunities. Freed or escaped Afro-American slaves and their descendants have also been here since the late 18th century.

Sandwich

The earliest urban settlement in the area, the town of Sandwich, was planned in the 1790s and lots were given by lottery to fur traders from the fort at Detroit. In 1796, after the other side of the Detroit River was ceded to the Americans, many of these businessmen moved across the river, to remain under British rule. They consisted of both French and Scottish traders.

The original town plan encompasses the area now bordered by Huron Church Road on the north, the Detroit River on the west, John B. Avenue on the south and the Essex Terminal Railway track on the east. Lands within the old Huron Reserve that were cleared for agriculture lie east of the tracks. These lands were allotted as “Park lands” when Sandwich was taken up in the 1790s and may contain early structures or remnants associated with the Huron village.

Sandwich was the County seat for many years, with a Court House and Gaol located at the centre of the planned village at the intersection of Bedford (later Sandwich) and Brock streets. Both the Catholic (Assumption) and Anglican (St. John’s) churches and burial grounds were located here, and Windsor residents had to travel to Sandwich to worship. The earliest black congregation worshipped in a building still standing on Lot 22 west of Peter Street (3652 Peter Street).

During the War of 1812, the Sandwich Stone College (now the General Brock School complex) provided a barracks for both the invading American troops and some of General Brock’s army. Later, after the 1837 Upper Canada Rebellion, the school formed the core of a log barracks occupied by militia, who assisted in defending Windsor during an attack from rebels and sympathizers in Detroit. The Stone College and barracks later provided accommodation for fugitive slaves in the 1850s and 1860s (Ruchames 1975: 72-4).

Fires and neglect have destroyed many of Sandwich’s early buildings. However, archaeological remnants of early Sandwich are likely to be encountered within most of the dwelling lots and parks. Similarly, remnants of the Huron village and burial grounds have been reportedly found as recently as the 1960s near the intersection of Huron Line and Sandwich Street. Further evidence of this important community continue to lie buried beneath the streets, parking lots and yards of north Sandwich.

Windsor

Windsor’s first settlement was established around the southern terminus of the ferries run by the French farmers to carry goods, produce and people across the river to Detroit. The settlement was initially known as South Detroit. In 1835, public meetings were held to select a new name for the community. The citizens first chose the Richmond, but the following year, the name was changed to Windsor. At this time, the settlement consisted only of the riverside portions of First Concession Lots 78 to 83 along Riverside Drive, extending only one block inland from the river. Ferry and Church streets were named. Buildings were on both sides of Sandwich Street and there were two wharves (MacDonald 1922). Sandwich remained the principal settlement on the south side of the river.

By 1857, Pinney's map depicted urban expansion that extended along the river from Lots 78 to 87, with Goyeau as the main thoroughfare to Tecumseh Road. Subdivision extended to Tecumseh along Howard and Goyeau (Pinney 1857 map). The coming of the Great Western Railroad in 1854 marked the beginning of faster expansion and Windsor outstripped Sandwich as the economic centre.

By 1889, McPhillips' map showed that development stretched along the Detroit River from lot 68 to 91, but was laid out only intermittently inland to Tecumseh Road. South of Tecumseh at the top of Ouellette, was a popular "Driving Park" or fair grounds, which has since become part of the grounds of Jackson Park and Kennedy Collegiate. Large expanses of undivided fields still lay between Windsor and the neighbouring communities of Walkerville and Sandwich. The combined growth of large industry, starting with Walker's distillery, Ford's Canadian automobile plant in Walkerville and salt mining in Sandwich, signalled massive residential and mercantile growth in the twentieth century.

Walkerville

Walkerville got its start in 1858 when American-born distiller Hiram Walker set up his distillery on Lots 95 and 96, east of Windsor (Morrison 1954:44, WACAC 1997). Part of his decision would have been based on the recent completion of the Great Western Railway through these properties near the shoreline, giving new opportunities for commercial expansion. Walker also operated subsidiary industries such as farms, stockyards and a dairy, to grow grain and use waste products from the distillery. In 1885, he constructed his own railroad, the Lake Erie Essex & Detroit River, to link the Great Western, his shipping wharves and the inner County. Initially, he developed Walkertown as a planned community designed to house and support his workforce. The core of old Walkerville from Walker Road to Lincoln Road and from the river inland to Niagara Street was established by 1881 (Belden 1881) but the community was not incorporated as a town until 1890 (Gardner 1913).

Portions of Walkerville's commercial core remain beyond the distillery but are quickly being subsumed by new development.

2.3.5 Transportation

French settlement in the Windsor area made use of the existing Native trail system and water transport via the Detroit River for many years. Since the interior was so swampy, settlement did not extend inland until well into the 19th century. Although County lands were surveyed and grants given by the 1820s, roads and settlers had to wait for provincial and federal drainage projects of the mid to late 19th century. Early settlement roads are outlined in Section 4.4.3 and indicated on the Cultural Factors map. Of particular note are Riverside Drive (Front Road), Sandwich Street and the Front Road extension south along the Detroit River, Huron Church Line, old Talbot Road, Tecumseh Road, Grand Marais Road, the former Concession 2 and Division and Cabana Roads (Concession 3). Historic maps indicate that early structures will be found within a relatively short distance from these roads where they have not been destroyed by 20th century development (McNiff 1790, Walling 1877, Belden 1881).

Ferries, which played such a crucial role in the founding of Windsor, continued to play an important role well into the 20th century. Ferries operated from a wharf situated at the foot of Ferry Street and later from Walker's dock until the late 1930s, when they were finally discontinued. Completion of the Ambassador Bridge and the Windsor-Detroit Tunnel by 1930 all but eliminated the need for ferry transport.

The choice of Windsor as the terminus for the Great Western Railway in 1854 signalled the beginning of its rise to prominence over the earlier community of Sandwich. By the turn of the century, Windsor was clearly a main junction point for rail shipping to and from the United States. The Great Western (later Grand Trunk, Canadian National) had been followed by the Canada Southern (later Michigan Central, Conrail) in the 1880s, Walker's 1885 Lake Erie, Essex and Detroit River (later Pere Marquette, Chesapeake and Ohio, CSX) and the Canadian Pacific in 1890. By 1910, the Michigan Central rail tunnel beneath the river was completed, thus reducing the problems and dangers of ferrying rail trains across the river.

Hiram Walker and Sons built a local airport in 1928, which formed the core of what is now the Windsor Airport (Walker Airport map, ca.1930). The early airport lay at the southwest corner of the airport lands where the terminal is now located.

2.3.6 Industries

Founded on the fur trade frontier and on agriculture, the Windsor area has altered its economic framework dramatically over the last two centuries. Until the first decade of the 20th century, industries were mainly small manufacturing plants and craft industries, most of which grew up after the coming of the railroad. Walker's distillery operation with its associated supporting industries was an outstanding exception in the late 19th century. Cross-border trading formed a major portion of the urban economic base.

Several mills were built along the Detroit River and Turkey Creek in the late 18th and early 19th centuries. One of these, Baby's Mill, has been commemorated with a reconstructed building at the foot of Mill Street in Sandwich. The actual site of Baby's mill lies to the north on Lot 3 south of Russell Street (Sandwich Town Patent Plan) and may retain some integrity. Other mills are depicted on early maps. McNiff's 1791 survey (Lajeunesse 1960:lxxiii) shows as many as six windmills on the river between Hogg Island (Péche Island) and Turkey Creek, none of which are in the location of Baby's. All of these would have been associated with the dwellings of a miller and workers. The mill known to have stood on the Walker Distillery property, once owned by Montreuil, was built in 1815 (Belden 1881: 10; Windsor Museum 1954; Neal 1909: 54; Douglas 2001: 20).

The 1812 military engineer's map shows only one of the mills on a small point between McKee's homestead (Lot 59) and the mouth of Turkey Creek (about Lot 35). This mill is mentioned in the *Historical Atlas of Essex County* (Belden 1881:10) as still standing with a copestone date of 1802. Although this exact location is unknown, any construction in the area should be aware of its potential.

Although most of the mills were wind powered, water powered mills were situated on the stream variously named Ruisseau de la Vielle Reine, Riviere à Jarvais/Gervais, Nagg's Creek) which formerly flowed through Sandwich, and on Turkey Creek in the First Concession. Fere's mill on Turkey Creek was in place by 1798 (Lajeunesse 1960:lxxv) and structures remained in the area on the 1881 map. Similarly, a mill which may be Gervais' is depicted on a 1797 map as being on Col. McKee's Lot 59 just south of the Huron Purchase (Lajeunesse 1960:cxix). Gervais is listed as the landowner on de Lery's 1752 map.

After Henry Ford established a Canadian automobile plant in the Walker Wagon works building in 1904, the influx of supporting industries and other automobile companies was dramatic. A small community, eventually named Ford City (incorporated in 1915; incorporated as City of East Windsor in 1928), grew up quickly

around the rapidly expanding Ford factory, just east of Walkerville on Francois Drouillard's land (Price & Kulisek 1992). The development of supporting manufacturing industries, low taxes and the presence of a skilled workforce eventually drew other automobile makers to the general Walkerville area. The Chrysler Corporation had its beginnings in the 1916 Maxwell Motor Company on Tecumseh Road East and General Motors grew out of a small 1920s auto parts plant on Walker Road.

The development of the Windsor Salt Company south of Sandwich was a result of the construction of the Canadian Pacific Railroad in 1890 which needed freight for eastbound trains (Morrison 1954:8).

The Dominion Fish Hatchery was established in 1875 on McKee Road in south Sandwich. It was considered an important operation as late as 1909 (Neal 1909:62).

2.3.7 The Underground Railroad

Afro-Americans have lived in the Windsor area since at least the time of the first Loyalist settlers, many of whom were slave owners. An ex-slave community existed in Sandwich as early as 1820, when they founded the first Baptist congregation there. After slavery was outlawed by Britain, the influx of fugitive slaves to Canada increased, with Sandwich and Windsor serving as major border crossings for the Underground Railroad.

Windsor contains several important sites related to the history of Afro-Americans in this country. The Sandwich Baptist Church, dating from at least 1851, may be associated with a number of unmarked burials. Both the Sandwich and Windsor barracks provided interim accommodation for fugitive slaves upon their arrival. A prominent American abolitionist wrote of his visit to the Windsor and Sandwich barracks shelters in 1853 (Ruchames 1875:72-4). An important Afro-American newspaper, *Voice of the Fugitive*, was published in Windsor by Henry and Mary Bibb, who had recently escaped to Canada. Both the newspaper office and the Windsor Barracks were destroyed by arson in the 1850s.

2.3.8 Schools and Institutions

Early schools in Ontario were locally organized by subscription. Not until the School Improvement Act of 1871, were curricula broadened and attendance more accessible for everyone.

Sandwich residents put together money to build the first subscription school *circa* 1806. The Stone College was a one storey, U-shaped masonry building opposite St. John's Church on Sandwich Street, now the site of General Brock School. Soon after its construction, the school was occupied and damaged by troops during the War of 1812 and records are unclear as to whether it was ever again used for education. In 1868 a new school was built on the original site.

The Assumption College building was constructed in 1857 as a seminary school. By 1866, Catholic girls were accommodated at St. Mary's Academy on the corner of Ouellette and Park (Morrison 1954:96-7). Affiliated with the University of Western Ontario until 1953, Assumption formed the foundation of the University of Windsor.

The first Windsor primary school may have been built in 1838 by James Dougall opposite his house on Sandwich Street and soon after, a brick building was erected on the corner of Pitt and Windsor Avenues.

After 1854 it became necessary to expand, and two new schools (Catholic and Protestant) were constructed, one on the south side of Chatham between Church and Bruce, and the other on Goyeau near Park. The grammar (secondary) school moved from Sandwich to Windsor in 1857. Classes were held in a building on Pitt Street and later on the upper floor of the newly opened City Hall building, now demolished. The schools were combined in the Windsor Central School in 1873 (Morrison 1854:40,107).

Walkerville had an elementary school on the corner of Wyandotte and Devonshire by at least 1890 (WACAC 1997) which was replaced in 1905 by King Edward Public School, now demolished.

Windsor has not retained any of its original 19th century school buildings. Several of them, however, are built on the sites of earlier schools and their grounds retain archaeological potential. Archaeological excavation of the General Brock School yard in Sandwich revealed significant architectural remains relating to the early school structure, as well as military buildings, and yielded thousands of artifacts lost by 19th century students.

2.3.9 Religion

By 1752, the Jesuits' Huron Mission had grown to become the earliest Catholic parish in Ontario. The Mission had also expanded its mandate to serve the French community. Assumption remains on a portion of its original property and retains archaeological potential for the previous churches, mission houses and cemeteries through much of it. No other denominations were populous in the area until after the influx of United Empire Loyalists and the ceding of Detroit to the United States. Since Sandwich was the early centre of settlement in the Windsor area, the first Anglican church was also built here. St. John's, on the corner of Sandwich and Brock streets retains its original cemetery, although the original 1807 church building has been replaced. Residents dispersed along Detroit River shoreline had to travel to Sandwich to worship. The escaped slave population formed a Baptist congregation by the 1820s, but did not build the existing Sandwich Baptist Church until the 1850s.

The first churches were built in the Windsor settlement in the 1850s after the Great Western terminus signalled a new population growth. The first St. Alphonsus, near Goyeau and Park dates to this period. All Saints Anglican situated just north of City Hall Square dates to 1857 and the Presbyterians followed in 1865 at the corner of Chatham Street and Victoria Avenue. A non-sectarian church building, on the site of the *Windsor Star* building continued to serve the Methodists until they opened a new church in 1873 at Windsor Avenue and Chatham Street. Two Afro-American churches, built on McDougall Street were the African Methodist Episcopal (1856) and the Baptist (1861) (Morrison 1954:39).

2.3.10 Recreation

Numerous parks and fields for games existed around the core of 19th century Windsor and Sandwich, although no pleasure parks existed in the mid- 19th century. The Windsor Driving Park and fairgrounds at the top of Ouellette at Tecumseh, (now Jackson Park and Kennedy Collegiate) were the site of horse racing by 1889 (McPhillips 1889). During World War I, barracks were established in and around the Exhibition building of the Fair Grounds. The open spaces in the existing grounds likely retain archaeological integrity.

The Mineral Springs Spa in Sandwich was established after a sulphur spring was found while drilling for oil. A luxury brick hotel was constructed at Chappell and Sandwich Streets for the accommodation of visitors

to the springs and a canal was dug from the Detroit River to Russell Street for easy access to American tourists. It was still operating in 1909 under the name Lagoon Park (Neal 1909:61).

3.0 ARCHAEOLOGICAL RESOURCES IN THE CITY OF WINDSOR

Considering the size, recent rapid growth and the long history of the City of Windsor, surprisingly little systematic survey and excavation of archaeological resources has been undertaken in the city. The potential to discover all types of Native sites, from Paleo-Indian through to the Late Woodland and historic periods, is high. As well, the City of Windsor, which, in addition to the French farmsteads facing Detroit now includes the historic town of Sandwich and a portion of the early French settlement of Petit Cote extending from LaSalle north and east to Riverside, indicates that the city is rich in European heritage. Afro-American heritage is also important considering Windsor's proximity to the U.S. border as an important terminus of the underground railroad. The following provides a brief summary of the previous archaeological studies undertaken in the Windsor area, and the known sites of the City and surrounding area including Detroit and Essex County.

3.1 Previous Studies

To date, there have been relatively few systematic surveys and little archaeological excavation carried out within the City of Windsor. Most of the archaeological work has been concentrated in the Sandwich, Brighton Beach, Yawkey and Malden areas of southwestern Windsor and to a lesser extent on the river front lands between Central Windsor and Riverside. The following section provides a brief summary of the archaeological projects undertaken within the City drawn largely from the project reports. The studies are arranged in chronological order from earliest to the most recent. All reports noted in this section are listed in the References.

3.1.1 Survey of Pêche Island and Fox Estate: 1972

In 1972, Peter Hamalainen was commissioned by Parks Canada to conduct an archaeological assessment of Peche Island and the Fox Estate. Under the field direction of David Stothers, the island was shovel tested at an unspecified irregular interval. Some ruins associated with the early 20th century Walker estate were identified. Native burial mounds were rumoured to have been found on the island. The survey team located and tested several low mounds but no artifacts or human remains were encountered. The author recommended that no further work need be carried out on the island. The report also mentions some work having been conducted on the Fox Estate which is situated at the mouth of Fox Creek. The 10 acre property was also tested using "one foot by one foot test excavations" spaced at an unspecified interval. Since neither survey was conducted with current standards, these lands would now have to be re-assessed to achieve planning clearance under MTCR *Archaeological Assessment Technical Guidelines (1993)*.

A tourism brochure produced by the State of Michigan indicates that the island was a probable location of a Native fishing station in 1721, that Chief Pontiac is reputed to have had a summer camp on the island *ca.* 1763 and that it was cleared for farming by the Laforet family (1805-1890). These would be significant archaeological resources to investigate.

3.1.2 Ojibway Prairie Reserve Archaeological Survey: 1976

The 1976 survey of the Ojibway Prairie Reserve, located in the Malden area of Windsor, was conducted by Ian Kenyon of the then Ministry of Culture and Recreation. The survey was carried out using shovel testing and trowelling techniques (no screening) in vegetated areas and visual assessment techniques along the edge of lanes and stream banks, as well as, bulldozed areas and ploughed fields. The survey focussed on land located within 100 metres of streams (Kenyon 1976:8). No archaeological resources were found as a result of the survey. It should be noted, however, that the survey was conducted without the use of soil screening and the report contains no reference to the spacing interval used for either the shovel testing or visual components of the survey. Since these methods do not comply with current Ministry standards, the property should be re-surveyed prior to their impacts by any development related activities.

In his report, Kenyon proposed an interesting hypothesis concerning the absence of Native sites within the prairie grass environment. He based his settlement theory on the factors which facilitated human habitation: vegetation; raw materials; major trade route; soil (texture versus drainage); potable water; food sources; and, fuel sources. Kenyon created a site potential rating system of excellent, good, fair and poor. He then applied it to the Prairie reserve and found that there were no areas of excellent potential, due in large part to the absence of fuel sources within the prairie environment (Kenyon 1976:32). The “empty prairie” settlement model was put forward, suggesting these areas should contain few Native sites, while the surrounding woodlands should be rich in habitation sites. The model was built on two premises: “1. Scarcity of wood inhibits settlement within prairies; 2. Abundant game at the prairie-forest edge favours settlement” (Kenyon 1976:32). Kenyon noted that the forest edge was also an important environment for pioneer settlement. An earlier researcher (Wood 1961) found that a majority of early farmsteads in Dumfries Township, Ontario were located within 1/2 mile of the forest-prairie transition. Early settlers would be able to farm a prairie savannah with little clearing of the land, and, at the same time, be close enough to the forest to have easy access to a ready source of fuel (Kenyon 1976:34). Kenyon noted that this empty prairie model has not been tested (Kenyon 1976:35).

3.1.3 Archaeological Surveys Undertaken in Essex County: 1979

Peter Reid of the Department of Sociology and Anthropology at the University of Windsor, conducted a number of surveys in Anderdon and Sandwich West Townships of Essex County in 1979 (Reid 1979). He also investigated several sites elsewhere in Essex County which contained Late Paleo-Indian artifacts, and conducted limited testing on the Leamington Creek III site. While this report does not specifically address archaeological resources within the City of Windsor, it provides a good background source detailing the types of sites found within the surrounding townships and documents their environmental settings.

The survey was originally designed to look for Paleo-Indian sites in places where the River Canard and/or its tributaries crossed the relict shoreline of glacial Lake Rouge, in Sandwich West and Anderdon Townships. This corresponded to elevations of 176 metres to 181.5 metres ASL as identified in Deller and Roosa’s work on former fossil beach strandlines (Reid 1979: 1).

Although 13 sites were located, none of them were Paleo-Indian and all were identified as Late Woodland except the Dime site (AaHs-6) which was primarily lithic in nature (Reid 1979:3). Of particular interest is the fact that the lithic material represented on the sites was mostly obtained locally. This suggests that people were not trading or travelling far to obtain lithic resource material, but instead, were utilizing local, poor

quality materials. It is also a relevant consideration when undertaking surveys in the area. Since local till material was utilized and discarded, the survey must include the identification and inspection of till cherts.

Throughout his study, Reid made specific reference to the soil-type found at each of the newly discovered sites in Sandwich West and Anderon Townships. Reid's examination of these areas, made up of Brookston Clay (a dark clay overlying a mottled clay characterized by poor drainage which dominates Essex County) yielded 10 sites. Areas of Brookston Clay Sand Spot Phase, low sand knolls overlying deposits of Brookston clay and clay loam characterized by poor drainage, yielded two sites. In the Leamington area, a cluster of six sites, most falling between 174 metres and 180 metres ASL, occupied an area dominated by Berrien Sandy Loam, a brown sandy loam overlying yellow then mottled sand characterized by fair to poor drainage. Survey of areas covered with Caistor Clay, a gray brown clay over gray clay characterized by fair to poor drainage, yielded nine sites.

Despite the absence of Paleo-Indian findspots or sites from Reid's survey, he does reference the prior discovery of a Paleo-Indian presence in Essex County. The Laramie site (Bond 1967) contained a Hi-Lo point attributable to the Late Paleo Period. The site is located on "sandy soil, adjacent to the alluvial soils of a small stream which flows into Lake Erie abut mid-way between Colchester and Kingsville" (Bond 1967:10). A second Hi-Lo point was recovered from the Cherry Lane site (AaHp-21), a Late Woodland, Young Phase village site located near Leamington. The site is situated on sandy soil, overlooking a stream flowing into Lake Erie (Bond 1967:10).

The observations from this study on soils associated with archaeological sites have been considered in the rating of environmental factors for the potential model.

3.1.4 Survey of the Windsor South Truck Inspection Station: 1984

In 1984, a small parcel of provincially owned land located adjacent to a truck inspection station in South Windsor, was subjected to an archaeological assessment by Ontario Ministry of Transportation archaeologist Paul Lennox (Lennox 1984). The property, 280m east-west by 80m north-south, was located in Lot 12, Concession VIII of Maidstone Township, approximately 2km east of the County Rd 19 and the Highway 401 interchange. The area was shovel tested at 10 metre intervals and no materials were recovered. No further action was recommended.

3.1.5 Great Western Park, C.N. Riverfront Lands and Adjacent Underwater Areas : 1989-1992

Cataraqui Archaeological Research Foundation (CARF) conducted an archaeological assessment of the C.N. Riverfront Lands in 1989 (CARF 1990) on behalf of the City of Windsor, and followed up in 1992 with a feasibility study into the future uses of the archaeological resources located within Great Western Park, the C.N. Riverfront Lands and adjacent underwater areas (CARF 1992). The study area for both projects was bounded by Riverside Drive to the south, the Detroit River to the north, Vale Udine Drive in the west and the Hiram Walker property in the east. The study area was 2 kilometres long and less than 200 metres wide (CARF 1992:3).

The 1989/90 investigations consisted of the archaeological testing of six areas (designated Operations 1 to 7), placed strategically along the river front. A number of significant archaeological resources were found during the investigations. A human burial, found within Operation 1 (Sub-operation 1-5D), consisted of the intact skeletal remains of a Native person interred in a wooden coffin. The burial was dated to between 1740

and 1760 (CARF 1990:24). The structural remains of an early train depot (1857-82 & 1884-1961) were found in Operation 6. Operation 2 yielded the remains of Windsor's original waterworks building of 1889. Operations 3 & 4 were found to be heavily disturbed, while Operation 5 proved to be deeply capped with fill material dating to the mid to late 19th century.

The underwater component of the assessment documented 15 features, four of which could not be specifically identified. Among the features, researchers identified the abandoned Glengarry Ferry Slip, the current ferry slip, an old brick water intake pipe plus several outlet pipes associated with the adjacent water pumping station, various anomalous shoreline features and a shipwreck lying offshore just to the west of Hall Avenue (CARF 1990:27 & 28).

In 1992, CARF completed a heritage property management plan for the City of Windsor which focussed on future uses of the archaeological resources of Great Western Park, C.N. Riverfront Lands and adjacent underwater areas. The associated underwater investigations provided a more specific examination of the original shoreline adjacent to the historic Moy property, the shipwreck identified in the 1989 assessment, the old brick water intake; and the Glengarry Ferry slip (CARF 1992:88). The Moy Street area yielded clear indications of activity, but the associated resources were buried underneath extensive deposits of fill and river deposited silt (CARF 1992: 108). As the remains of the shipwreck lay partially buried within an area of strong current and had accumulated a mass of unassociated flotsam, it was determined that the site was inaccessible to further non-disturbance inspection (CARF 1992:111). Examination of the old brick intake area yielded evidence of various pipes which fed the well house, the structural support for the sheet piling which surrounded the well house, as well as, the damage caused by the c. 1940s dredging (CARF 1992:115). ROV inspection of the Glengarry ferry slip revealed evidence of modifications made to the slip sometime between its construction in 1866 and its abandonment in 1931. The wooden timbers, pilings, *etc.* observed underwater were thought to post-date the operation of the original slip. The authors were uncertain as to whether or not, any of original slip survived (CARF 1992:122).

The 1991 land based investigations focussed on Great Western Park and the gravel parking lot immediately west of the park (CARF 1992:30). This area, registered as the Great Western Park site (AbHs-11), constitutes a part of the historic Ottawa Native Village, cemetery and fields which stretched along this section of the Detroit shoreline. A variety of features and artifacts were found on the site reflecting Pre-contact Native, historic Native, and Euro-Canadian occupation of the bluff overlooking the Detroit River. No complete or partial burials were found, although three human teeth were recovered in scattered locations (CARF 1992:66). In the same year, Rosemarie Denunzio monitored several environmental coring operations in the Park (Denunzio 1991a, 1991b)

The authors make a cautionary note that the site may extend into the rail bed area between the bluff and the river. As this area had not been tested, it was felt that cultural material may still remain buried beneath the rail bed fill. It was also postulated that material from Great Western Park may have been re-deposited onto rail bed as the fill (grading was in evidence) (CARF 1992:85).

Of note is the fact that recent pathway construction in Great Western Park revealed the presence of a small Late Woodland Native cemetery opposite Pierre Street, illustrating that even the most carefully carried out archaeological assessments cannot locate all the small individual features such as human burials.

3.1.6 The J. Clark Keith Hydro Station Assessment: 1990

A Stage 1 assessment was carried out in 1990 by Hugh Daechsel of the Cataraqui Archaeological Research Foundation. The J. Clark Keith Hydro Station is situated on a 31.45 hectare parcel of land in the southwest corner of Windsor. The property is made up of parts of Lots 56, 57 and 58 as surveyed by the French in 1749. The property, bounded by the Detroit River on the west and Sandwich Street on the east, was found to be very disturbed, and no further archaeological work was recommended. It was recommended, however, that the powerhouse be preserved (Daechsel 1990:1-4).

Daechsel noted in his report that “burial mounds have been identified almost directly across the Detroit River from the Hydro property near the mouth of the Rouge River” (Daechsel 1990:9).

3.1.7 Monitoring of Heritage Park Windmill Reconstruction: 1991

In 1991, the City of Windsor retained the services of Mayer, Poulton & Associates Inc.(MPA) to monitor construction activities associated with the reconstruction of an historic windmill (AbHs-16) within Heritage Park in Sandwich. The park is located in the northwest quadrant of Mill & Russell Streets. The historic windmill to be reconstructed was to represent one of eight windmills operating in the Township of Sandwich in 1817 (MPA 1991a: 3). McNiff’s 1791 map of the Windsor area (MPA 1991a: 11) depicts the location of each of the eight windmills.

In their report, the authors noted that a swamp existed between Russell Street and the Detroit River at the turn of the 19th century. While monitoring the excavation, the archaeologists did observe a black organic clay layer which could have represented that swamp or an earlier one (MPA 1991a: 5). As no structural or artifactual evidence of the mill was encountered during the monitoring, it was determined that the mill structure had not been located on the construction site, but was probably located to the north.

Due to the results of the monitoring, no further archaeological consideration of the reconstruction area was warranted. MPA noted the number and depth of fill deposits in the area and concluded that any impacts to the area would have to be moderately deep (approx. 1.0 m in depth) to reach beyond 20th century fill deposits. To reach early 19th century deposits, excavation would have to exceed depths between 1.7 and 1.95 m below grade.

3.1.8 Ojibway Industrial Park: 1992

An archaeological assessment of Ojibway Industrial Park was undertaken by M.M. Dillon Limited on behalf of the City of Windsor. The project was undertaken in three phases: Stage 2 in April, 1992; Stage 3 Testing in April, 1993; and, Stage 4: Mitigation (stripping) in June 1994. The 120 acre study area is located in the Brighton Beach area of Windsor, approximately 1 km northwest of the Ojibway Prairie Grass Provincial Nature Reserve (see Subsection 3.1.2). The property is bounded by the Detroit River to the west, Broadway Boulevard to the north, Dainty Foods to the east, and Morton Food Terminals to the south (Stewart 1993:1).

Stages 1 to 3 were carried out on the property, with 20 to 25% of the property visually assessed at between 2 and 5 metre intervals and shovel tests on 10 m to 20 m grid patterns (Stewart 1993: 5). The topography next to the river was flat, increasing in relief east of Sandwich Street with no natural water courses crossing through the study area (Stewart 1993:9). The soil maps indicate that the property has pockets of Burford Loam (Richards *et al.* 1949) but field checking indicates test units were “sand based”, perhaps a western extension of Granby Sand (Stewart 1993:9).

Although a groundstone adze and projectile point had previously been found within the park by a local resident, the property contained no registered sites (Stewart 1993: 17). The survey resulted in the discovery of four sites: AbHs-17, a late 19th century domestic site; AbHs-18 a Late Archaic encampment with late 19th century components; AbHs-19 a late 19th to 20th century residential site; and, AbHs-20, a Late Archaic site (See Section 3.2 for full description of sites). Due to its late date, no further work was recommended for AbHs-17. Stage 3 investigations were recommended and undertaken for AbHs-18, -19 and -20. While Stewart had not recommended further investigation following the completion of Stage 3: Testing, the Ministry required that top soil be stripped from the three sites which had been subjected to testing.

The stripping of top soil from the three sites was conducted in late June 1994 under the direction of Dillon archaeologist, Tom Arnold (Stewart 2000). As no features of archaeological significance were identified on sites AbHs-19 or AbHs-20, they have been recommended for clearance (Stewart 2000b: 10).

Stripping of the Late Archaic encampment (AbHs-18), however, revealed the remains of a possible hearth feature near the centre of the prehistoric locus. Mitigation has been recommended prior to any development of the site area (Stewart 2000b: 10).

3.1.9 Proposed Union Gas Pipeline - Windsor South Line: 1992

Archaeological Services Inc. (ASI) undertook a Stage 1 background study in 1992 to evaluate the potential archaeological impacts associated with a series of alternative pipeline routes through southern Windsor. The study undertaken by D. Pihl and J. Cottrill did not include a field component. The goal of the study was to identify the route or routes which would have the least potential for impacting archaeological resources.

Pihl and Cottrill concluded that site potential for both Native and Euro-Canadian material is high along the Detroit River and low through the poorly drained interior concessions. They suggested that there was high potential for encountering small Native encampments along rivers, streams and marsh edges. The archaeological potential for sites is enhanced by proximity to water or other topographic features that coincide with better drained soils (Pihl & Cottrill 1992:10). High historic potential was recognized along either side of Highway 18 which roughly follows an early Indian trail through what was the 18th century settlement of Petite Cote (Pihl & Cottrill 1992:11). Petite Cote now roughly corresponds to the southern part of Sandwich and LaSalle. Integrity or the degree of previous disturbance was also considered when evaluating potential within the various alternative pipeline corridors.

3.1.10 Peabody Bridge Archaeological Investigations: 1992

In 1992, the City of Windsor commissioned M.M. Dillon Limited to conduct archaeological investigations in conjunction with the demolition of Peabody Bridge in Walkerville. Directed by W. Bruce Stewart, the investigations focussed on the potential for impacting a mass grave of some 60 Norwegian immigrants who died of cholera in 1854 and were reportedly buried in the area of the bridge. The study area was defined by Moy Avenue on west, Devonshire Road on the east, the southern limits of Riverside Drive and C.N.R. lands on the south, and the northern limits of Riverside Drive and C.N.R. lands on the north (Stewart 1993:). The road bed was not tested; testing was reserved for the former railbed of C.N. lines and edges of street allowance.

The mass grave was noted as being in “a common grave along the river bank near the overhead bridge” (Morgan 1974:12), and another thought was that it was located “close to the Great Western warehouse at Moy

Avenue and Riverside Drive, which served as a makeshift hospital” (Magee 1985:25). Early 20th century newspaper accounts record that human remains were encountered during excavation of an early 20th century sewer line in Walkerville Park, just north of Devonshire Road. It cannot be determined if any of these burials represented the cholera victims. Although some had caskets, others did not (White 1989:133).

Considering the evidence analysed during the study, Stewart suggests that the mass burial was most likely not within the study area but located north of the railway tracks, closer to the river bank within industrial lands presently occupied by Hiram Walker Limited (Stewart 1993: 20). Lastly, the report states that the railway lands within the study area have been severely impacted over the past 140 years and destroyed any traces of pre-railroad use of the property. The author concludes that no further archaeological investigation of the study area was warranted.

3.1.11 Peabody Bridge Archaeological Investigation - Subasphalt Testing of the Western Abutment: 1993

Dillon archaeologists W.B. Stewart and T. Arnold were retained by the City of Windsor in 1993 to assess the archaeological resource potential of the western abutment to Peabody Bridge, an area which was inaccessible during the earlier assessment. The focus of the study was again the potential of impacting the mass grave of Norwegian cholera victims (see Subsection 3.1.10 above). Nothing of archaeological significance was found.

3.1.12 Proposed West Windsor NPS Pipeline 12 Pipeline: 1994

Archaeological Services Inc. (ASI) conducted a second Union Gas pipeline survey in the Windsor area in 1994 which included a field component. They evaluated the archaeological potential of a 3.5 km long route. The easement was 4 m in width and ran parallel to existing streets (Ojibway Parkway, Broadway St. and Sandwich St.) (Pihl & Cottrill 1994: iv). Most of area was down-graded to low potential due to modern disturbances as observed during a visual pedestrian survey assessment of the proposed alignment, and no shovel testing was carried out.

In the background component of their report, Pihl and Cottrill mention an unregistered burial site called the Turkey Creek Ossuary. Reference to this site is included in the unsubstantiated site file at MTCR’s London office. Neither the exact location of the site nor the extent of any past investigations, is known. ASI has situated the site within the Town of La Salle, south of Turkey Creek and on the west side of Essex Terminal Railway line (Pihl & Cottrill 1994: 4).

3.1.13 Windsor Raceway Residential Development: 1996

A Stage 2: Assessment of the Windsor Raceway lands was undertaken by Dillon archaeologist W.B. Stewart in 1996. The study area falls between the Ojibway Prairie Grass Provincial Nature Reserve and Ojibway Industrial Park in southwest Windsor. The subject property is bounded by Ojibway Parkway to West, Sprucewood Ave. (County Rd. 40) to the south, Matchette Road to the east and Ojibway Park to the north.

Assessment was restricted to the two areas within the Raceway property considered to be undisturbed. These areas consisted of a 3.5 ha wood lot located in the northwest corner of the property, and a 3.5 ha parcel of lawn in the southeast corner of the property. Both areas were shovel tested at ten metre intervals. Nothing of

archaeological significance was found in either area. No further archaeological consideration was recommended.

3.1.14 Proposed Bert Weeks Fountain: 1998

In 1998 AMICK Consultants were retained by the City of Windsor to conduct Stage 1 and 2 assessment on a 0.68 ha (1.68 acres) parcel of land to be adorned with a memorial fountain. The property, which was originally Part of Lots 90 and 91, Concession I of the City of Windsor was located within the former CNR Lands, on the waterfront, between Viale Udine Avenue in the west and the Hiram Walker property in the east (AMICK 1999:10).

The property that AMICK Consultants investigated is mostly situated within the area designated as Operation 2 (a gravel parking lot) by CARF in their 1989 archaeological assessment (See section 3.1.5), although AMICK's area of investigation continued further west beyond the parking lot. Stage 2 shovel testing was conducted by AMICK, and no significant cultural remains were found in the area of the proposed fountain.

3.1.15 Windsor Civic Square Archaeological Background Study: 1998

Historic Horizon undertook a Stage 1 background study of Windsor's City Hall square in order to determine its archaeological potential prior to extensive landscaping and parking lot construction (Henderson 1998). The area was determined to retain high potential due to its proximity to a major water course, the former presence of a 19th century school, military barracks and having been part of the 18th century French settlement. In spite of the presence of an early 19th century site adjacent to the Square (AbHs-15), the City chose to proceed without archaeological monitoring.

3.1.16 Highway 401 between Highway 3 and Concession 8: 1998

Historic Horizon undertook a Stage 1 study of the Highway 401 corridor running along the southern edge of the city in order to determine potential for sites along the corridor (Henderson 1999). Although most of the lands were outside the city limit, the proposed work would impact the village of Pelton where several roads and railways meet. The study found several areas of high historic site potential along former concession roads and early railway corridors, and medium to high pre-contact site potential in association with stream channels. As of spring 2001, the highway work had not yet been carried out.

3.1.17 Riverfront Park Shoreline Class Environmental Assessment: 1999

This study, conducted by AMICK Consultants in 1999, relates to a Stage 1 and 2 assessment of Part of Lots 85, 86, 91 & 92, Concession 1 of the City of Windsor. Two waterfront areas were investigated: the East Reach from Langlois Avenue to Moy Avenue; and the West Reach, from Ouellette Avenue to McDougall Street (AMICK 2000: 7). The two areas of interest are located within the former CNR Lands.

Archaeological or heritage features within the study area consist of the Water Works building (1889), the Great Western Park site (AbHs-11), a shipwreck, and the Moy Wharf and property, all of which had been previously identified (CARF 1992).

The pile and planking wall, identified in the CARF investigations of 1989, was re-visited by AMICK Consultants. The wall was interpreted to be a former shoreline retaining wall that was related to the former railroad yards (AMICK 2000: 22). It was recommended that measures should be taken during construction to minimize damage to this feature (AMICK 2000: 22). Shovel testing was conducted on the Moy Wharf and

property, but it was determined that at least 1 metre of fill capped the original ground surface. AMICK concluded that the proposed shoreline protection construction would not impact upon most of the documented heritage resources within the study area (AMICK 2000: 22).

3.1.18 Land Side Pêche Island Property: 2000

This Land Side Pêche Island property was surveyed in 2000 by CRM Group Limited on behalf of the City of Windsor. The property is located approximately 100 metres east of the channelized alignment of Little River and is flanked on the north by Riverside Drive (Stewart 2000: 3). The legal description of the property is Part of Lot 135, Concession 1 (McNiff's designation) in the former geographic Township of Sandwich.

Assessment of the property revealed that the northern portion of the property adjacent to Riverside Drive had been extensively altered. The whole width of the property, extending between 50 metres and 90 metres south of Riverside Drive had been buried under a thick deposit of fill. The remaining two thirds of the property, determined to exhibit high archaeological potential, was shovel tested at 5 metre intervals. Two isolated flakes found during the shovel testing were not deemed archaeologically significant due to their recovery from within the fill deposit. Stewart recommended that the southern portion of the property be cleared of any further archaeological consideration. Due to the high potential ascribed to the property, it was recommended that the northern portion of the property be assessed at such time as the fill deposits are removed.

3.1.19 Assumption College School Assessment: 2002

In 2002, Historic Horizon Inc. carried out a Stage 1/2 assessment on most of the Assumption school property on Huron Church Line (Henderson 2002b). The work was requested by the Windsor-Essex Catholic District School Board prior to alterations to road access, playing fields and parking lots. Assessment was carried out by a combination of ploughing, test pitting and test trenching. Although the area was found to have been extensively landscaped, buried clay topsoil surfaces remained in many areas which were found to be sterile of cultural remnants dating earlier than the mid-20th century construction of the school and Basilian Fathers residence.

3.2 Registered Archaeological Sites in Windsor

There are only 18 registered archaeological sites within the Windsor city limits and only 5 additional registered sites in the immediate environs of the City. Several dozen unregistered archaeological finds, however, have also been reported in the City over the last century (Section 3.3). These sites represent occupations stretching over several thousand years from the Archaic and Woodland aboriginal occupations, into the eighteenth and nineteenth century European settlement. Considering this long period of habitation, the sites are surprisingly few in number. Rather than a scarcity of sites, this deficiency reflects a lack of systematic archaeological surveys in the Windsor area. As noted below, Lee's early research survey of Turkey Creek revealed the presence of dozens of sites on that drainage alone. Such detailed surveys have only been conducted under planning requirements in the last 25 years. Undoubtedly, many sites are yet to be found in the region.

Registered sites in Windsor include five Native sites, nine Euro-Canadian sites and four sites with both cultural components. These are listed in Table 3-1 as a quick reference guide. The information for the site data was provided by the Archaeological Data Co-ordinator at the Ministry of Tourism, Culture and Recreation.

Note that a large number of the Native sites are burial locations, a trend also reflected in the unregistered sites. It appears that the Detroit River area has been important for human burials for at least the last thousand years.

**TABLE 3-1
REGISTERED ARCHAEOLOGICAL SITES IN THE WINDSOR AREA**

Borden # ¹	Site Name(s)	Date Investigated	Cultural Component	Site Type/Comments
AbHr-4 *		1991	Native undetermined Euro-Canadian late	-findspot: 1 side-notched point -1930s artifact scatter -just outside city limits
AbHr-5 *	Silverman	1994	Native: Western Basin - Riviere au Vase & Younge Phases; Middle Woodland	-burial -village: structures, house -just outside city limits
AbHr-6	Essex TS	1999	Native: indeterminate	-chipped stone scatter
AbHr-7 *		2000	Native: indeterminate	-broken biface tip -isolated findspot -just outside city limits
AbHr-8 *		2000	Native: indeterminate	-broken biface tip -isolated findspot -just outside city limits
AbHs-1	Lucier Windsor Mound Marentette Lancaster	1935, 1967	Native: Western Basin - Younge Phase	-burials
AbHs-5	Morton Terminal I	1982	Euro-Canadian 19 th century	-homestead
AbHs-6	Morton Terminal II	1982	Euro-Canadian 19 th century	-domestic midden, root cellar -short distance from AbHs-5
AbHs-7	E.C. Row	1984	Native: Western Basin - Springwells & Younge Phases	-burials and longhouses -close to the AbHs-1 site
AbHs-10	Duff-Baby House	1987, 1988, 1993, 1994	Euro-Canadian 1790s+ -merchant and domestic	-fur trade merchant storehouse and residence of Jacques Baby -later home of Dr.W.Beasley family
AbHs-11	Great Western Park	1989, 1990, 1991, 2001	Native: Pre & Post Contact Euro-Canadian: domestic & industrial	-campsite, pre-contact and Odawa cemetery -railroad/industrial -underwater
AbHs-12	Mackenzie Hall	1991, 1992	Euro-Canadian 19 th century	-institution: municipal courthouse, jail, jail yard walls, midden
AbHs-13	Train Depot	1989	Euro-Canadian 19 th century	-industrial/railway, -stone foundations

Borden # ¹	Site Name(s)	Date Investigated	Cultural Component	Site Type/Comments
AbHs-15	Senator David A. Croll Park	1991	Euro-Canadian 19 th century	-building foundations, middens
AbHs-16	Heritage Park Windmill Reconstruction	1991/1992	Euro-Canadian 19 th century	-domestic artifacts in secondary context. Not the site of J.Baby's windmill
AbHs-17	Ojibway 1	1992	Euro-Canadian 19 th century	-homestead
AbHs-18	Ojibway 2	1992, 1993, 1994	Native: Late Archaic; Euro-Canadian 19 th century	-Native chipped stone scatter -domestic artifacts
AbHs-19	Ojibway 3	1992, 1993, 1994	Euro-Canadian early to mid 19 th century	-homestead
AbHs-20	Ojibway 4	1992, 1993, 1994	Native: Late Archaic Euro-Canadian 19 th century	-chipped stone scatter -in disturbed context
AbHs-22	General Brock School Site	1998	Native: Late Archaic; Euro-Canadian 19 th century	-isolated Native stone tools -Military: British and U.S. troops in War of 1812, militia barracks 1840s -Schools 1806 to present -escaped slave hostel 1850s
AbHs-23	Main Burial	1976	Native: Western Basin Springwells Phase	-burials in residential backyard
AbHs-24	Sandwich Burial	1964	Post Contact Native: Huron 18 th century	-burials

Borden #¹	Site Name(s)	Date Investigated	Cultural Component	Site Type/Comments
AbHs-25*	unnamed Turkey Creek site	1949	Native - Late Woodland	-village; pottery & “fire pits” -outside of city limits

* indicate sites found just outside of City limits.

¹ Borden numbers are part of a Canada-wide cataloguing system for archaeological sites which places their locations in specific 100 and 10 km square areas. Windsor is within the 10 km squares AbHs and AbHr.

3.2.1 Native Sites

Five of the registered sites within the city limits have a solely Native affiliation, and of these sites, four contained at least one burial. The Native sites range in age from the Late Archaic (c. 1850 B.C.) to the historic period (18th century). What follows is a synopsis of the nature and types of Native sites found within Windsor.

Essex Transformer Station (AbHr-6)

The Essex TS site (AbHr-6) is located southwest of the intersection of Grand Marais Road East and the Chesapeake and Ohio Railway Line (originally the Pere Marquette Railroad). The site was discovered in 1999 by Mayer Heritage Consultants while undertaking an assessment for Ontario Hydro. The site, situated on level topography with poor natural drainage, is located less than 100 metres from Turkey Creek. It falls within the St. Clair Plain physiographic region, on Brookston Clay. Four positive shovel tests produced five pieces of Onondaga debitage within a five metre square area. During Stage 3: Testing, seven test units were excavated yielding twenty flakes. Due to the paucity of artifacts, no further work was recommended.

Lucier Site (AbHs-1)

The Lucier site is a Late Woodland Western Basin Tradition, Springwells Phase, village/mortuary site, dating from between the 14th and 16th centuries A.D. (Reid 1978). It is situated on a low, irregular sandy rise, consisting of Berrien Sand (Ritchards 1949), located in the southwestern part of the City, along the northern edge of the E.C. Row Expressway.

The site was one of the first Native sites to be systematically investigated in Windsor. The designation “Lucier” is the official name of the site, but over the years it has been referred to as “The Windsor Mound Site”, “The Toronto and Betts Streets Indian Mound Site”, “Wintemberg’s Windsor Site”, the “Marentette Site” and finally the “Lancaster Site” (P. Wright 1976:13). The first formal excavation of part of the site was conducted by W.J. Wintemberg (1936) in 1935. Apart from a brief mention in the journal *American Antiquity*, he did not publish any of his findings, and it was not until 1976 that J.V. Wright produced an edited compilation of Wintemberg’s field notes, indicating the nature and extent of the site.

J.V. Wright (Reid 1978) described 19 burials, containing the remains of 25 individuals, plus artifacts such as pottery, and chipped and polished stone tools. The Lucier burials contained bundle burials (n=11), cremations (n=2), primary interments (n=2), torso burials (n=9), which represent the remains of a primary burial after the elements for a bundle burial have been removed, and a possible re-articulated burial (Lennox 1984:31 & 32). Bundle burials generally consist of the long bones of the legs and arms, plus the skull. The torso burials, bundle burials and the cremations did not contain any grave goods. One of the primary burials containing a complete, flexed skeleton was buried with a complete though broken ceramic vessel near the skull. The pot may be a Parker Festooned vessel, dating to approximately A.D. 1400 (Lennox 1984:27;

Murphy & Ferris 1990:229). Two individuals from the bundle burials had modified skulls (*post mortem*); one had a cut that had penetrated the brain cavity; the other had been perforated through the sagittal suture (Lennox 1984:28). Other *post mortem* modifications were also noted on post-cranial material (Lennox 1984:33).

The individuals were reportedly removed from the area around the Betts Avenue and Toronto Street intersection, however, a field archaeologist who had been working on the excavation with Wintemberg, indicated that some of the skeletons had come from a low mound west of the main investigated area, approximately 150 to 180 metres (500 to 600') away (Reid 1978). These skeletons probably came from what is now referred to as the E.C. Row site.

Three decades passed before more investigations were carried out on the site. In 1967, John Lee and Harry Bosveld conducted a 'brief and small investigation ... for the Hiram Walker Historical Museum ...' (Reid 1978:25). In the intervening decades, the site had been largely disturbed or destroyed by the removal of soil, and the deposition of refuse and fill (Reid 1978:4). The investigations conducted by Lee and Bosveld just to the south of Toronto Street produced no significant results. A year later, Phil Wright investigated the site on behalf of the City of Windsor and the Ministry of Transportation and Communication in advance of proposed highway (EC Row Expressway) construction through the area (Reid 1978:7). Wright found no significant archaeological remains and concluded that due to extensive site disturbance, the site did not warrant further investigation or protection. However, concerns expressed by the Caldwell First Nation prompted the City of Windsor and the Ministry of Transportation and Communication to retain Professor Peter Reid of the University of Windsor to undertake further testing (Reid 1978). Despite Reid's extensive coverage of the site area, no more burials were found and only a minor amount of cultural material was recovered. Construction of the expressway was allowed to proceed.

E.C. Row Site (AbHs-7)

In 1984, the Ministry of Transportation conducted archaeological work on what was labelled as the E.C. Row site (AbHs-7). The work was headed by Paul Lennox and was conducted in the northeast quadrant of the intersection of the E.C. Row Expressway and Huron Church Line (Highway 3). The site is located on a low sandy knoll, in an area drained by Turkey Creek. The E.C. Row site is close to Wintemberg's Lucier site (AbHs-1) which is located 150 metres to the northeast. Native human remains were recovered from the site in the form of bundle burials and cremations. In accordance with the wishes of Walpole Island First Nation council, the human remains were immediately reburied in an area agreed to by the Ministry of Culture and Communications (MCC), the City of Windsor and Walpole Island First Nation.

Both the E.C. Row site and Lucier site display characteristics from the Springwells Phase of the Western Basin Tradition, dating from around *ca.* A.D. 1200 - 1400. Some vessels from E.C. Row and Lucier were identified as potential Mixer Wares and Parker Festooned, that have been suggested to span the transition between Springwells and Wolf Phases (Lennox 1984:30). The E.C. Row site may be slightly earlier in time than the Lucier site, but the sample is too small to give an accurate determination.

The E.C. Row site was determined to be a multiple occupation site that probably occupied an area of 0.3 to 0.4 hectares (Lennox 1984:7). Portions of four houses were delineated. The houses on site are substantial, and represent the first of this large type of longhouse structure erected by peoples of the Western Basin Tradition. Evidence for the reconstruction or replacement of some houses (Lennox 1984:34) suggests that

the site may have been occupied, possibly intermittently, over an extended period of time. The houses are similar in size and shape to contemporary Iroquoian examples, but they lack internal features such as bunk lines, end-house storage areas and pits, and hearths (Lennox 1984:35). These features may indicate a cabin site occupation, where the structures were occupied only during warm seasons as a shelter from inclement weather (Lennox 1984:35).

A total of six burial features containing the remains of 23 individuals were found (Lennox 1984:18). Field recording was carried out on the skeletons, but since they were being re-buried at the end of the work day at the bequest of Walpole Island *Bkejwanonj* First Nation, no detailed observations were undertaken. The burials consisted of bundle burials and infant cremations. The cremations had occurred elsewhere and were then deposited at the site. The E.C. Row burial styles were not as diverse as those found at the adjacent Lucier site (Lennox 1984:31 & 32). One parietal bone of an adult showed evidence of *post mortem* modification. This skull bone had been intentionally perforated, or drilled (Lennox 1984:33).

Sandwich Burial (AbHs-24, formerly AbHs-2)

The Sandwich burial site consists of two documented Native burials. The work which consisted of monitoring only, was conducted by Alan Douglas in the spring of 1964. In his manuscript report, Douglas suggested that many burials probably still existed under Sandwich Street near the Ambassador Bridge. Burials were noted at Riverside Drive and on University Avenue at Indian Road. Since no map was included in the report, the exact location of these finds is not clear. These burials were probably associated with the Huron Village and burial grounds. For decades, unregistered burials have been noted in this area of the city.

Main Burial (AbHs-23, formerly AbHs-2)

The Main Burial area was first discovered in 1976 by homeowners doing some work in their downtown yard. The site is located on a well-drained rise of land that is located approximately 215 m north of an old creek bed. This rise exhibited natural characteristics and was not considered to be part of a burial mound (P. Wright 1977:1). Provincial archaeologist Phil Wright was brought in to excavate the human remains and found that the site consisted of three, secondary bundle burials plus two cremation deposits, representing at least nine or ten adult and sub-adult individuals (P. Wright 1977). The site has been radiocarbon dated to the 12th to 14th century A.D., coinciding with the Springwells Phase of the Western Basin Tradition (Murphy & Ferris 1990:227).

The Main Burials share a number of characteristics with the Lucier and E.C. Row burials: few grave goods were included with the burials; all three sites contained multiple bundle burials; and, there was consistent association with cremations. The Main Burial differed from Lucier and E.C. Row in that they did not contain any skulls that had been subjected to *post mortem* cultural modifications (P. Wright 1977:18). The ceramics found on site, combined with the similarity of burial style with those of the Lucier and E.C. Row sites, indicate a Western Basin affiliation.

3.2.2 Multi-component Sites

To-date there are four registered sites that contain both Native and Euro-Canadian material. The Native material ranges from the Late Archaic to an 18th century occupation, while the Euro-Canadian material dates from the early 1800s to the late 1900s. What follows is a brief description of each of the sites.

Great Western Park (AbHs-11)

Great Western Park is located along the banks of the Detroit River between Langlois and Hall streets. Extensive testing was conducted in the park in 1989 and 1991 by CARF (See Section 3.1.5). The site is diverse, containing an 18th century Native burial, Middle to Late Woodland Native artifacts, some probable Western Basin Native burials, and finally, European contact period material.

The burial, found at Operation 1, consisted of the skeletal remains of one Native individual interred in a coffin. The burial was dated between 1740 and 1760 (CARF 1992: 24).

The ceramic assemblage recovered from the site indicated that most pieces could be identified to the generalized Western Basin Tradition (A.D. 500 to A.D. 1600), more specifically to the Younge Phase (A.D. 800/900 to A.D. 1200) and the Springwells Phase (A.D. 1200 to A.D. 1400), while a small number of sherds may have belonged to the Middle Woodland (CARF 1992:71). The lithic material also seemed to substantiate a Late Woodland designation with diagnostic projectile points: Madison or Levanna-like, plus Jack's Reef (1992:71). The contact period between Native groups and Euro-Canadians is represented by tinkling cones, hawk bells, kettles, trade beads, and gun flints (CARF 1992:75).

In the spring of 2001, additional burials were uncovered by Historic Horizon Inc. staff during archaeological monitoring of grading for a new pathway in Great Western Park. The burials were in an extremely shallow context at only 30 cm below grade and, while partially impacted by 19th to 20th century activity, they had been missed by previous assessments, falling between the test units. The interments occupy a relatively small area of integrity surrounded to the north and south by major disturbances. Situated about 150 metres west of the Odawa grave, these burials pre-date it, being associated with the Younge or Springwells Phase occupations of the Detroit River area. Burial styles were both primary and secondary, including bundles, extended and partial skeletons. At least 8 individuals ranging in age from neonatal to elderly, were identified. No associated grave goods were found.

The Great Western Park registered site is defined by the legal boundaries of the municipal park. In reality, however, the former Ottawa Village, cemetery and agricultural fields, which are in part reflected by the site, would have covered an extensive area along the shoreline and extended inland well beyond Riverside Drive. This broader definition of the Native occupation of the area is born out by the discovery of cultural material by a gas company employee in 1989 when installing a gas line immediately across Riverside Drive from Great Western Park site (CARF 1992:86). This material could have been associated with the Ottawa Village, or might have been associated with the earlier Great Western Basin burials. The area has been utilized as a burying ground by at least two Native groups over the centuries. Consequently, the area south of the Great Western Park should be considered of very high potential.

Ojibway 2 (AbHs-18)

The Ojibway 2 site was found on the Ojibway Industrial Park property in 1992 by W.B. Stewart (1993) of Dillon Consulting Limited (See Section 3.1.11). The site was discovered as a result of visual assessment and consisted of two artifact clusters: Euro-Canadian; and Native. The maximum extent of the site encompassed an area of 250 metres north-south and 150 metres east-west, but the Native material was found along a slight ridge in an area approximately 200 metres north-south by 50 metres east-west.

The site was tested by the strategic placement of 11 test units across the site. Only six of the eleven units produced any Native material. The one diagnostic Native artifact was a complete projectile point that has been identified as either a re-worked Genesee point or a possible side-notched Brewerton point. The Genesee designation would suggest a Late Archaic, Broadpoint time frame, while a Brewerton designation would indicate a Middle Archaic date. The rest of the Native assemblage consisted of two bifaces (one a triangular knife), two general utilized flakes, two scrapers, one abrader, three large fragments of a grinding stone, 79 pieces of chipping debitage, and three sherds of pottery (Stewart 1993:48). Lithic raw material preference was for local till chert, followed by Onondaga chert, unidentified cherts, and Kettle Point chert. The site has two Native affiliations, and may be linked to the Middle to Late Archaic and the Woodland periods. Due to the paucity and dispersal of the artifacts, no further investigation of the Native component was recommended.

A total of 191 historic Euro-Canadian artifacts were recovered from the site. Just over 40% of the artifacts were in the ceramics category including coarse and refined earthenware, creamware, stoneware, porcelain, a clay pipe stem fragment and brick. Other artifact categories include glass (window, bottle, table, medicine), metal (button, bolt, wire, nail, shell casing), bone, and modern plastic (Stewart 1993:52-53). The majority of the artifacts indicate a mid to late 19th century association for the site, and it probably represents a refuse area as opposed to a domestic structure. No further investigation of the Euro-Canadian component was recommended.

Upon review of the report, the Ministry required that top soil be stripped from various areas of the site to determine the potential for encountering subsurface features. This work was carried out in the early summer of 1994. On the historic component of the site, a total area of approximately 360 square metres of the site was stripped and examined for subsurface features. No subsurface features nor artifact concentrations were identified within the historic component of the site.

On the Native component, the initial strategy had been to excavate a single trench the full length of the artifact concentration. However, clarification on the location of a property boundary restricted the trenching to that area north of the former road allowance. Close to the southern end of the trench, a possible native hearth feature was identified in the subsoil. A cross-trench excavated in the area of the hearth-like feature revealed several other possible subsurface features. These possible post moulds produced no obvious pattern in their distribution. One of the post moulds produced a small fragment of calcined bone. No other cultural material was recovered.

Due to the pending development of a roadway through this section of the property, the archaeological staff were directed to re-cover the exposed resources and prepare for mitigation of the site once plans for the roadway had been finalized. Subsequently, the proposal to build the roadway was put on-hold for an indefinite period of time. As of December 2000, the road has still not been built and the site has not been mitigated.

Ojibway 4 (AbHs-20)

The Ojibway 4 site was discovered by W.B. Stewart of Dillon Consulting Limited in 1992. The site is located in the southwest section of Windsor along the bank of the Detroit River. The shovel testing of Ojibway 4 produced a large biface identified as a Genesee projectile point (*ca.* 3800 to 3500 B.P.), one chert flake and a piece of bone (this had been tentatively identified as a fragment of a human ulna, but later was determined not to be human). In 1993, the meadow area was ploughed and visually assessed and 11 one metre test units were excavated across the site area. The results were mixed. Only two units produced both Native and Euro-Canadian materials, and no features were found. The other nine units were a mix of artifacts in disturbed contexts. The total assemblage of Native material consisted of the projectile point, one piece of fire-cracked rock and 23 pieces of debitage. The lithic raw material had been identified as local pebble cherts, Onondaga chert, Kettle Point chert, and unidentified material.

Euro-Canadian material was found on the site, but comes from disturbed contexts, and therefore can be interpreted as being displaced material. A total of forty-five Euro-Canadian artifacts were found which included brick, coarse earthenware, fine earthenware, creamware, pearlware, glass including window, bottle and tableware, metal gun shot, cut nails, bone and coal. For the most part, the artifacts do not provide a specific time frame for the material other than from the 19th century to 20th century.

Upon review of the report, the Ministry required that top soil be stripped from various areas of the site to determine the potential for encountering subsurface features. This work was carried out in the early summer of 1994. Four trenches, each roughly 20 metres in length, were excavated on Ojibway 4 (AbHs-20). The trenches formed two parallel alignments oriented to the grid pattern established in April 1993 for excavation of the test squares. The trench profiles exhibited the same confused mix of dark sand topsoil and orangey sand subsoil seen during Stage 3: Testing.

The only cultural material revealed in the trenches was a scatter of brick and concrete fragments recovered from the eastern end of Trench I. No significant artifacts or features were encountered and no further work was recommended.

General Brock School Site (AbHs-22)

This site was discovered by Historic Horizon Inc. in 1998 during an assessment of the school property conducted prior to the redevelopment of the property (Henderson 2002a). Several chert projectile points and some lithic debitage were found in the process of mitigating the 19th century site, although no pre-contact features were found.

3.2.3 Euro-Canadian Sites

This category of site is the most numerous in the Windsor area, with nine sites in the Ministry's data registry. The sites which include a town hall, nineteenth century homesteads, a fur-trade storehouse/home, military occupations and industrial/transportation site, are summarized below. Material remains have been documented from near the historic downtown core of Windsor to the downtown area of old Sandwich. It is particularly noteworthy that no sites dating to the 18th century French settlement period have yet been examined.

Morton Terminal I and II (AbHs-5 & AbHs-6)

Both of these sites are on a vacant lot by the Detroit River, just north of the Morton Terminals property. The sites are situated at the end of a side road, in an overgrown meadow. The lot itself has been severely disturbed

by top soil removal and tailings dumping. The sites were discovered and registered by Ian Kenyon of the then Ministry of Culture and Communications (MCC) in 1982. AbHs-5 consisted of a sparse scattering of domestic debris along the dirt lane, and the site has been listed as a Euro-Canadian house. Kenyon conducted a surface survey of the area and it resulted in a small collection of artifacts that dated the site from the 1820s to 1860s. AbHs-6 is listed as a Euro-Canadian house and midden. Kenyon excavated the midden remains from the root cellar. The artifacts gathered from the midden indicate a range of dates of 1800 to 1860.

Duff-Baby House (AbHs-10)

The 1798 Georgian style house was built as a home and merchant store by fur trader Alexander Duff when Sandwich was newly opened to settlement of displaced British sympathizers, who were relocated after 1796 from the Detroit site of the river. Purchased by Jacques Baby in 1807, it remained in that family until 1877. Between 1905 and 1979, when sold to the Ontario Heritage Foundation, it was the home of prominent Doctor W.J. Beasley, who maintained its historic integrity.

Several episodes of archaeological investigation have been carried out under the direction of the Ontario Heritage Foundation. These include testing in 1987 (MPP 1987), excavation in 1988 (CARF 1989), excavation of the porch and side kitchen areas by the OHF in 1993 and 1994, and subsequent monitoring of construction associated with the installation of an interpretation centre over the footing of the former stable/garage (OHF, reports in preparation). Artifacts and deposits dating as early as the 1790s were identified.

The property proved to retain a large degree of archaeological integrity, having been only minimally disturbed over two centuries. Archaeological work not only salvaged valuable buried information, but enabled subsequent architectural restoration to be informed by in-ground features, footings and artifacts. The Duff-Baby House property may be representative of other minimally disturbed residential or commercial properties in old Sandwich, many of which retain archaeological integrity and would require assessment if slated for redevelopment.

Mackenzie Hall (AbHs-12)

Mackenzie Hall, built in 1855 to serve as a Court House for Sandwich, is one of a series of public structures that have stood on the corner of Sandwich and Brock streets. Archaeological assessment and monitoring of parking lot reconstruction and repairs were carried out in 1991 (Kennett 1992) and 1992 (Mayer Heritage 1993). The 1991 work was instigated suddenly when archaeological remnants were encountered during construction. CARF archaeologists were called in to assess the deposits. Since the significant structural remains from earlier buildings were found, monitoring continued over several days to record stone and brick walls representing the former jail and possibly earlier courthouse. Some of the structures were not known from existing historical plans of the site. The following year, drain installations were also monitored, allowing additional brick and stone walls to be documented. Both projects recommended that archaeological mitigation should be carried out prior to any future work on the property, in order to minimize the damage to fragile deposits and structures. It came to light that the site had already suffered from work done on the property over the last 20 years. Like the Brock School site across the road, the parking lot area of Mackenzie Hall retained significant information about the early 19th century use of the property.

Train Depot (AbHs-13)

The Train Depot site is located on C.N. Riverfront lands, on property adjacent to the Detroit River and is directly across from the foot of Goyeau Street. The land is mostly comprised of fill material that was laid down to create the rail bed for the Great Western Railway in the mid 19th century. The site was investigated in 1989 by C.A.R.F. (1992:27). They excavated two trenches and discovered remnants of the train depot's foundation. They noted "two distinct building styles [that] may correspond to two construction periods (1857-1882 and 1884-1961)" (CARF 1992:27).

Senator David A. Croll Park (AbHs-15)

The Croll Park site was registered after archeological monitoring of the Tourist Information Centre construction in 1991 and sidewalks in 1994, revealed 19th century brick building foundations and domestic artifacts dating as early as 1800 (MPA 1991, 1991a; Mayer 1994). However, when the adjacent Civic Square was upgraded in 1998, recommendations for monitoring subsequent landscape modifications were not implemented in spite of the recommendations of a Stage 1 assessment study (Henderson 1998).

Heritage Park Windmill (AbHs-16)

When the City of Windsor built a reproduction of a 18th century windmill at the corner of Mill St. and Russell Street in the newly designated Heritage Park, archaeological monitoring was carried out to ensure that any cultural remnants associated with the old settlement and possibly the original Jacques Baby windmill could be salvaged (Mayer 1991a) (See Section 3.1.7). Although domestic artifacts associated with the 19th century occupation of Sandwich were found in several fill deposits, no remnants of the pre-1790s mill footings were found in this location. A review of the historical data suggests that any remnants of the original mill would likely be found on Lot 3, located immediately to the northwest of the study area.

Ojibway 1 (AbHs-17)

This site is located in the extreme southeastern corner of the Ojibway Industrial Park property. The site consists of a concentration of late 19th century domestic artifacts mixed with brick rubble (Stewart 1993:28). These materials were situated on a small rise. No extant structure was noted in the survey. No further work was recommended for the site, due to the lateness of the material.

Ojibway 3 (AbHs-19)

The Ojibway 3 site is situated approximately 120 metres east of the Detroit River on the Ojibway Industrial Park property, and is to the northeast of AbHs-20. The site consists of a masonry foundation that measured 20 metres (north-south) by 12.8 metres (east-west). The use of masonry as opposed to concrete suggested that the structure was of pre-twentieth century origin. A water valve was discovered immediately outside the southwest corner of the foundation. The artifacts found in association with the structure dated to between the early 19th century to the early to mid 20th century.

Stage 3: Testing was carried out in the meadow immediately west of the foundation. This work included a visual survey of a ploughed area in the meadow and the excavation of two test units. One of the test units was not productive, while the second encountered a mid to late 19th century trash pit (Stewart 1993:55). While two pieces of chert debitage (Native affiliation) were found, the majority of the artifacts are Euro-Canadian. The historic assemblage totalled 275 pieces. Artifact types included ceramics (earthenware, pearlware, stoneware, ironstone, porcelain and creamware), glass, and metal (mostly nails). The site and the assemblage indicated a disturbed context and that the occupation extended too far into the 20th century for the site to be considered significant. No further work beyond Stage 3 was recommended.

Upon review of the report, the Ministry required that top soil be stripped from various areas of the site to determine the potential for encountering subsurface features. This work was carried out in the early summer of 1994. Five trenches ranging between 20 metres and 40 metres in length were excavated on Ojibway 3 (AbHs-19). Trenches I, III, IV and V were located in close proximity to the historic masonry foundation while Trench II was positioned parallel to the river just over 30 metres west of the foundation.

The trenches revealed a number of natural stains and features in the subsoil but no cultural features or deposits despite close proximity to the foundation. No further investigation of the site was recommended.

General Brock School Site (AbHs-22)

This long-occupied school site in the original town of Sandwich was tested and excavated by Historic Horizon Inc. in 1998 (Henderson 2002a) prior to the construction of a new multi-use building on the lot. Archaeological investigation was prompted by the efforts of local heritage activist Rosemarie Denunzio, who had brought the heritage value of the property to the attention of the City and the School Board. Excavation revealed the presence of several dozen significant archaeological features beneath the asphalt of the schoolyard, reflecting not only the entire 19th century occupation of the site but also Native activity dating to the Late Archaic. Native artifacts included three large chert projectile points and a scatter of chipping detritus.

Footings from the post 1806 Stone School and the 1868 Sandwich School were identified in addition to evidence for the *circa* 1813 and 1840s military occupations. Features associated with the 1840 log barracks included 3 privies, a kitchen refuse pit and two wells. Activity associated with the pre-1812 occupation by school teacher Alexander Pringle included a large stone-lined cellar. A palisade trench first excavated for the War of 1812 British occupation of the schoolhouse had been re-used in 1838 for militia encampment associated with the Rebellion. A sub-floor storage cellar inside the Stone school revealed deposits dating to the 1812 occupation and later. One refuse pit dating to the mid-19th century appears to be associated with the 1850s occupation of the schoolhouse/barracks by escaped slaves.

The Brock location is an excellent example of a partially disturbed urban site. In spite of numerous intrusions and redevelopment over almost two centuries, it retained significant and extensive archaeological deposits and features, buried below surface alterations, landscaping and pavement. Fill deposits in the front yard lay in layer-cake fashion over original topsoils, effectively sealing them in and preserving them for future generations. The integrity of such an apparently disturbed site bodes well for the preservation of other sites in the older urban areas of the City of Windsor.

3.3 Unregistered Archaeological Sites in the Windsor Area

Unregistered sites include artifact findspots, Native and European burials or occupation sites that are known to have produced artifacts through early archaeological research or some form of historical or first person documentation whether it be of accidental discovery or deliberate site plundering. Nineteenth century to twentieth century cemeteries not registered as archaeological sites are included here with the burial discussions as the properties contain human remains and all burial sites are significant regardless of age.

Not discussed in this section are sites of Euro-Canadian settlement and occupation which are recorded on historic maps as those locations have not been confirmed archaeologically and represent sites of as yet unrealized potential rather than confirmed finds.

3.3.1 Father John Lee's Survey

Research for this study identified over 40 known but unregistered sites in the Windsor area. The main bulk of these unregistered sites comes from the work of Father John (Jack) R. Lee who conducted a survey in the 1960s under contract to the National Museum of Canada, Human History Branch (Lee 1969). The locations for many of the unregistered sites are derived from a map provided in Kenyon (1976:11) that is cited as coming from the University of Windsor files, and Kenyon (1976:24) credits "the surveys by J. de Visscher and J. Lee" for locating these sites. There are notes concerning the various unregistered sites, but unfortunately, a key matching the dots on the maps with the descriptions cannot be located. Therefore, the location for each of the sites as described in Lee's report is not known.

**TABLE 3-2
UNREGISTERED SITES FROM J. LEE (1969)**

Site Name*	Site Location	Description
S.W. 25	bank of Turkey Creek	-multiple woodland occupation and burials of 4 adults; 1 child -grave goods: 4 pots that are castellated, 7 peaks and cord wrapped stick impressions; angular punctates on neck, 9 -18" height, 5-12" rim diameter -may have been excavated by DeVisscher (Bauman 1978)
S.W. 22	bank of Turkey Creek in sandy loam	-Middle and Late Woodland site -Late Woodland pot is 8" tall, 5" at rim, smooth body with vertical scratches; other pot is cord-wrapped, paddled & roughened, 4 castellations, neck & rim have cord-wrapped stick decorations
S.W. 21	assumed Turkey Creek	-multiple occupation; 50 surface artifacts including pottery
S.W. 19	assumed Turkey Creek	-multiple occupation, fire pits present; two pots reconstructed (1 at Windsor Museum) - quadrangular punctates and castellations with 6 points
S.W. 18	assumed Turkey Creek	-multiple occupation; contains Bull Brook style Paleo point found at 568' elevation; other artifacts found include celts, adzes, scrapers, knives and pot sherds
S.W. 16	assumed Turkey Creek	-Middle and Late Woodland site; projectile points and pottery sherds -1 complete pot similar to Wayne Corded Ware & Riviere Au Vase
S.W. 12	along Turkey Creek	-multiple occupation from Archaic to Late Woodland -pottery is unusually hard and mostly cord wrapped stick markings
S.W. 1, 23, 24	assumed Turkey Creek	-all these sites have produced Late Paleo-Indian projectile points, of which S.W. 1 is questionable
S.W. 17	set back from Turkey Creek on the edge of the flood plain	-contained one isolated extended burial, potsherds & fragments of two pipes -Late "Paleo points"

Site Name*	Site Location	Description
S.W. 3	assumed Turkey Creek or Yawkey Bush	-contained extended Woodland burial, with no grave goods
S.W. 2	Windsor Dump in Yawkey Bush	-pottery site that contained 2 skeletons without skulls (previously looted) -number of burials found in the 1930s "by various skull hunters" (Lee 1969:34.) -Late Paleo-Indian projectile points
Burial	Old Town of Sandwich	-30 skeletons in a large circle with feet inwards, with grave goods on Lot D east (Peter Street) 300 yards from the County buildings, found circa 1880 during railway construction by "Robinson and Farwell Contractors behind the present Episcopal Church Cemetery" (Lee 1969:34, Neal 1909:1, Neal to Barbeau letter & DeVisscher card file - Univ. of Windsor)
Burial	Old Town of Sandwich	-a number of graves with similar items as above on Lot 3 south of Donnelly St. (Lee 1969:34, Neal 1909:1)
Burial	In Town of Sandwich south of Riverside Drive (Main St.)** at Ambassador Bridge	-9 skeletons in a row found in 1908-9 on Paul Taylor property on "part of Indian reserve on Lot 2 & 4 or 3 & 4 West Main St." -grave goods included "stone war clubs, a pipe and a copper kettle" indicating post-contact Native (Neal 1909); one skeleton was headless
Burial	Near Ambassador Bridge	-2 skeletons; one skull stained with red ochre and copper that were at the University of Windsor Museum in 1969. Alan Douglas (1964) report identifies location at Riverside Dr. & University at Indian Rd opposite Villa Maria nursing home. The remains were found under the road during sewer repair work, removed by workmen, and monitored by Alan Douglas (1964) of the Windsor museum, who noted that this finding shows that many intact remains may lie in apparently disturbed areas.
Mound	Sandwich West, now City of Windsor	-mound at Betts and Toronto Streets -skull drilled with 3 holes that may be associated with mound -now designated as the Lucier Site (AbHs-1)

* S.W. stands for Sandwich West.

** The main thoroughfare of Sandwich has changed names over time as have many of the other village streets. Main Street has also been called Sandwich Street and Bedford Street. It becomes Riverside Drive at the Ambassador Bridge.

Based on the map reproduced as **Figure 4 - Archaeological Potential** in Kenyon's work (1976:11), most of Lee's unregistered sites are situated in the vicinity of Turkey Creek, just outside the City of Windsor. Five of these unregistered sites are however located within the city's boundaries, as are the last four entries in the above table. Three of Lee's unregistered sites are located in a former municipal dump (Yawkey Bush). One of these therefore may actually be S.W. 2 referenced above. The other two are in the southwestern section of the City of Windsor.

3.3.2 Other Unregistered Sites

Other unregistered sites and findspots have been identified from a variety of sources, including Ministry and city museum files and an open house held in conjunction with the Windsor Archaeological Master Plan. Sites

reported to the study team during the open house included a “French” Mill located along Turkey Creek in the Town of LaSalle and a 19th century hotel in South Sandwich. A projectile point of unknown cultural affiliation had been found years ago at the Ford Test Track (R. Denunzio, pers. comm 2001).

The MTCR files in London contain the notes of collector John Bonham who was active in the Essex County area during the late 1930s and early 1940s. While most of his material was gathered from the County, there were three artifacts mentioned as having been found within the City of Windsor. One was a projectile point found in East Windsor on the south side of Sandwich St. E. of Rossinni Boulevard. The second was a ground stone axe found in East Windsor from Sandwich St. East, and the third was a ground stone axe found in a drain off Riverside Drive, west of Grace Road near the boundary of Tecumseh and St. Clair Shores. None of these find spots have been registered.

3.4 Native Burials

During the course of development and urban expansion within the city, a significant number of Native burials have been encountered. Burials and burial grounds are sacred to First Nation peoples and as such must be shown the utmost respect and consideration. Section 5.3.3 outlines a protocol to be followed when dealing with human burials. This section will draw together the information from registered and unregistered sites that contain Native human remains.

Of the 18 registered sites within the City limits, five contain Native burials. They are: the Main Burial (AbHs-23); the Sandwich Burial (AbHs-24); E.C. Row (AbHs-7); Lucier (AbHs-1); and Great Western Park (AbHs-11). Considering that there are only eight registered sites with Native components within the City, the percentage containing human burials (62.5%) is high. As indicated previously, the registered and unregistered burials near the Ambassador Bridge are probably associated with the 18th century Huron Village, while those from the vicinity of Great Western Park (AbHs-11) are probably associated with the 18th century Ottawa (Odawa) Village and earlier Western Basin Tradition burying ground. Burials located just outside the City limits include the Turkey Creek site (AbHs-25) in La Salle, and the Silverman site (AbHr-5) located to the east of the City.

Of the 44 unregistered sites identified within the Windsor area (some of which are listed in *Table 3-2* from John Lee’s survey), nine contain the remains of a least a single individual. The majority contain evidence of multiple burials. While three of the sites are evidently located outside the city (due to their proximity to the lower part of Turkey Creek), the remaining six sites are situated within City boundaries. The Yawkey Bush site is now a capped landfill and developed as a park, there is little chance of either re-locating or accidentally disturbing any remaining burials on that site. The burials identified as coming from Old Sandwich or areas near the Ambassador Bridge (One such burial is registered as AbHs-24.) are more than likely associated with the Huron Village that had been situated in the area now occupied by Assumption Church.

Lee took his list of Sandwich area burial site locations from Frederick Neal’s 1909 book *The Township of Sandwich, Past and Present*. Using information from files in the Windsor Museum collection, an attempt has been made to place these and other burials on the Cultural Factors map. Although their specific locations remain approximate, the concentration of burials found in Sandwich and the Great Western Park areas are indicative of large cemeteries. In such cases, even the previous removal of many burials does not suggest that

all the graves have been found to date. These areas should be considered extremely sensitive as there exists high potential for the discovery of further burials and remains of the associated villages.

Some burial sites were identified solely on the basis of historical references which provide only vague descriptions as to location. Published accounts of the construction of the Great Western Railway describe finding...

“...an Indian burying ground when excavating an embankment in the neighbourhood of Windsor....In the burying-ground were found a large number of Indian ornaments, consisting of silver pins, brooches, bracelets, amber bead necklaces, etc., also, red stone pipes, copper camp kettles, and a variety of articles usually buried with an Indian... A great many skulls, bones and skeletons have been disinterred” (The Canadian Journal, Sept.1852: 25).

A 1903 newspaper account describes more Native burials of similar time periods.

“While excavating for a new siding near the waterworks one day last week, two skeletons were exhumed...A double handful of wampum beads were found with the bones, and a small triangular bit of blue stone, with a hole bored through it, had been suspended around the man’s neck...It is now in the possession of Trainmaster Doyle, of the Wabash, at St. Thomas. In addition to these things a small spoon of either gold or silver... An old woman living in the neighbourhood said she had heard her grandfather say that the spot where the skeletons were found was in olden days a favourite camping and burying ground of the Indians.” (The Evening Record, 1903)

The description of European-made trade objects in the vicinity of the railroad and the waterworks indicates that these burials were most likely part of the 18th century Ottawa cemetery, somewhere in the vicinity of what is now Great Western Park. The accounts indicate that a great number of the Ottawa graves have been disturbed over the last 150 years and that the artifacts travelled quickly away from the site, but the final resting place of the human remains is not reported.

Gladstone White notes that a number of burials were found when a sewer was installed through the former Walkerville Park just north of Devonshire Road. Some reportedly were with coffins and some were not (Gladstone White 1989: 133). Since other excavated evidence (CARF) shows that at least some of the Ottawa used coffins although their Western Basin predecessors did not, these burials may be Native. It has also been suggested that this may have been the location of 19th century European graves associated with the 1850s cholera epidemic (Stewart 1992).

**TABLE 3-3
SUMMARY OF ADDITIONAL UNREGISTERED NATIVE BURIALS AND FINDSPOTS**

SiteType	Site Location	Descriptions	Source
Burial	Town of Sandwich Lot 3 North, Church St.	-“of a similar nature” to burials elsewhere in Sandwich with numerous post-contact grave goods	Neal 1909:1

SiteType	Site Location	Descriptions	Source
Burials	Town of Sandwich	-Town Lots 1 and 4 north of what is now University Ave.	Donus Petrimoulx, Pers. Comm.
Burials	Town of Sandwich north of Bedford St (Main St.) between Chippawa St. and South St.	Lots 13-16 east of Bedford St. ??	Donus Petrimoulx, Pers. Comm.
Burial	Town of Sandwich 3128 Sandwich St. (Lots 1/2 South, Bedford St.)	-body found in private yard -remains given to University of Windsor in 1970s by parent of the informant	Denise Merschbaek, Pers. Comm.
Burials	Walkerville Park formerly at base of Devonshire Rd. north of Riverside Dr.	-numerous burials, some with wooden coffins -possibly both Native and European and some of these may relate to 1850s epidemic victims	Gladstone White 1989:133
Burials	near old Waterworks north of Riverside Dr.	-2 individuals with post-contact grave goods (see text quote above)	The Evening Star 1903
Burials	Great Western Railway corridor "near Windsor"	-Many burials found during railroad construction (see text quote above)	The Canadian Journal 1852
Burials	"Louis Avenue"	-Louis and Brant Ave vicinity rumoured to have been the general location of the 18 th century Ottawa burying ground based on 18 th century maps (note that this is several blocks inland from the burial finds in Great Western Park)	DeVisscher Card File, University of Windsor
Burial	Town of Sandwich Block D east of Peter St.	-burial found by "workmen employed by Robinson and Farwell Contractors behind the present Episcopal Church Cemetery". No date given	Windsor's Community Museum files
indeterminate possible burial	Eugene Lassaline property	-in a letter (ca. 1910?) from F.Neal to Barbeau a site mentioned as having numerous specimens, referring to bones, shells and artifacts	Windsor's Community Museum files
Burials	Town of Sandwich: Lots 3 & 4 Main St. between the town and Huron Church Line	-in the above letter	Windsor's Community Museum files
Euro-Canadian Burial	near Detroit River north of Sprucewood Ave and west of Maplewood Dr.	-excavated by U. of Windsor faculty D.Gustavson -location of remains unknown and no information	R.Denunzio, Pers. Comm.
Native artifacts	south of Riverside Dr. between Hall and Langlois Aves.	-across road from Great Western Park -found during cutting of a Union Gas pipeline in 1990s	Rosemarie Denunzio, Pers. Comm.
Native site	Old St.Louis Farm, Lots 115/116, Conc. I, east of Pilette Rd.	-Lee Survey, Nov. 18, 1973 -between St. Louis Ave. and Esdras/Raymond Streets on the south, 4 blocks from Detroit River -4 projectile points and a ground stone adze	DeVisscher Card File, University of Windsor

3.5 Non-Native Cemeteries

None of the non-native cemeteries in Windsor have as yet been registered as archaeological sites (*Table 3-4*). All but a few of these cemeteries are listed in the Ontario Genealogical Society's (OGS) Inventory of Cemeteries in Ontario (Ronnow 1987), while most of the older ones have been the subject of an OGS report. The majority of the 19th and 20th century cemeteries have not been reduced in size since the boundaries were established. Only the boundaries of the earlier Assumption cemeteries and any family cemeteries appear to be unclear. Properties abutting these graveyards with poorly defined or reduced boundaries could potentially contain human burials.

The oldest non-native burial ground still extant in Windsor is that of St. John's Anglican Church in Sandwich. Although the first church is said to have been built in 1807, the associated graveyard may date as early as 1797 when Sandwich was established (Neal 1909:179). The existing church dates to 1872.

Assumption is the oldest Roman Catholic parish in Ontario, established in 1767 in the location of the 1749 Jesuit Mission at La Pointe de Montreal (now Sandwich). There have been several burying grounds associated with the parish since its inception, the latest being the current cemetery located at the intersection of Wyandotte Street and Huron Church Road. The initial church and cemetery were located in the area currently occupied by Patricia Road. In 1787 the first site was replaced by a second church built in the area of Vista Place and a new cemetery thought to have been located in the area of University of Windsor's Electa Hall. By 1812 a third cemetery was established in the area now known as Assumption Park. The current Assumption cemetery dates to 1859. When established, a number of earlier graves were relocated to the new site (OGS 1988:ii).

The burying ground thought to have been associated with the Sandwich First Baptist Church is no longer visible. Any grave markers that may have identified the existence of a cemetery disappeared long ago. Although there are no clear documentary records substantiating the existence of a cemetery, the possibility cannot be ruled out and the property should undergo careful assessment prior to any major alterations to the grounds.

In rural communities, small family cemeteries were often established on farm lots. Although the Windsor region may contain this type of burial site, no 19th century family cemeteries were identified during the course of the archaeological master plan study. The only family cemetery registered by the OGS is identified as the Smith or Negro cemetery located on Banwell Road (Lot 143, Conc.I). The earliest grave markers in this cemetery dates to 1908 (OGS n.d.). The accidental discovery of unknown family cemeteries during excavation is subject to the same protocols outlined in the document *The Discovery of Human Remains - Best Practices* (1998).

**TABLE 3-4
CEMETERIES IN WINDSOR**

Cemetery	Location	Dates	Comments
Assumption Roman Catholic	Wyandotte St. and Huron Church Line south of the church property	1859+ in current location Oldest R.C. parish in Ontario (1767)	Moved from in front of Assumption Church. Assumption burials were previously made in several locations around the church (see text). Contains graves of many founding French families
Assumption Roman Catholic (pre 1859)	1. cemetery next to church where Patricia Rd. is now located 2. cemetery under where Electa Hall, U. of W., is now located 3. cemetery in current Assumption Park (OGS report, 1988)	1767, 1787, 1812	Boundaries of earlier cemeteries not well defined Cultural Factors map locations are estimated
Our Lady of the Lake	Seminole St. and Drouillard Rd.	20 th century	
Shar Hashomayin	2640 Pilette Rd. E.	20 th century	Jewish
Sandwich First Baptist Church*	Sandwich 3652 Peter St. (Town lot # 22 west of Peter St.)	1848 - first log church built on lot	Earliest Afro-American church in Windsor area Original lot included burial ground but no extant grave markers
St. Alphonsus Roman Catholic	between Howard Ave. and Ottawa St. south of Giles Blvd.	Before 1880	City cemetery
St. John's Anglican	Brock St. and Sandwich St. in Sandwich	1796 or 1805	Oldest Anglican Church and cemetery (Neal 1909:179)
St. Mary's Anglican	Devonshire Rd. and St. Mary's Gate in Walkerville	by 1880?	Established by Hiram Walker
Windsor Grove	455 Giles Blvd. East at Howard Ave.	By 1870s	Non-denominational city cemetery
Windsor Memorial Gardens	Division Rd. near Cabana Rd.	20 th century	
Smith family cemetery (Afro-American)	Lot 143, "west side of Banwell Rd. about 1/4 km [south] of the railroad tracks..bordered by a wire fence and gravestones in a row facing east" (OGS report)	stones date from 1908 to 1952	Only recorded family cemetery identified in Windsor

* As the Sandwich Baptist Church property is reputed to include a cemetery, it is included here although it is not a registered cemetery at this time.

3.6 Registered Archaeological Sites in Detroit

Due to its physical proximity and historical ties with Windsor, archaeological data from the Detroit area has also been examined in the preparation of Windsor's archaeological master plan. The political border running

down the centre of the Detroit River is relatively recent in history and does not reflect a separation of human activity in the past. The following data were furnished by the Office of the State Archaeologist, Michigan Department of State in Lansing Michigan. The relevant information has been detailed in this report to supplement the paucity of archaeological site investigation on the Ontario side of the border, and to demonstrate the diversity and size of the archaeological potential for Windsor.

While there are a total of 356 identified sites within the City of Detroit, only approximately a third have been field verified. The remainder have been included due to their presence on historic maps. In total, there are 174 verified sites in the Detroit area. Of this number, 107 are classified as Euro-American, 55 are Native, and 12 contain both Native and Euro-American components.

3.6.1 Euro-American and Multi-component Sites

The bulk of the registered sites in the City of Detroit area are Euro-American (n=107). In addition, there are a further 12 multi-component sites that have one or more Euro-American components, as well as Native components.

Most of the Euro-American sites fall within seven broad categories as shown in *Table 3-5*. The wide range of the types of sites registered in Detroit bears witness to the thriving activities of its inhabitants.

**TABLE 3-5
 DETROIT'S EURO-AMERICAN SITES**

Site Type	Site Subtype	Frequency
Residential	Shack	1
	Farmstead	8
	Residential	26 [+4]*
Military	Barracks	1
	Camp	1
	Fort	2 [+1]*
Waterfront	Dock	3 [+2]*
Industrial	Cooperage	1
	Tannery	1
	Leatherworks	1
	Warehouse	1
	Utility	1 [+1]*
Cemetery	Cemetery	11
Undetermined	Undetermined	26 [+4]*
	Building, unspecified	1
Refuse Related	Landfill/dump	7
	Refuse pit	4 [+1]*
	Privy	11
Trade	Trading Post	[1]*
French	Mix	[3]*
TOTAL		107

*bracketed numbers reflect multi-component sites and are not included in the total site count

The history and development of the City of Detroit are reflected in the rich diversity of its archaeological sites. Not surprisingly, however, the largest category of sites identified as to function is residential.

Military sites make up a significant portion of the Detroit sites. This designation includes a barracks, a military camp, and three forts: Fort Ponchartrain (18th century French fort); Fort Lernoult (1779-1827); and Fort Wayne (19th century). The two earlier forts are located in the heavily developed downtown section of Detroit, and no evidence for these sites has been identified. Fort Wayne is located close to the Detroit River,

between the Ambassador Bridge and the Rouge River, across from Sandwich. The fort has at least three sites associated with it: a Native burial mound (20WN1); a military barracks (20WN271); and a 19th century American cemetery in use as late as 1896 (20WN381).

Fort Ponchartrain reflects the French presence in the Detroit area. Apart from the forts, there are at least four other sites which contain French components. These include St. Anne's, a French Catholic cemetery in use prior to 1806 (20WN258), a camp occupied between 1700-1760 (20WN320), a homestead from *circa* 1760 (20WN411), a farm (20WN61), and an unknown French component of the Great Mound site (20WN7).

A number of Detroit cemeteries have also been registered as archaeological sites. These cemeteries tend to be eighteenth and nineteenth century cemeteries. The registered cemeteries are listed below in **Table 3-6**.

Other historic Euro-American sites include industrial sites, such as a tannery and leatherworks, a cooperage, a warehouse, docks, privies, dumps, refuse pits, and a trading post.

**TABLE 3-6
DETROIT CEMETERIES REGISTERED AS ARCHAEOLOGICAL SITES**

Site	Site Name	Cultural Affiliation	Religion	Date
20WN394	St. Peters C.	American	Protestant	1851-1930s
20WN383		American - unmarked		post 1881
20WN381	Fort Wayne C.	American		19 th cent-1896
20WN284	Clinton Park	American		1827-1855
20WN391	Brush Family C.	American		<i>ca.</i> 1846-1880s
20WN393	Church Farm C.	American		19 th century
20WN258	St. Annes C.	French	Catholic	pre-1806
20WN263	Pioneer Graveyard			19 th century
20WN327	Hart Plaza	British		1763
20WN379	Original Protestant C.	American		1780-1827
20WN331	Russel St. C.			1835-1869

In addition, there are 12 registered multi-component sites within the Detroit area. Three of these sites contain Native mound components (20WN1, 5 and 7) and are described in the Native sites section (Section 3.5.2). The remaining nine sites (20WN50, 57, 61, 53, 320, 332, 337, 411 and 872) reflect a mix of American, French and Native components for which the Native components are identified as undetermined as to site function and specific cultural affiliation. The exception is site 20WN61 which is discussed in more detail in the Native sites section (Section 3.5.2). The following table summarizes the various subtypes of multi-component sites.

**TABLE 3-7
 DETROIT MULTI-COMPONENT SITES**

Site Type	Site Subtype	Frequency	Site #
Euro-American Components			
Undetermined	Undetermined	4	20WN57, 332, 50, 337
Residential	House	3	20WN53, 320, 61
Refuse	Scatter of Refuse	1	20WN5
French	Camp, undetermined, farm	3	20WN61, 320, 7
Business or Industrial	Trading Post	1	20WN7
	Dock	2	20WN872, 411
	Gasworks	1	20WN61
Native Components			
Native	Undetermined, mound, village	12	20WN53, 57, 5, 1, 7, 332, 50, 337, 320, 411, 872, 61

3.6.2 Detroit Native Sites

The site ‘categories’ or types listed in the State database for Native sites are general, and unfortunately the largest category is sites of undetermined cultural affiliation. The Native sites for Detroit are summarized in the following table.

**TABLE 3-8
 DETROIT NATIVE SITES**

Site Type	Site Subtype	Frequency
Undetermined	Undetermined	24
	Fire-Cracked Rock	1
	Farm Collection	2
	Findspot	2
Cemetery	Cemetery/burial	7
Findspot	Archaic - Bannerstone	1
Generalized	Woodland	1
	Camp	3
Multi-component	Springwells/Archaic	1

Site Type	Site Subtype	Frequency
Specialized	Canoe	1
Village	Village	6
	Village/multi-component including cemetery	[1]*
Earthworks	Mound	4
	Mound/multi-component	[3]*
	Earthwork/circular	2
TOTAL		55

*bracketed numbers reflect multi-component sites and are not included in the total Native site count

Paleo-Indian and Archaic materials are not well-represented in the Detroit area. There are only two specific references to Archaic material and no references to Paleo-Indian sites. One such reference is to the Austin High School site (20WN453) which consists of a bannerstone, recovered as an isolated find. The bannerstone is listed simply under the category of Archaic. The other reference is to material recovered during a 1939 road construction project (20WN165). The site yielded Late Woodland - Springwells Phase material and a single biface that is similar to an Early Archaic Kirk Corner-notched point.

Woodland and historic period Native sites are well represented by villages, mounds and cemeteries. The number of villages in the inventory (n=7) is probably misleading since some of the sites may simply be different components of the same village. Despite that caution, there does appear to be a substantial number of Native villages situated on the Detroit side of the river. Of the seven identified village sites, five are listed as pre-contact villages (20WN92, 97, 95, 98A, and 127), and two as post-contact villages (20WN61 and 848). For the most part, the pre-contact villages are distributed along the Detroit River. The two exceptions are the Late Woodland villages, one situated along the west bank of the Rouge River approximately three and a half kilometres from the Detroit River (20WN127), and the second situated at least a kilometre north of the river, across from the Ambassador Bridge (20WN95).

The post-contact villages consist of a Potawatomi site (20WN61) and a possible Wyandot site (20WN848). The Potawatomi Village and cemetery (20WN61) is an 18th century occupation, situated near the Detroit River, across from the Ambassador Bridge. The Potawatomi site is a multi-component site, consisting of the Native village and cemetery, a French farm, several American residences and a gasworks. The Native village was occupied *circa* 1720 to 1780. The adjacent cemetery was in use from 1780 through the War of 1812. The disturbance of burials has occurred in the site's general vicinity since 1867 due to construction activities. There were at least 60 skeletons noted in the 1867 disturbance, and the following grave goods were recovered: a bayonet, stone pipes, tomahawks, beads, bullets, gun flints, fabric, mirror fragments, bottles, medals and bells. Over the ensuing decades, more burials were disturbed and at least 38 more skeletons were noted. These numbers suggest and support projected numbers for the 18th century Huron and Ottawa cemeteries in Windsor.

The other historic Native village (20WN848) is situated in the downtown area of Detroit, in the same general area as two of the historic forts - Fort Lernoult and Fort Ponchartrain. There is not much information associated with the site, apart from its general location and its tentative identification as a Wyandot Village occupied from 1702 to 1730. This is the same community that later moved across the river to Sandwich to be near the Jesuit Mission at the foot of Huron Church Road.

There are two earthworks and seven mounds registered for the Detroit data. The two earthworks are the Springwells Earthwork (20WN2) which is a circular enclosure dating to the Woodland period from 500 B.C. to 1700 A.D.. The second earthwork is the Parallel Embankments site (20WN316) which does not have a date associated with it. Both of the earthworks have been identified through historical reference.

Three of the seven mound sites are multi-component sites, and the other four are listed solely as having a Native component. Central Mound (20WN5) consists of a Late Woodland burial mound, as well as 19th century refuse deposits. Fort Wayne Mound (20WN1) has two Native components and an American fort. The first Native component dates to the Early Woodland (500 to 200 B.C.) and its function is unknown. The second component of the Fort Wayne Mound site is from the Late Woodland (600 to 1000 A.D.) of the Wayne Tradition and is a burial mound. The final component of the site is American, consisting of a fort from the 19th century. The Great Mound at Rouge River site (20WN7) has four components. There are two mound episodes; one from the Middle Woodland and one from the Late Woodland Younge Phase. Both are burial mounds. There is also an unspecified French component, and finally a 19th century trading post. The Carsten Mound (20WN6) has two episodes of burial mound building; one from the Wayne Phase and the other from the Younge Phase. The other three sites listed as having mounds include the Copper Works Mound (20WN3), and two unnamed mounds (20WN93 and 20WN91-2). The mound function for these last three sites is not listed, therefore it is unclear whether or not burials are present on these sites. A number of the mounds appeared to have been located in a cluster, close to the Detroit River.

Much like the City of Windsor, Detroit contains a large number of Native burials and cemeteries. Apart from the burial mounds (20WN5, 20WN1, 20WN7) described above, there are seven registered Native burials and/or cemetery sites, plus the cemetery associated with the Potawatomi historic village mentioned above (20WN61) within the City of Detroit. The other ten burial or cemetery sites are identified solely on the basis of historic references, so little is actually known about them. Three of these sites are identified as historic Native burials (20WN52, 20WN801 and 20WN310). Site 20WN801, dates to the 18th century and is located near the Detroit River. Site 20WN310 contained a burial that was accompanied by parts of a 'British army helmet', a clay pipe, a gunlock and a tomahawk. The 'helmet' has subsequently been identified as two parts of an armband bearing the British coat of arms and a gorget with an engraved bee. The remaining four burial or cemetery sites (20WN4, 317, 447, and 311) are listed as pre-contact cemeteries: one has been disturbed (20WN4); one is identified only by an historic reference (20WN317); one was uncovered by erosion in the 19th century (20WN447); and, one is listed as pre-contact with no supporting references (20WN311).

The data made available by the Michigan Office of the State Archaeologist have provided valuable insights into the nature and extent of archaeological material in the Detroit area. From that data, it is possible to draw general inferences on the overall archaeological setting for the greater Windsor area. It was through an analysis of archaeological data from Windsor, and all its surrounding area including Essex County and Detroit, that the factors used in the City of Windsor's archaeological potential model were identified and refined.

4.0 ARCHAEOLOGICAL POTENTIAL MODELLING

4.1 Introduction

Archaeological resources are not randomly distributed across the landscape. Human land use and resource exploitation follow patterns of resource distribution and are influenced by a variety of specific cultural, environmental and geomorphological factors. Consequently, specific areas within a general landscape will have been more or less intensively utilized through time. Through the preparation of a potential model, researchers attempt to identify the specific factors that contributed to the patterning of human land and resource exploitation. The goal is to build a model which reflects a plausible potential use of the land within a given cultural landscape.

This chapter discusses the criteria around which the City of Windsor's archaeological site potential models were developed. The Native model is based primarily on environmental and geomorphological criteria which would have influenced Native peoples' relationship to the landscape. Although social factors have also been taken into consideration, these are difficult to re-create or interpret given both the time and cultural differences that separate the researcher from the people who lived here in the more distant past. The Euro-Canadian model, which includes the post-contact Native occupation, is based on known settlement locations drawn from historic mapping and other archival sources.

4.2 Pre-Contact Native Modelling Criteria and Scoring Factors

Archaeological site potential models are based primarily upon environmental and geomorphological data assumed to represent conditions existing in the past. When combined, the criteria chosen for the Master Plan had to represent a comprehensive view of the past that would allow the capture of all high and moderate potential areas representing every period of Native occupation found in the Windsor area. Since the needs of Native foragers were very different from those of later agriculturalists, the model had to be broad enough in scope to ensure that all culture groups and time frames were included.

Although some categories of data could not be extrapolated for the Windsor area (vegetation, faunal resources and physiographic zones), a number of environmental criteria were available for modelling. Eight criteria were identified which most directly contributed to Native settlement in the Windsor area: Glacial Geomorphology; Quaternary Geology; Soils; Drainage; Topography; Proximity to Water; Drainage Order; and Native Trails. The criteria used in the model for potential Native settlement are described in detail below. The eight factors have been grouped into six categories for ease of discussion.

4.2.1 Glacial Geomorphology and Quaternary Geology

Various geomorphological and quaternary geological features provide significant insight into the suitability of an area for human habitation and resource exploitation. Three geomorphological features (relict water courses, ridges and moraines) and three quaternary geological features (tills, glaciolacustrine deposits and beach deposits) were considered. Other features such as eskers, drumlins and glacial keels were not included

since these features do not occur within the boundaries of the City of Windsor.

Relict water courses were considered significant since they could have been extant water courses during some portion or portions of Native occupations. Ridges, although of minimal height, were considered important due to the overall lack of topographic relief in Windsor. Some ridges are associated with remnant water courses such as those that parallel the Detroit River just south of modern Windsor. Moraines provide topographic relief, as well as being generally well drained, and if they are long and high enough, they would have sometimes provided natural causeways for travel. The only moraines in the study area are actually outside of the city boundaries but are within the Windsor Airport lands and therefore are included in this report.

The geological factors chosen include beach deposits, glaciolacustrine deposits and tills. Beach, bar and near shore deposits have been given a higher score than the other two quaternary geological factors since the beach deposits consist of sand with minor gravel, and thus, will be better drained and be more conducive to human settlement. Glaciolacustrine deposits are made up of various combinations of silty clay and sands or gravels. They are scored lower than the beach deposits since they are more poorly drained. The third category, clayey silt till, is scored lower than glaciolacustrine deposits and is associated with recessional moraines that may contain sandier material than normal. While geological features such as chert outcrops, as well as other primary lithic resources, would have scored high for site potential, this category was not included since there are no known primary sources within the study area.

		Score
a)	Glacial Geomorphology	
	Moraines	1
	Ridges	3
	Relict Water Courses	3
b)	Quaternary Geology (Pleistocene)	
	Clayey Silt Till	1
	Glaciolacustrine Silty Clay	2
	Lacustrine Beach, Bar & Near Shore Deposits	3

4.2.2 Soils

The soil types and to a much lesser extent their pH levels are important criteria in predictive modelling. Like the other factors, however, soil type alone cannot be used as an indicator for identifying the potential site locations.

The Windsor area contains a number of different soil types which may be broken down into the broad categories of Clay, Clay Loam, Loam, Fine Sandy Loam, Sand and Miscellaneous. The specific types for Windsor are described in *Table 4-1* (Richards *et al.* 1949, map) and shown on *Figure 1 - Environmental Factors for Modelling*.

TABLE 4-1
MAJOR SOIL TYPES OF WINDSOR

(from Richards et al. 1949, map)

SOIL CATEGORY	SYMBOL	SOIL TYPE	DESCRIPTION
Clay	Bc	Brookston Clay	Dark clay over mottled clay, then blue gray compact gritty clay
	Cc	Clyde Clay	Deep black clay over mottled blue gray clay
Clay Loams	Bcl	Brookston Clay Loam	Dark clay loam over mottled and blue gray gritty clay and clay loam
Loams	Bg	Burford Loam	Brown gravelly loam over reddish brown clay loam then gray stratified sand and gravel
	Bg-s	Burford Loam Shallow Phase	Similar to the Burford Loam except the gravel strata are often shallow and mottled over clay or stoney clay loam
Fine Sandy Loams	Cdl	Colwood Fine Sandy Loam	Black and dark gray sandy loam over mottled and gray fine sand, silt and clay
Sandy Loams	Bel	Berrien Sandy Loam	Brown sandy loam over yellow and mottled sand with clay below at 91 cm to 182 cm
	B-s	Brookston Clay Sand Spot Phase	Mixed areas of shallow sand knolls less than 91 cm over clay intermixed with Brookston clay and clay loam
Sands	Gs	Granby Sand	Dark gray sandy laom over gray or mottled sand with clay at depth of 91 cm or more
	Bes	Berrien Sand	Brown sand over yellow and mottled sand with clay at 91 cm to 182 cm depths
	Ps	Plainfield Sand	Light brown and yellow sand over gray sand
Miscellaneous	B.L.	Bottomland	Low lying land along stream courses, subject to occasional flooding
	Ma	Marsh	Low lying land subject to flooding; water logged most of the year

Clay based soils played an important role in determining human settlement patterns both in the context of suitable drainage and suitable soils for agricultural purposes, but also as an extractive resource. Native people were utilizing clay as a source for making pottery vessels (storage, smoking pipes *etc.*). Consequently, the location of good pure clay resources would have influenced the potential of site locations. However, most

of the Windsor area soils are clay based except for Sandwich and a few isolated deposits (Map 2130 in Guillet 1967). Clay would probably have been accessible from the Detroit River's bank and from river and creek banks throughout the area.

Soil types were scored according to a number of criteria. Since the predictive modelling has to take into account all types of Native occupations through time, the soil types had to be considered for short term encampment needs, as well as long term agricultural ones. Well drained, sandy knolls are generally regarded as being high potential site locations for many of the early Native foragers, while more sedentary Native agriculturalists would have sought out richer soils with less topographic relief. These factors had to be considered when assigning scores to the various soil types.

Sand and Sandy Loam were given the highest score due to Native foragers' preference to camp on these types of soils, and since burials generally occur in sandy knolls or ridges. The data from Essex County and the Detroit area support the correlation between pre-agricultural settlement and sandy to sandy loam soils. Also considered in the scoring was the relative duration of the various periods of Native occupation. The Paleo-Indian to Middle Woodland peoples occupied the Windsor area for a much greater period of time than the subsequent Late Woodland Native agriculturalists. Consequently, scoring was slightly higher for the earlier, non-agricultural Native occupations.

The soils which would have been good for growing the staple crop of maize received the next highest score. The determination of whether or not soils were good for this purpose was based primarily on a study of pre-contact agricultural settlement in southern Ontario (Campbell & Campbell 1992). In this study, the authors looked at a number of different factors that would affect corn agriculture, including the need for ~90 to 120 frost free days to mature (Campbell & Campbell 1992:6). While useful for regional potential modelling, this factor does not provide a fine enough focus for a more localized scale of potential modelling.

Studies of pre-contact Native corn agriculture in Huronia and Toronto (Heidenrich 1971; Konrad 1973; and Burgar 1990) show a preference for sites with gentle to rolling topography, sandy loams and good drainage. At the western end of Lake Ontario in the area occupied by the Neutral peoples, however, Stevens (1974) demonstrated that there was a "preference for heavier loam and silt loam textures, rather than the finer textured sandy loams preferred in Huronia and the Toronto area" (Campbell & Campbell 1992:8). Campbell and Campbell (1992:8) note that in the American Corn Belt where the temperatures are warmer and the rainfall is lower than most of southern Ontario, the preferred soils are silt loams and silty clay loams. They suggest that these soils are ideal for corn growing in that hotter, drier climate due to their increased water-holding capacity. This could explain the preference for heavier soils in the Neutral people's area around the western end of Lake Ontario, and suggests that there could also be a preference for these heavier soils in southwestern Ontario. Soils in the Loam categories were ranked according to the probability that they would be good corn growing areas. The Loam soils, such as Burford Loam, Burford Loam Shallow Phase and Brookston Clay Loam, dominate the central and western areas of Windsor.

The next soil category is Clay. As indicated on the map identifying the environmental factors used in the modelling process (*Figure 1 - Environmental Factors for Modelling*), clays are the predominate soil type found throughout the City of Windsor. This has been given a low score due to poor agricultural potential and

general lack of suitability for human occupation.

The Miscellaneous soil category is made up of bottomland and marshy ground. The limited areas of bottomland and marshy lands found in Windsor are predominantly associated with the lower reaches of Turkey Creek and an unnamed water course flowing from the general area of the South Windsor Pollution Control Plant northwest to the Detroit River. Although not marked as such on the soils maps, areas of marshy ground are also associated with the Grand Marais (marsh) extending between Turkey Creek and Little River. These scored a zero as they are generally unsuitable for human occupation throughout most of the year. However, areas bordering these types of soils should be ranked higher due to the presence of a number of different microclimates within a relatively small area and the subsequent diversity of floral and faunal species.

Soil pH was chosen as a category for the potential modelling due to its effect on agricultural and types of crops grown. Generally the soils in the Windsor area range from slightly acid to slightly alkaline to moderately acid, to variable. The scoring of these variables was given low priority.

		Score
c)	Soil Type	
	Bottom Land	0
	Marshy	0
	Clay	1
	Clay Loam	2
	Silt Loam	3
	Clay with Sand Spot	3
	Loam	4
	Sandy Loam	5
	Sand	6
d)	Soil pH	
	Variable	1
	Moderately acid	1
	Moderately acid where eroded	1
	Slightly acid to slightly alkaline	2
	Slightly alkaline to slightly acid	2

4.2.3 Drainage and Topography

Drainage and topography are important factors in archaeological potential modelling and should be considered together. Slope and aspect are also linked to topography, although they were not factored into the Windsor model due to the relatively low relief found throughout Windsor. Aspect (the direction of the lay of the land) would be useful to determine if site selection exhibited any preference for south facing exposure, but unfortunately, the Ontario Archaeological sites database does not include this factor in site registration, and to determine the aspect for all areas within the municipality would have been impossible within the scope of the current study. Aspect, is however, a factor to note while doing future field reconnaissance.

Elevated topographic relief, particularly in a relatively flat landscape such as Windsor's, is a good indicator

of high archaeological potential. Consequently, rolling topography with differing levels of drainage was scored the highest in the drainage category. The next highest scored categories include smooth to almost level topography with varying degrees of drainage. Finally, the lowest scored variables include the very flat to depressional landscapes with poor drainage.

	Score
e) Topography/Drainage	
Depressional — poor drainage	0
Very flat — exceedingly poor drainage	1
Almost level — poor drainage	2
Almost level — poor to fair drainage	3
Smooth to Undulating — fair to poor drainage	4
Undulating — fair to poor drainage	5
Undulating — drainage is variable	6
Undulating to rolling — good to excessive drainage	7
Undulating to rolling — good drainage	8

4.2.4 Proximity to Water & Drainage Order

Proximity to water and drainage order are, by far, the most important factors in determining archaeological site potential. Distance to water has been heavily relied on as a primary indicator for potential modelling, as it is assumed that sites are more likely to be found near a reliable water source. One of the pioneering efforts in Ontario for predictive modelling using distance to water was developed by Mayer, Pihl & Poulton and Associates in conjunction with John Peters of Ontario Hydro (Peters 1986:1). Utilizing data from 615 sites, they found that “the average distance of 150 m to water represents an area of high archaeological potential in southwestern Ontario” (Peters 1986:1).

In developing the Windsor model, distance to water was broken down into distance to water from lakeshore or the banks of a large river (*ie.* Detroit River or Lake St. Clair) and the distance to water from other water courses (creeks, streams). Following the lead of Bellhouse *et al.* (1996:83), the distance to water for lakeshore was determined to be high potential up to 250 metres and 100 to 200 metres for all other water sources.

It should be noted that the use of the category “distance to water” has become over-simplified and should not be considered as the sole factor in determining site potential. Other biophysical factors and the scale of a project need to be considered when implementing a potential model (Young *et al.* 1995:35).

Drainage order in conjunction with distance to water, is another factor considered for the Windsor model. While the presence of a water source is an important factor within the model, it must be recognized that the “form, magnitude and placement [of a water course] within a network will affect its attraction for nearby residents” (Young *et al.* 1995:15). Drainage order was determined using the Strahler (1964) Method based on the 1:10,000 Ontario Base Map (OBM) series for Windsor. A First Order segment is one that has no upstream tributaries. A Second Order segment is one that is downstream from the joining of two First Order segments. A Third Order segment is one that is downstream from the joining of two Second Order segments.

It should be noted that segments below the confluences of First and Second Order segments are still to be considered Second Order. Fourth Order segments are ones that are downstream from the joining of two Third Order segments. This method of determining order continues until the water segments end within the study area.

		Score
f)	Proximity to Water	
	Lakeshore/Large River > 250 m	0
	Lakeshore/Large River 100-250 m	5
	Lakeshore/Large River ≤ 100 m	10
	Watercourse > 200 m	0
	Watercourse 100-200 m	5
	Watercourse ≤ 100 m	10
g)	Drainage Order	
	No drainage	0
	1 st order	1
	2 nd order	2
	3 rd order	3
	4 th order	4
	5 th order	5
	6 th order	6
	7 th order	7

4.2.5 Native Trails

Aboriginal transportation networks, while technically a cultural factor for potential mapping, are closely related to many of the environmental themes, and as a result, are strong indicators of archaeological potential. Wherever possible, these trails would have been oriented so as to provide access to food and water resources and utilize dry, accessible landscapes (*refer to Figure 2 - Cultural Factors for Modelling*).

A few Native trail alignments were recorded for Essex County in the 18th century. The main trail ran along the Detroit River frontage close to the shoreline, corresponding generally to the alignment of Riverside Drive in the north and the former Front Road through Sandwich on the west. A cross-country trail, corresponding roughly to Huron Church Line and Talbot Rd. (Highway 3), ran across Essex County from the narrowest part of the river toward Point Pelee. For much of this distance, the alignment made use of a low relief gravel moraine to elevate the trail above the surrounding marshlands (Lajeunesse 1960:xxxviii; Clarke 1983:81).

		Score
h)	Transportation Networks	
	No networks	0
	Native Trails	3

4.3 Euro-Canadian Site Potential Model

The archaeological potential modelling for Euro-Canadian and post-contact Native sites was derived by reviewing historic documentation of European settlement in the Windsor area. Unlike the environmental modelling necessary for determining pre-contact Native land use, human habitation after about A.D. 1700 is partially documented and it is recognized that these historic sources provide more specific locational information than could be gained through geographic analysis. Historic 18th and 19th century maps of the Detroit River and Windsor areas have provided general locations for military installations, French farmsteads, 18th century Native settlements, early roads and railways, crossroad communities, urban cores, public buildings, cemeteries and some early industrial sites. The maps used in this study are listed in the Reference section. In order to identify areas of archaeological potential, historic structures, settlement areas and transportation routes were plotted as closely as possible on the 1:10,000 scale OBM's covering the City of Windsor and applied to the Cultural Factors map (**Figure 2 - Cultural Factors for Modelling**). The greatest potential for finding Euro-Canadian sites is found in proximity to these mapped features.

In the 18th century, the land use patterns of Native and European cultural groups overlapped, with all the initial French farms apparently falling within the area along the Detroit River already identified as high potential for Native sites. Early 19th century settlement imposed 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 historic structures exists within early urban boundaries, along settlement roads or waterways, and within the vicinity of known sites.

The second main criteria for this portion of the model is based on the determination of archaeological site significance. The Ontario Ministry of Culture and archaeological consultants in Ontario follow a general practice of determining that Euro-Canadian sites are archaeologically significant prior to the mid-19th century. Sites dating after this marker tend to be considered less significant unless they are unique in some way, such as an association with a famous person or event, an institution (schools, churches, hospitals, town halls) or small craft industry/business such as a blacksmith shop, general store or hotel. For ease of practice, only sites which appear on maps dating to the 1850s or earlier were included for the potential mapping model (**Figure 4 - Archaeological Potential**). In order to determine a cut off of site significance for the potential mapping, Pinney's 1857 *Map of the Town of Windsor* and early land patent plans of the town and the township of Sandwich were compared with maps which appear in the *Illustrated Historical Atlas of Essex County* (Belden 1881). Sites shown on the *Atlas* maps which were not seen on the earlier maps were

eliminated from the determination of archaeological potential. These sites may however, retain significance from an academic or research perspective.

The 1881 urban boundaries of Windsor, Sandwich and Walkerville, as indicated in the *Illustrated Historical Atlas of Essex County* (Belden 1881), were also plotted on the Cultural Factors Map in order to provide historical perspective. Some structures and features shown on maps dating as late as the 1908/9 Topographic Map Series, such as 19th century railway corridors and early industry, were also located on the Cultural Factors map for future research interest, but were not included in the calculation of archaeological potential.

4.4 Data Mapping

In the application of the potential model, different data sets were plotted onto paper copies of the OBMs (1:10,000) which corresponds with the base mapping and scale used by the city's GIS system. These data sets were then digitized as separate layers in the GIS software. The archaeological potential model information was designed to be transferred to the City of Windsor's Vision GIS software.

Archaeological potential factors mapped as separate layers within the GIS data base, include the distribution of soils by type and drainage, as well as all water courses such as rivers, creeks and tributaries with their appropriate buffers. Soil and water related factors are portrayed on the accompanying map (**Figure 1 - Environmental Factors for Modelling**). Other data mapped as separate layers included previous archaeological surveys, registered and unregistered sites, Euro-Canadian settlement layer and an integrity layer. These cultural factors are portrayed on the map titled **Figure 2 - Cultural Factors for Modelling**.

4.4.1 Previous Archaeological Surveys Layer

The extent of land assessed during all previous archaeological surveys (See Section 3 for summaries) was plotted on the base map. Previous surveys were included to present a visual representation of the archaeological coverage of the city, and to indicate the nature and extent of past work. Each survey was identified as either meeting current OMC standards, or as deficient. Those areas identified as deficient will have to be reassessed as they come up for development review.

4.4.2 Registered and Unregistered Site Layer

The locations of the 18 registered sites and over 40 unregistered sites were mapped on 1:10,000 scale OBMs and entered as a separate GIS layer. Of the 18 registered sites, five contained solely Native material, nine were of Euro-Canadian origin and four sites contained a mixture of Native and Euro-Canadian resources. All but two of the unregistered sites currently known are of Native origin.

Registered sites were plotted on the OBMs utilizing information gathered from archaeological site reports and site registration data provided by OMC. Site locations for unregistered sites such as those in the Turkey Creek drainage area and unregistered burials (See Section 3.3) were more difficult to ascertain since neither small scale maps nor descriptive site location information was available. For this reason, it should be noted that the locational data for most of the unregistered sites is less accurate than that available for the registered sites. It should also be noted that due to the sensitivity of archaeological site data, site locations have been

intentionally omitted from this document. However, this information has been made available to the City

within an electronic format.

It should also be noted that the general paucity of recorded sites within the City made it impossible to adopt a standard potential model built upon recognized patterns of site distribution. Therefore, registered and unregistered site locations were not used as an independent variable in developing the potential model. Rather they were used as a check to determine the accuracy and validity of the model after it had been developed (See Section 4.5).

The historic site data consist of 13 registered sites containing Euro-Canadian material. Of these 13 sites, nine contained only Euro-Canadian material, while the remaining four yielded a mix of Native and Euro-Canadian components. The two unregistered historic sites were identified by a local city resident as a result of the Windsor Archaeological Master Plan Open House. One of the reported sites is a tavern, while the other is a French mill that has been identified on a number of historic maps. Both are marked as Euro-Canadian structures on the cultural factors map.

4.4.3 Euro-Canadian Settlement Layer

As noted above, Euro-Canadian settlement mapping was based on the analysis of primary documents. As most early maps are notoriously unreliable for locating the sites of former historic structures, the plotting of a number of significant sites on the Cultural Factors map required the examination of several maps. Mapping attempted to designate sites and regions that had the potential to contain archaeologically significant settlement. Significant settlement structures included wind and water mills, hotels, schools, churches, government institutions, military emplacements, cemeteries, roads, railways, wharves and small industries. Specific structure locations were found on McNiff (1784), Walling (1877) and Belden (1881) maps. Although late 19th century features are included on the Cultural Factors map, only pre-1850s features were incorporated into the archaeological potential map (*Figure 4 - Archaeological Potential*).

Since European settlement proceeded in two phases, farmstead buildings may be expected to be found in two general patterns. The 18th century French farmers set up along the Detroit River, with buildings oriented to the river “highway” along the frontage. McNiff’s 1784 map illustrates irregular clusters of structures in a long strip parallel to the shoreline within a relatively short distance from the river. Although specific structures could not be accurately mapped, the strip was found to lie within the high potential zone already identified for Native occupation along the river. The second phase of settlement involved the extension of the French seigneurie-style lots inland for three concessions and filling in behind them with the standard British rectangular grid pattern of concessions. Buildings associated with these later settlers would be expected to lie within a reasonable distance of early concessions and side roads.

Since historic mapping was insufficient to identify all the significant structure locations within developed urban population cores, the urban boundaries of Windsor, Sandwich and Walkerville were plotted on the Cultural Factors Map (*Figure 2 - Cultural Factors for Modelling*) and all areas within the 19th century cores were considered to exhibit archaeological potential. While urban boundary mapping for the Cultural Factors Map was derived from Pinney (1857), Belden (1881), McPhillips (1889) and MacDonald (1922), only the

historic cores for Windsor and Sandwich as depicted on Pinney's 1857 map were incorporated into the archaeological potential map (**Figure 4 - Archaeological Potential**).

Early roads were identified by comparing 19th century maps to 20th century topographic and City mapping. Since a portion of the original Front Road, along the Detroit River, south of Sandwich, appears to have fallen into disuse and eroded into the river between 1881 when the Belden *Atlas* was produced and the 1909 topographic mapping, part of that original trail could not be placed accurately on the 1:10,000 scale maps. Most of the road alignments, however, appearing in Belden 1881 and on Walling 1877, are still in existence. These include Riverside Drive, Huron Church Line and Talbot Road lying along former Native trails, and Grand Marais Road associated with the Turkey Creek marsh. Concession and sideroads in place by the mid-19th 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 railroad 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 plotted on the Cultural Factors Map (**Figure 2 - Cultural Factors for Modelling**) (Walling 1877; Belden 1881), as remnants of them may remain below current pavements, and former stations and terminals may still exist along the routes. Due to the post mid-19th century date of the railways, these features were not incorporated into the archaeological potential map (**Figure 4 - Archaeological Potential**).

Although private and public wharves have been added along the Windsor shoreline as shown on the Cultural Factors map, several shoreline structures on the Detroit River in Sandwich, apparent on the Belden (1881) map, have not been added to that map as it was impossible to place them accurately along the shoreline. As the full extent of industrial land reclamation along the riverfront through Sandwich and Ojibwa is not known, the presence of early shoreline structures, now under water or landfill, should be considered along with land 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 significant. Only one such operation, a blacksmith shop depicted on the northwest corner of Talbot Road and Howard Ave (Belden 1881), could be specifically located within the city limits. Early mill sites are 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 19th century crossroad villages such as Meros Corners (Pilette Corners), Jackson's Corners (Roseland), Pelton (Walker Junction) and North Pelton (Belden 1880; Walling 1877; Canada Topographic Series, Essex No.46 1913). These have been plotted according to the general boundaries indicated in 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, Conc. I, a property purchased by Robert Gowie *circa* 1805 (M214 3/RR). The bastioned fortification has been depicted on an 1812 military engineer's map (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.

Cemeteries

All burials and cemeteries, regardless of age, are considered significant and are afforded protection under the Ontario Cemeteries Act.

Unregistered family burial plots may 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 have as yet been 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 is thought to have been used for burials in the 19th 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 is shown on the Cultural Factors map. 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 18th century Native cemeteries are shown generally on several early maps, particularly McNiff (1784). Since these locations are approximate and not delimited, thus, mapping of true boundaries for the Master Plan has not been possible. An attempt has been made to place them generally in relation to landmarks such as unregistered Native burial finds, French lot locations, and oral history about burial locations. Both cemeteries were also associated with village sites of unknown extents.

4.4.4 Integrity Mapping

For the purposes of this study, integrity relates to the extent that development has modified or disturbed the physical landscape and consequently, impacted archaeological resources. Land that has been extensively disturbed retains little or no archaeological integrity, whereas, land that has been subjected to little or no disturbance exhibits a high degree of integrity. The integrity layer is vital for city planning and the archaeological master plan, since this layer identifies areas that have low archaeological integrity regardless of their scoring within the potential model, and therefore would be exempt from the application of an

archaeological condition when considered for development.

An integrity layer was compiled utilizing current land use information within the City limits, and a windshield survey through most major areas of the City (**Figure 2 - Cultural Factors for Modelling**). Since detailed visual reconnaissance for integrity on a property by property basis was not feasible, the evaluation of integrity was based on a number of secondary sources. Areas such as land fills, brine holding areas, major industrial areas and other large scale disturbances depicted on the 1:10,000 scale OBMs were considered to have low integrity and were identified as such. In addition, aerial photographs flown in the year 2000 were used to update land use data represented on the OBMs (1985) and identify significant land use changes enacted over the interim. 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.

4.5 Application of the Pre-Contact Native Potential Model

The first step in applying the archaeological potential model to the City of Windsor was to establish manageable study units. The basic mapping system used by the City's Planning Department is the 1:10,000 scale OBM. A digital copy of the OBM maps was provided by the City of Windsor for use during the preparation of the archaeological master plan.

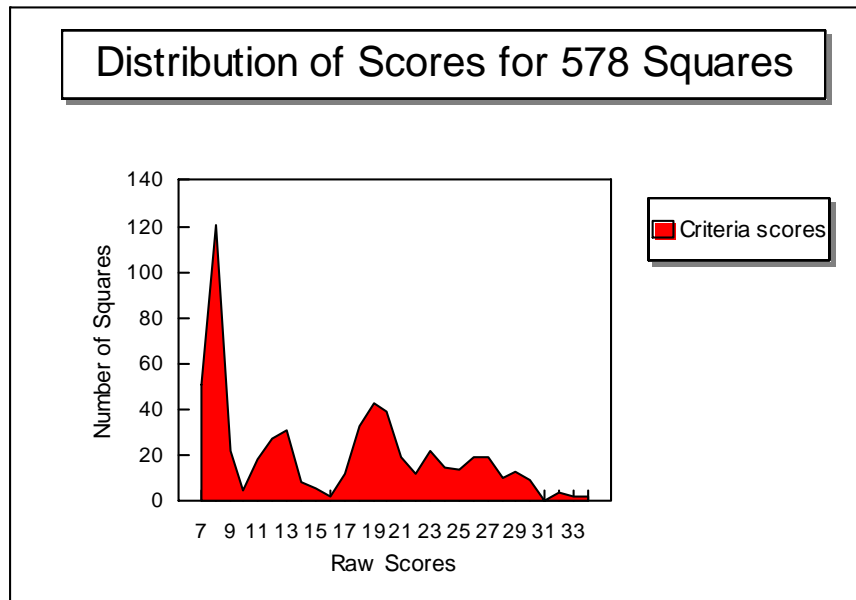
Working with the 1:10,000 scale OBMs created a detailed yet manageable base for the study. There are 12 OBM maps that cover Windsor, and the basic unit of measurement for the OBMs is a kilometre square. The resolution of a kilometre block was regarded as too large a focus for the building of a potential model. After studying the maps and scale of measurement, it was decided to divide the one kilometre blocks into four equal squares, each measuring 500 x 500 metres. This in turn created a total of 578 squares covering the entire study area. The squares were numbered sequentially from the extreme northwest corner of the City, starting with Sheet number 10 17 3250 46850 across to the eastern limit, and then proceeding again from west to east, north to south until the City had been covered, ending with Sheet number 10 17 3350 46750. Arbitrary units were chosen at this scale since they are small enough to be useful and meaningful, and they would also provide a standard unit of measurement to apply across the entire City. As well, the 500 metre by 500 metre unit is considered small enough to be easily contoured to match reality upon the ground when the integrity layer was incorporated.

4.5.1 Potential Methodology

Each 500 x 500 metre square was scored according to the criteria discussed earlier in this chapter. The criteria were scored such that high scores would be strongly correlated with human settlement activity. Therefore, each of the 578 squares was evaluated according to the different variables in the model, and then the scores for each square were tabulated. Cumulative scores ranged from a low of seven to a high of 34. These scores were calculated independently of the integrity of the square. The integrity layer was overlaid after the calculations. **Graph 4 - 1** below illustrates the frequency distribution of the scores. This means that the potential score for each square was first calculated as if there had been no disturbance to the lands within the study area. The integrity layer therefore, becomes crucial at a later stage of the mapping to indicate the

potential for intact or undisturbed archaeological resources still present.

GRAPH 4 - 1



A tabulation of score frequency was completed; *i.e.*, the number of squares for each individual score from seven to 34 was tabulated. A graph of the distribution of scores was used as the basis for subdividing the data into four separate categories — each of which was assigned a nominal label. The scores for the categories were as follows:

■	7-9	Low	194 squares
■	10-16	Medium	97 squares
■	17-30	High	279 squares
■	31-34	Very High	8 squares

These categories were designated with archaeological purposes in mind, and for planning purposes, were collapsed into the two scoring categories of low archaeological potential and high archaeological potential. The revised low potential scores cover just the low category, while the revised high potential includes the medium, high and very high scores. This revised scheme indicates whether an area will need an assessment or not.

4.5.2 Scoring Compared to Known Sites

A comparison of score values ascribed to individual squares with the location of registered Native archaeological sites in the Windsor study area was carried out in order to determine how well the potential model fit with the location of actual sites. The results are presented in the table below. Please note that these scores are based on the potential of the squares, before contouring and the integrity layer have been added.

These results show how the archaeological potential rates to the known location of sites.

**TABLE 4-2
 ARCHAEOLOGICAL SITES & ASSOCIATED RATING BASED ON PREDICTIVE
 MODELLING CRITERIA**

Squares with Registered Native Sites:	Square Number	Score	Rating
Main Burial	56 & 290	11,8	Low
AbHr-6	408	20	High
AbHs-11	10	23	High
AbHs-22	253	27	High
AbHs-7 & 1	348	29	High
AbHs-20	256	32	Very High
AbHs-18	257	33	Very High
Unregistered Native material			
1 site burial	255	21	High
burial	8	26	High
two sites	247	26.5	High
2 burials	253	27	High
1 site, un-named	366	27	High
1 site, un-named	376	27	High
2 sites, un-named	357	29	High
burials	4	29.5	High
burial	7	30	High

A high degree of correlation was found between the highly scored squares and the known site locations. The results show that 19 of 20 Native sites (95%) occurred in squares ranked as High to Very High. The only anomaly was the Main Street burial which occurred in a square ranked in the Low category. The high degree of correlation between the criteria mapping and the actual location of known sites is considered a validation of the predictive modelling criteria. The independent verification of known site location with settlement criteria variables means that the model has applicability in the Windsor study area.

4.5.3 Contouring and Integrity Mapping

As the final exercise of mapping the high and low potential areas within the City of Windsor (ie. yes or no to the application of an archaeological condition), a number of applications were applied to the original 578 squares. These squares were further refined and contoured to reflect the physical reality of each of the squares. In the original high and low potential map, each of the squares was accorded a high, or a low score based on the selected criteria that occurred anywhere within that 500 m by 500 m square, and was not linked to integrity at that time. Given that, a square could have very high potential, but low integrity due to extensive 20th century development within the square. In such an example, a significant portion of the square could have

been impacted by that development, but on the potential map, all of the square would be identified as high potential. The final contouring map took the information from the integrity map plus the actual locations of the eight criteria employed in the potential mapping, and custom fit each of the 578 squares to reflect physical reality. Therefore, the final map is a best fit, and provides the City with a more refined scope of whether an area does or does not reflect archaeological potential.

It should be noted that the presence of urban core or other heavy development sometimes does not automatically result in an area scoring low for the probability of archaeological remains being present. It was not possible within the scope of this Master Plan to conduct a property by property study of integrity levels. The Master Plan, however, attempts to provide general probabilities where large areas of land have been affected. As stated above, this would include landfills, large brine holding tanks, and developments that have taken place since the 1950s when development projects utilized full landscape grading techniques.

The determination of site integrity is often only possible with archaeological fieldwork. Sites that may logically be assumed to have lost their archaeological integrity because of long occupation and multiple construction events, are often found to retain considerable buried cultural resources. In Windsor, the General Brock School (AbHs-22) and Great Western Park (AbHs-11) sites are prime examples of such sites. Extremely significant archaeological remnants were found in undisturbed green and paved areas, wedged in between major disturbances. These sites lie within areas designated with high archaeological potential, indicating that potential must be considered for some areas in cases where surrounding urban development predates the mid-20th century. Such areas would require archaeological assessment (Stages 1 and 2).

4.6 Application of the Euro-Canadian Potential Model

The modelling of Euro-Canadian site potential is based on the assumption that structures are most likely to be found in and around documented cultural landscape 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 water power. Urbanization on several scales also engenders clusters of structures creating city neighbourhoods and crossroad villages. Aspects of the roads, rails and wharves themselves also contain potential for technological information. As described above, areas of historic settlement dating prior to the mid-19th century were treated as having high potential scores.

Although historic 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 were applied to the mapped features to determine general areas of potential. A 100 metre buffer zone was drawn around each specific historic site, archaeological site or structure where known, in order to capture associated outbuildings and make allowance for unreliable 18th and 19th century mapping. Buffer zones were not added to Euro-Canadian sites which fell within areas of high potential for Native occupation, as they already included a sufficient buffer zone. 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 historic mapping.

Nineteenth century Euro-Canadian settlements and transport routes from the first half of the 19th 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 (1784) and 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 150 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.

Developed urbanized areas cannot automatically be eliminated from having potential because of the assumed disturbance of heritage resources by later construction. All areas within early 19th century urban limits were considered to have archaeological potential in the model, 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. Such locations include school yards, parking lots, house yards, roadsides and parks.

These documented Euro-Canadian settlement features and their surrounding buffer zones, when combined with the Native potential mapping, increased any previously low scores to high potential scores. The locations of known archaeological sites and burials were treated similarly.

5.0 ARCHAEOLOGICAL RESOURCE CONSERVATION AND PLANNING IN THE CITY OF WINDSOR

Archaeological resource conservation has been formally recognized as an issue of provincial interest and responsibility since the passing of the *Archaeological and Historical Sites Protection Act* in the 1960s. Provincial interest and responsibility were further codified and entrenched as part of the *Ontario Heritage Act* of 1974. Legislation dealing directly with land use activities introduced in the following decade gave extra strength to the principals and practice of archaeological heritage conservation. Both the *Environmental Assessment Act* of 1975 and the *Planning Act* of 1982 reiterated the provincial interest in archaeological resource conservation and facilitated the implementation of those practices in large scale public development projects and smaller scale land use planning activities. The process of reviewing the thousand plus formal development applications that came in each year under the terms of the *Environmental Assessment Act*, the *Planning Act*, *Aggregate Resources Act* and other review processes fell to the staff of the Ontario Ministry of Culture (OMC).

Since the early 1990s, however, OMC has gradually introduced changes in the delivery of the plan review process. As proposed in *A Strategy for Conserving Ontario's Heritage* (Ontario Heritage Policy Review 1990), local municipalities were to assume greater responsibility for the ongoing conservation management of heritage resources, including archaeological resources. As a result of these changes, municipal authorities overseeing development projects are “required to make archaeological potential determinations, and place archaeological conditions on development plans themselves” (Ferris 1998: 231). Municipal authorities charged with this responsibility can opt to utilize generalized archaeological potential criteria outlined in OMC’s primer for non-specialists entitled *Conserving A Future for Our Past: Archaeology, Land Use Planning & Development in Ontario* (OMC 1997). The option chosen by the City of Windsor, along with many other communities throughout Ontario, was to commission an archaeological master plan specifically designed for the municipality. The advantage of the municipality-specific master plan over the Ministry’s generalized potential criteria is that the resulting planning tool is designed to address the specific environmental, topographical and cultural factors which influenced human history within the municipality.

The following section of the master plan report provides an overview of the relevant provincial heritage and land use legislation, policy statements, regulations and guidelines which form the foundation for archaeological conservation within Ontario. On the basis of this legislation, a comprehensive policy statement, along with specific management policies and guidelines have been drafted which facilitate the implementation of the City’s archaeological master plan.

5.1 Existing Legislative Framework

According to the division of federal and provincial powers as defined within the *British North America Act* (1867) and the *Constitutions Act* (1982), heritage resource management and conservation involving non-federal lands fall under the jurisdiction of the individual provincial governments (Burley 1994). This allocation of responsibilities to the provinces leaves Canada as “one of a very few if not the only first world nation lacking such (a comprehensive set of regulations and policies for archaeological resource management

at a federal scale) legislation” (Burley 1994: 77). Despite the absence of a comprehensive federal heritage resource management policy, it should be noted that there are specific laws, regulations and policies dealing with archaeological resources within the limited land holdings administered by Parks Canada.

Within the context of the Windsor Archaeological Master Plan study, the applicable legislation and policy statements are found primarily at the provincial level.

5.1.1 Provincial Legislation

Issues related to the conservation of Ontario’s heritage resources are addressed directly by the Ontario Heritage Act, and, indirectly, by several provincial acts focussing on land use planning, such as the Environmental Assessment Act, the Planning Act and the Cemeteries Act.

5.1.1.1 The Ontario Heritage Act (2005)

The Ontario Heritage Act, administered by the Ontario Ministry of Culture (OMC), provides for the conservation, protection and preservation of heritage resources in Ontario. While the act deals primarily with built heritage, ***Part VI: Conservation of Resources of Archaeological Value*** focusses on the conservation of archaeological resources through the provisions of licencing, **project inspection, site designation and stop work orders. The act states that “no person shall do any of the following (carry out archaeological work; knowingly alter or remove an artifact from an archaeological site; or, dive or operate any type of submersible vehicle within 500 metres of a marine archaeological site) unless the person applies to the Minister and is issued a licence under this Part (Part 6) that allows the person to carry out the activity in question”** (Sec. 48(1)). As a condition of licencing, the act identifies requirements pertaining to the submission of licence reports (Sec. 65(1)), the reporting of newly discovered or revisited archaeological sites (Sec. 65(2)) and the curation and/or disposition of archaeological objects recovered under the authority of a licence (Sec. 66(1)). The act also stipulates that a site deemed to be of archaeological or historical significance may be designated by the minister and afforded the full protection of the act (Sec. 56(1)). Where the Minister deems that a site of archaeological or historical significance is likely to be altered, damaged or destroyed through land use, the Minister may issue a stop work order of up to 180 days duration (Sec. 62 (1)).

While ***Part VI*** of the Ontario Heritage Act focusses primarily on licencing of archaeologists and the protection to designated sites of archaeological or historical significance and those undesignated sites recognized by the minister as significant, perhaps the greatest authority under the Act is found in ***Part I***, Section 2 which stipulates that it is the Minister’s responsibility to “determine policies, priorities and programs for the conservation, protection and preservation of the heritage of Ontario”. It was this broad statement of responsibility that enabled OMC to take a pro-active role in the design and promotion of archaeological conservation strategies throughout the province. This mandate has been codified in regulations, technical guidelines and standards pertaining to the conduct of archaeological assessment and research, research documentation, archaeological collections management and land use planning.

The Province’s interest in and responsibility for archaeological resource conservation is reflected in the Minister’s broad ranging responsibilities as defined in the Heritage Act. It has also been effectively reflected in legislation dealing directly with land use activities such as the *Environment Act* and the *Planning Act*.

5.1.1.2 The Ontario Environmental Assessment Act (2000)

The *Environmental Assessment Act* was implemented “to provide for the betterment of the people of the whole or any part of Ontario by providing for the protection, conservation and wise management in Ontario of the environment” (Sec 2). In the Glossary of Terms of the Act, environment is broadly defined to include “(c) the social, economic and cultural conditions that influence the life of humans or a community,” and “(d) any building, structure, machine or other device or thing made by humans.” With this inclusion, protection is provided not only to the bio-physical and socio-economic spheres of the environment but also to the cultural sphere.

While the *Environmental Assessment Act* includes the element of protection and planning that is missing from the *Ontario Heritage Act*, it is limited in scope to enterprises or activities carried out by the Provincial or Municipal governments or their agencies, and major commercial or business activities [Sec 3 (a) & (b)]. Unfortunately, many municipal environmental assessment projects such as municipal roads, water/waste water, landfill, erosion control, *etc.*, did not trigger a full environmental assessment but were addressed under the scaled down Class EA process. By the late 1980s, however, “heritage concerns were ... incorporated into most municipal Class EA projects...” Ferris 1998: 229).

5.1.1.3 The Provincial Policy Statement (2005)

The Provincial Policy Statement (PPS) was written to provide a “foundation for regulating the development and use of land” (Part 1) in the Province of Ontario. The PPS provides guidelines for the protection of the natural environment while allowing for the development of land throughout the province both in the short term and long term.

Provincial interest in archaeological conservation is detailed in *Policy 2.6* of the *Provincial Policy Statement*:

Development and site alteration shall only be permitted on lands containing archaeological resources or areas of archaeological potential if significant archaeological resources have been conserved by removal and documentation, or by preservation on site. Where significant archaeological resources must be preserved on site, only development and site alteration which maintain the heritage integrity of the site may be permitted.

5.1.1.4 The Ontario Planning Act (1996)

The *Planning Act* was implemented to address a wide range of matters relating to municipal planning which are of provincial interest. Included among those matters considered to be of provincial interest is “the conservation of features of significant architectural, cultural, historical, archaeological or scientific interest” (Sec. 2(d)). It is further stated in Section 3.1 of the Act that “in exercising any authority that affects a planning matter, 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 ... shall have regard to the policy statements issued under subsection (1).”

As interpreted in OMC’s Primer, “... all decisions made for all types of development will need to address potential heritage resource conservation needs arising from the impacts associated with those developments” (OMC 1997: 4). The Primer goes on to stress that the process of archaeological resource conservation as outlined in the *Planning Act* is intended to promote “well-planned development” (OMC 1997: 5). In practical application, this is achieved through the inclusion of policies within the municipality’s Official Plan, and by

the application of an archaeological condition by the appropriate review agency against those lands containing archaeological resources, or exhibiting the potential for containing archaeological resources. Until the recent implementation of changes in the plans review process, OMC reviewed all development applications to evaluate their potential for impacting archaeological resources. Under the new Municipal Plans Review process, the review of site specific development applications “will be made directly by the planning approval authority (either the Ministry of Municipal Affairs and Housing under a provincial One Window review process or delegated municipal planning authority; OMC 1997: 5).

5.1.1.5 The Ontario Cemeteries Act (1990)

The *Cemeteries Act* regulates the development and operation of cemeteries, crematoriums, columbaria and mausoleums within the province of Ontario. The Act also addresses the treatment of human remains found either in isolation or associated with an unregistered cemetery (Sec 68 - 74).

The discovery of human remains outside of the context of a registered cemetery, whether on an archaeological site or not, triggers a series of events beginning with the notification of the local police or coroner. Once it has been determined that the human remains are not part of a crime scene, the Cemeteries Registrar (Cemeteries Regulation Section of the Ministry of Consumer and Commercial Regulations) may order an investigation of the burial site. As stipulated in *Section 2(2) of Ontario Regulation 133/92 - Burial Sites* of the Cemeteries Act (Revised) the investigator’s report will include the following:

- a determination as to the probable cultural origin or religious affiliation of the persons whose remains are interred and the basis upon which it is made;
- a description of the boundaries of the burial site;
- details of the style and manner in which the human remains are interred;
- a description of any artifacts that, in the opinion of the investigator, form part of the burial site;
- an opinion as to whether the burial site was set aside with the apparent intention of interring human remains in accordance with cultural affinities and the basis upon which the opinion is made; and,
- information relevant to the preparation of a site disposition agreement.

Although it is recognized that human remains are not *per se* archaeological resources, they are often encountered in the context of more extensive archaeological resources. Furthermore, as recommended in *The Discovery of Human Remains - Best Practices Guidelines* (Appendix A) issued by the Office of the Chief Coroner for the Province of Ontario in July 1998, archaeologists /physical anthropologists are frequently called upon to assist the police and coroner in determining the age of the interment, as well as assist the landowner in generating the information pertaining to the nature, extent and cultural affiliation of the deceased as required by the Cemeteries Registrar.

The procedure or protocol to be followed upon encountering human remains as outlined in *The Discovery of Human Remains - Best Practices Guidelines* has been customized for application within the City of Windsor in Section 5.3.3: Burial Discovery Protocol.

5.1.2 Municipal Legislation

In accordance with provisions outlined in the *Ontario Heritage Act* and the *Planning Act*, municipalities have been playing an increasingly important role in archaeological resource conservation. As summarized

in OMC's Primer, "those municipalities with delegated approval authority under the *Planning Act* can and should assume a lead responsibility for cultural heritage resource conservation in their local land use planning process...through the development of inventories, planning tools, guidelines and even *Official Plan* policies..."(OMC 1997). Recent revisions to Windsor's *Official Plan* included goals, objectives and policies specifically designed to address issues surrounding the conservation of archaeological resources.

5.1.2.1 The City of Windsor Official Plan

The City of Windsor draws identity and pride from its physical and cultural links to the past and, as such, is committed to the recognition, conservation and enhancement of its heritage resources. The goals, objectives and policies guiding the conservation of Windsor's heritage resources are outlined in *Chapter 9 - Heritage Conservation* of the *City of Windsor Official Plan* (2000). Heritage resources are defined in the *Official Plan* as "buildings, structures, archaeological and historical sites, landscapes and landmarks, either individually or in groups, which are considered by Council to be of architectural and/or historical significance" (Section 9.3.1.1).

The City's heritage conservation goal as stated in the *Official Plan* "is to achieve the identification, recognition, protection, enhancement and proper management of heritage resources" (Section 9.1.1). This goal is to be achieved through the following objectives (Section 9.2):

- 9.2.1 To conserve Windsor's heritage resources for the benefit of the community and posterity in a manner which respects their architectural, historical and contextual significance and ensures their future viability as functional components of Windsor's urban environment.
- 9.2.2 To integrate the conservation of heritage resources into comprehensive planning and urban design initiatives.
- 9.2.3 To lead the community in the protection, improvement, utilization and management of heritage resources by using municipally owned heritage properties as examples of proper stewardship.
- 9.2.4 To increase awareness and appreciation of Windsor's heritage resources and encourage participation by individuals, organizations and other levels of government in heritage conservation.

Section 9.3 of the *Official Plan* expands upon each of the goals, outlining policies designed to achieve the heritage conservation objectives.

While the main thrust of the Heritage Conservation objectives and the associated policies is directed at the conservation of built heritage resources, there are three specific references to the conservation and management of archaeological resources. In the *Official Plan*, Council committed to the identification of archaeological resources by "developing an archaeological master plan to identify areas containing registered archaeological sites or lands of archaeological potential" (Section 9.3.2.1(a)). It is also stated that Council will protect archaeological resources by "requiring that development or infrastructure undertakings on lands containing potential archaeological resources avoid the destruction or alteration of these resources; or where this is not possible, requiring the proponent to conserve significant archaeological resources through documentation and removal or mitigation in advance of land disturbances, in accordance with the Ontario

Heritage Act (Section 9.3.4.1(a)). Council proposes to integrate heritage conservation into the development and infrastructure approval process by “requiring the preparation of an archaeological assessment when development proposals or infrastructure undertakings affect known archaeological resources or areas of archaeological potential” (Section 9.3.7.1(a)).

As suggested by Council’s policy to develop an archaeological master plan (Section 9.3.2.1(a)), the current Windsor Archaeological Master Plan study represents the fulfilment of that commitment.

5.2 Conservation Opportunities and Priorities in the City of Windsor

Despite the size, recent rapid growth and the long history of the City of Windsor, surprisingly little systematic survey and excavation of archaeological resources has been undertaken in the city. The potential to discover all types of Native sites, from Paleo-Indian through to the Late Woodland and historic periods, is high. As well, the City of Windsor, which now includes the historic town of Sandwich, along with part of the early French settlement of Petit Cote indicates that the city is rich in European heritage. Afro-American heritage is also important as Windsor was an important terminus on the Underground Railway due to its proximity to Detroit.

Opportunities for archaeological conservation can be identified for each of the cultural periods and peoples who have occupied the Windsor area over the past 10,000 years. However, considering the current absence of research funding, it is anticipated that specific conservation opportunities over the coming decade will arise primarily through development generated archaeological consulting activities (ie. urban redevelopment, environmental assessments, subdivision reviews, etc) rather than research oriented goals.

Due in part to the relatively low number of registered Native archaeological sites within the City of Windsor, any new site found or old site to be further investigated holds the potential for making a significant contribution to our understanding of Native history in Windsor. Themes of particular interest include: the Detroit River as a transportation corridor and crossroads for peoples, goods and cultures for thousands of years; unique cultural developments for Ontario associated with the eastern most extension of the Prairie region; and view of independence versus acculturation within the major Native villages established during the early historic period in conjunction with French and British colonial expansion.

Likewise there are many specific themes dealing with early Euro-Canadian settlement in the Windsor area which should be pursued. These include the following: the material and cultural adaptation of French settlers on the Western Frontier of New France; the integration of British and Loyalist settlers on the frontier and its influence on the War of 1812; and, the impact of the underground railroad on the Black experience in nineteenth century Ontario.

While each of the preceding themes represents an important area of research, the top conservation priority for the Windsor area should be the identification and protection of human remains and burials. Due to the intensity of human occupation throughout Native history, but in particular within the period of early Euro-Canadian settlement, human burials are a common feature across the now urbanized landscape. Consequently, burials have frequently been encountered during the course of even relatively minor construction projects

throughout the City. For those areas known or suspected to contain burials, great caution must be exercised when undertaking ground disturbance of any form. If human remains are accidentally encountered as a result of excavation, a strict protocol must be followed to ensure the proper legal and ethical standards are followed.

5.3 Implementation of the Archaeological Master Plan

5.3.1 Policy Recommendations

The Preamble to Section 9 (Heritage Conservation) of the City of Windsor's *Official Plan* states that "a community's identity and civic pride is rooted in physical and cultural links to its past. In order to celebrate Windsor's rich history, Council is committed to recognizing, conserving and enhancing heritage resources." To help Council achieve that commitment through the course of the archaeological master plan study, a number of policies and procedures have been identified which will assist Council achieve its goal of "the identification, recognition, protection, enhancement and proper management of heritage resources" (*Official Plan*, Section 9.1.1).

5.3.2 Identification of Archaeological Potential

In keeping with the *Official Plan* policy statement relating to identification of known and potential areas of archaeological potential (Section 9.3.2.1(a)), the City of Windsor assumes the responsibility of making archaeological potential determinations and placing archaeological conditions on development applications.

It should be noted that the final determination pertaining to the application of an archaeological condition lies with the Ontario Ministry of Culture (OMC). Both the proponent and the City have the right to appeal to the Ministry (OMC) for the removal of an archeological condition.

5.3.2.1 Types of Development Applications to be Assessed

In accordance with the terms of Provincial Policy 2.5.2 of the **Planning Act**, the approval authority (the City) will review development proposals for which application has been made for one or more of the following types of planning approval:

- Official Plan Amendment;
- Plan of subdivision and condominium;
- Zoning by-law amendments; or
- Site plan control, severances, minor variances, and part lot control which because of their scale, may in the opinion of the City staff and the OMC, have the potential to impact archaeological resources.

Municipal developments and/or projects on public or City owned lands will also be reviewed for their potential to impact archaeological resources.

The Development Application/Approval Flow Chart is shown in *Figure 3 - Archaeological Review of Development Applications*, and characterizes the proposed review of development applications.

5.3.2.2 Location/Scale of Development Applications to be Assessed

An archaeological condition (requirement for a professional archaeological assessment) will be imposed on the project site as a condition of planning approval if it conforms to the following criteria:

1. **High Potential Area:** The proposal is located in an area indicated as having high archaeological potential on the “Archaeological Potential” map (*refer to Figure 4 - Archaeological Potential*).
 - If not, there is a low potential and no further archaeological concerns for this application.
 - If yes, proceed to criterion number 2.
2. **Will Disturb Land:** The proposal will lead to impacts on land, such as soil grading or ground disturbance.
 - If not, there is a low potential and no further archaeological concerns for this application.
 - If yes, proceed to criterion 3.
3. **Land Not Presently Disturbed:** The proposal will impact land that is presently undisturbed (woodlots, pasture, ploughed lands, etc.).
 - If the entire site has been disturbed (stripped of topsoil, excavated, quarried) there is a low potential and no further archaeological concerns for this application.
 - If all or some of the site is undisturbed, proceed to criterion number 4.
4. **Proposal Will Have Significant Impact on Land:** The proposal will lead to impacts on lands deemed to have a high archaeological potential.
 - If not, there is a low potential and no further archaeological concerns for this application *unless* the property is determined by City staff to be of special archaeological interest and in an area of greatest archaeological potential as defined below.
 - If yes, then an archaeological condition will be applied to the development application.

Special Interest Areas: Areas of greatest archaeological potential that may trigger a requirement for a professional archaeological assessment, despite the size of development, are those:

1. Within 100 metres of a registered or known archaeological site;
2. Within 250 metres of a major waterway (Detroit River or Lake St. Clair) or 150 metres of a minor waterway (creeks, streams); or
3. Within the historic districts of Sandwich or Windsor as identified on the Cultural Factors map (*refer to Figure 2 - Cultural Factors for Modelling*).

Whether an archaeological condition is placed on the development or not, all applicants will be made aware of the possibility that their property may contain archaeological resources. An information pamphlet that outlines what to look for and their responsibilities if something is found will be made available to them.

Relative to municipal development and infrastructure projects, it shall be the responsibility of the municipal department with lead responsibility for the project (e.g. Public Works, Parks & Recreation) to consult with the Planning Department to determine whether the services of a professional archaeologist are required on the project.

The following draft text of City of Windsor Archaeological Condition is based on the wording of a generic archaeological condition found in OMC's Primer.

CITY OF WINDSOR ARCHAEOLOGICAL CONDITION	
<p>The proponent shall carry out an archaeological assessment of the subject property and mitigate, through preservation or resource removal and documentation, adverse impacts to any significant archaeological resources found. No grading or other soil disturbances shall take place on the subject property prior to the approval authority and the Ontario Ministry of Culture confirming that all archaeological resource concerns have met licensing and resource conservation requirements.</p>	
<p>All archaeological fieldwork undertaken to satisfy the conservation requirements tied to these activities must be conducted by a Consultant Archaeologist holding a valid archaeological license issued by the Ontario Ministry of Culture under the <i>Ontario Heritage Act</i>.</p>	
<p>The proponent should note that the City of Windsor is interested in the centralization of all archaeological collections (objects and documentation) generated as a result of licensed archaeological initiatives undertaken within the City. To satisfy this condition of release, the proponent shall commit to the formal transfer of collections to a public institution located within the City of Windsor acceptable to the City and OMC.</p>	
<p>In addition to the submission of standard documentation (Contract Information Form, archaeological assessment reports and Ministry Site Record Forms) to OMC for the purpose of licensing and development approvals, the Consultant Archaeologist will submit the following documentation to the City of Windsor:</p>	
<ol style="list-style-type: none"> 1. <i>1:10 000 scale Ontario Base Map clearly delineating the limits of the area under study and the location of any sites found as a result of that study;</i> 2. <i>A completed copy of an Archaeological Site Record form for each site found or further investigated as a result of that study;</i> 3. <i>Notice pertaining to the short and long term curation of artifact collections and documentation; and,</i> 4. <i>A copy of all relevant reports.</i> 	

Procedures:

<i>Pre-consultation with Proponent</i>	<p>Prior to submitting a development application (Plans of Subdivision and Condominium, zoning by-law amendments, and severances, site plan control applications, including municipal development and/or infrastructure projects), the proponent is encouraged to consult with City of Windsor staff to identify potential archaeological issues that may stem from the proposed development. It is at this pre-consultation that the City's staff would have the opportunity to waive any further archaeological consideration based on existing site conditions or scale of impact (determine if the application is major/minor).</p>
<i>Review of Planning Application</i>	<p>A development application received by the City of Windsor is forwarded to the appropriate personnel for a formal review of archaeological potential to determine whether or not an Archaeological Condition should be attached to the application. The archaeological potential ascribed to the subject property is identified through the Archaeological Potential layer of the WAMP GIS and other criteria.</p>

<p><i>Low Archaeological Potential</i></p>	<p>If the entire subject property falls in an area ascribed as exhibiting low archaeological potential, notification is forwarded to the proponent clearing the application of any further archaeological requirements.</p> <p>However, the notification to the proponent should also contain a cautionary statement regarding the chance discovery of archaeological deposits or human remains, and outlining the proponents responsibility under those situations to notify OMC and in the latter case the police or coroner.</p>
<p><i>High Archaeological Potential</i></p>	<p>Should all or part of the subject property meet any one of the prescribed criteria, notification is forwarded to the proponent indicating that an Archaeological Condition has been applied to the project.</p> <p>The notification would contain the standard wording of the City of Windsor Archaeological Condition plus some additional explanation as to the rational behind the identification of archaeological potential based on a quick review of other data layers in the WAMP GIS.</p> <p>The notification would also include contact information for OMC’s Heritage Planner responsible for Plans Review in Southwestern Ontario.</p>
<p><i>Notification to OMC</i></p>	<p>When an Archaeological Condition is applied, a copy of the notification sent to the proponent will also be submitted to OMC so that they can track the project. The information package sent to OMC should also include a copy of the notice and a plan of the subject property.</p>
<p><i>Archaeological Assessment</i></p>	<p>The proponent retains the services of a licensed archaeologist to conduct a Stage 1 and 2 Archaeological Assessment of the entire subject property in accordance with OMC’s <i>Archaeological Assessment Technical Guidelines</i> (1993).</p>
<p><i>OMC Review</i></p>	<p>Upon completion of the assessment, the report is submitted to OMC for the purposes of licensing and development approvals. OMC’s review of the consultant’s report is two fold:</p> <ol style="list-style-type: none"> 4. the report must meet the licensing and technical standards prescribed by the Ministry; and <i>If the report does not meet the current standards, it is rejected and the Consultant Archaeologist is required to address the deficiencies through additional field work and/or more comprehensive documentation.</i> 5. the report must identify any archaeological resources encountered during the course of the assessment, ascribe a level of significance and recommend a course of resource management. <i>If archaeological resources are identified as a result of the assessment, OMC must approve the resource management options, and authorize the consultant to proceed with the mitigation. Upon completion of the mitigation, the Consultant Archaeologist will submit the resulting report to OMC for review. The OMC review process is repeated.</i>

<p><i>Documentation Submitted to the City of Windsor</i></p>	<p>Upon completion of the assessment and submission of the assessment report to OMC, the following documentation is to be submitted to the City of Windsor:</p> <ol style="list-style-type: none"> 6. <i>1:10 000 scale Ontario Base Map clearly delineating the limits of the area under study and the location of any sites found as a result of that study;</i> 7. <i>A completed copy of an Archaeological Site Record form for each site found or further investigated as a result of that study;</i> 8. <i>Notice pertaining to the short and long term curation of artifact collections and documentation; and,</i> 9. <i>A copy of all relevant reports.</i>
<p><i>No Significant Archaeological Resources</i></p>	<p>If no significant archaeological resources are encountered during the course of the assessment, OMC will notify the proponent that Ontario Heritage Act-based archaeological conservation and licensing requirements have been met. OMC will also forward a copy of that notification to the City of Windsor, who will in-turn notifies the municipal approval authorities that the archaeological condition has been cleared.</p>
<p><i>Significant Archaeological Resources</i></p>	<p>If significant archaeological resources are encountered during the course of the assessment, OMC will notify the proponent that Ontario Heritage Act-based archaeological conservation and licensing requirements have <i>not</i> as yet been satisfied. OMC must approve the resource management options provided by the Consultant Archaeologist, and authorize the consultant to proceed with the mitigation. Upon completion of the mitigation, the Consultant Archaeologist must submit the resulting report to OMC for review. The OMC review process is repeated.</p>
<p><i>Final Clearance</i></p>	<p>Once the Consultant Archaeologist has completed the required mitigation measures, OMC will notify the proponent that Ontario Heritage Act-based archaeological conservation and licensing requirements have been met. OMC will also forward a copy of that notification to the City of Windsor. Upon receipt of the specific site documentation required by the City of Windsor, the City's staff notifies the municipal approval authorities that the archaeological condition has been cleared.</p>

5.3.3 Recovery of Human Remains

Section 3.4 dealt with the frequency and general locale of Native burials that have been encountered within the City of Windsor. Seven of the 44 unregistered sites and five of the 19 registered sites contain at least one Native burial. Construction activities, utility installation or maintenance, pathway grading, or even excavating in a backyard have the potential of disturbing burials - Native or Euro-Canadian.

The procedure or protocol to be followed upon encountering human remains is outlined in a guideline titled ***The Discovery of Human Remains - Best Practices*** issued by the Office of the Chief Coroner for the Province of Ontario in July 1998. This document reflects an agreement between First Nation representatives, the Toronto Police Service and various ministries detailing the procedures to be followed after the discovery of human skeletal remains outside of a registered cemetery. It has been included as **Appendix A** for reference purposes. In this section, the protocol is customized for application within the City of Windsor.

Procedures:

<p>First Response</p>	<p>Upon encountering suspected human remains all work in the area must stop and the site must be secured. The local police or coroner must be contacted to ascertain whether or not the skeletal remains are human, and determine whether the remains constitute part of a crime scene. After reporting the discovery to the police and/or coroner, it is also advisable to contact the Heritage Operations Unit, the Ontario Ministry of Culture (OMC) or the Cemeteries Regulation Section, Ministry of Consumer and Commercial Relations (MCCR).</p> <p>The police and/or coroner need to obtain information to make a determination concerning the remains. Disturbance of the bones and other associated materials should be kept to a minimum. This is to ensure that vital data are not destroyed or taken out of context. Whenever possible, an archaeologist should be sought to assist in the investigation. At all times, the human remains are to be treated with honour and respect. All artifacts found in the burial are to be considered grave goods and kept with the skeletal remains.</p>
<p>Protection of the Site</p>	<p>Once foul play has been ruled out, the Coroner will officially contact the Cemeteries Regulation Section of MCCR. The MCCR in turn will contact the landowner to advise him/her of their responsibility concerning the human remains. It must be made clear to the landowner that they will need to preserve and protect the site even after the police are no longer involved, until such time as MCCR has drafted a disposition.</p>
<p>Archaeological Investigation of the Burial Site</p>	<p>An archaeologist and/or physical anthropologist (osteologist) will need to conduct an investigation as to the nature and extent of the human skeletal remains. The landowner is responsible for costs incurred during the course of this investigation. Depending on the results of the archaeological investigation, under the Cemeteries Act, the Cemeteries Registrar will be required to determine and declare one of three situations for the locale of the remains. The site can be declared an Unapproved Aboriginal Cemetery, an Irregular Burial Site or an Unapproved Cemetery.</p> <p>In each of the three cases, there are three options:</p> <ul style="list-style-type: none"> ■ leave the remains where they are, and establish the locale as a cemetery ■ establish a cemetery nearby, remove the remains, and then reinter them in the new cemetery ■ remove the remains and establish them in an existing cemetery.
<p>Identification of Native Burial</p>	<p>If the human remains have been identified as Native by the archaeologist or human osteologist, then representatives of the Native community are to be notified immediately. In Windsor, there are three groups to contact: The Can-Am Indian Friendship Centre in the City of Windsor; the Walpole Island Heritage Centre, <i>Bkejwanonj</i> First Nation; and the Caldwell First Nation.</p>

<p>Determination of Burial Site</p>	<p>1. An Unapproved Aboriginal Peoples Cemetery</p> <p>If the Registrar has determined that the burial site is an unapproved Aboriginal cemetery, then the Registrar will contact representatives of the <i>Bkejwanonj</i> First Nation, the Caldwell First Nation and the Can-Am Indian Friendship Centre in the City of Windsor. Another community of Aboriginal People whose members have close cultural affiliation with the remains, may also serve as representative for the deceased. As well, “if agreed to beforehand, a “Burials Committee” can serve as the first point of Aboriginal contact for the Registrar” (Best Practices 1998:4). The land owner and representative will enter into negotiations to develop a site disposition agreement.</p> <p>If the Disinterment/Reburial Option is decided upon, the burial(s) will need to be fully uncovered, removed and reinterred with the minimum amount of damage and in the shortest possible time frame. Costs associated with the disinterment and reburial will have to be negotiated between the land owner and representative. In order to minimize the time while maximizing care, respect, and documentation, a licensed archaeologist under the direction of the disposition agreement should be employed.</p> <p>During disinterment, the archaeologist will need to make observations of the archaeological context of the burial to ensure that all associated remains and grave goods are recovered. Observations include:</p> <ul style="list-style-type: none"> - Age at death and sex of the individual should be noted, as such information will assist in determining what specific ceremonies are to be performed at the reburial. - Basic mapping. <p>It should be noted that “no scientific analysis of the skeletal remains or grave goods can occur during this process without the consent of the representative of the deceased” (Best Practices 1998:5).</p>
	<p>2. An Irregular Burial Site (Unintentional Interment)</p> <p>If the locale is determined to be an irregular burial (non-Native) then the land owner decides the disposition of the site, and whether to leave the burial in place or remove the burial to a cemetery.</p>
	<p>3. An Unapproved Cemetery</p> <p>If a burial site is declared an unapproved cemetery (non-Native), the Registrar will locate a representative of the deceased. A notification is placed through the local media (ie. local newspaper). If, after the formal waiting period of 30 days after public notification, no descendant is found then a representative of the same religious denomination of the deceased can act on their behalf. Once the representative (descendant or religious representative) of the deceased has been located, the representative and land owner will agree to a disposition agreement that outlines what is to be done with the burial(s). The three options are the same as those listed under the irregular burial section.</p>

5.3.4 Maintenance of the Archaeological Sites Data Base

A key feature of the archaeological master plan is the ability to continually update the GIS-based inventory or data base of archaeological sites around which the potential model is built. In order to maintain this comprehensive site data base, it is essential that all archaeologists working within the municipality (whether research or consultant) provide the City of Windsor with updated site information. Submissions should include the following:

1. *1:10 000 scale Ontario Base Map clearly delineating the limits of the area under study and the location of any sites found as a result of that study;*
2. *A completed copy of an Archaeological Site Record form for each site found or further investigated as a result of that study;*
3. *Notice pertaining to the short and long term curation of artifact collections and documentation; and,*
4. *A copy of all relevant reports.*

Following review of the information, the boundaries of the study area and the location of any new sites discovered as a result of the study will be incorporated into the appropriate layers of the City's GIS.

Procedures:

<i>Review of Planning Application</i>	<p>As noted in the discussion of the plans review process (Section 5.3.2), any proponent proposing to develop property ascribed as exhibiting high archaeological potential, will be advised that an Archaeological Condition has been applied to the project.</p> <p>The notification would contain the standard wording of the City of Windsor Archaeological Condition which clearly identifies the support documentation to be submitted to the City by the Consultant Archaeologist at the conclusion of the project;</p>
<i>Notification of Archaeological Activity</i>	<p>In order to address archaeological projects which might fall outside the development review process, the City of Windsor should enter into an agreement with OMC that would ensure the City was advised of all archaeological activities (identified through Contract Information Forms and licence applications) scheduled to take place within the City of Windsor;</p> <p>Send written notice to the archaeologist proposing to work in the City outlining the documentation required at the completion of the project;</p>

5.3.5 Access to Archaeological Data

The Heritage Operations Unit of the OMC's Heritage and Libraries Branch maintains a computerized database of registered archaeological sites in Ontario. In excess of 18,000 sites are documented in the database, with new entries being made each year as a result of archaeological investigations. Due to the fragile nature of archaeological resources, public access to the database is restricted by provincial policy.

Under the terms of a data sharing agreement with OMC, the City of Windsor has been granted access to provincially recorded archaeological resource data for the purposes of municipal planning and specifically, the preparation of an archaeological master plan. The agreement specifies that the municipality shall use the

data provided by the Ministry strictly for the purpose of internal municipal planning or mapping (Section 2.1). The municipality is prohibited from sharing the archaeological site data with any body or person with the following two exceptions:

1. the municipality may make the data available to licensed archaeologists who are conducting archaeological master plan studies for the municipality; and,
2. the municipality may make the data available to property owners and their agents (including Consulting Archaeologists) as it relates to the property owner's property providing that the property owner has a legitimate need to know the information.

Procedures:

<i>Request for Information</i>	Upon receiving a request for archaeological site information relative to a specific parcel of land, the City of Windsor will establish that the request comes from the property owner or their agent and be satisfied that the information is being sought for legitimate purposes. If these conditions are not met, the request shall be directed to the the staff of the Heritage Operations Unit of the MCTR's Heritage and Libraries Branch.
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5.3.6 Disposition of Archaeological Artifacts

Under the terms of the current regulations governing archaeological licensing in Ontario (Section 6 of Regulation 881 of the *Ontario Heritage Act*), the licensee is required to “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 licence, except where the objects and records are donated to Her Majesty the Queen in right of Ontario or are directed to be deposited in a public institution under subsection 66 (1) of the Act” (Section 6a). Consequently, the licensee is responsible for the perpetual care and maintenance of all artifact collections, materials, field notes and other documentation generated as a result of work conducted under license issued according to the terms of the *Ontario Heritage Act*. Care and maintenance of the materials can be transferred to the Province or, with OMC approval, to a public institution (University, museum, heritage centre, *etc.*). For such a transfer of responsibilities to be approved, the agency/institution must be willing to accept on-going curatorial responsibilities for the collection, and demonstrate the ability to assume those responsibilities.

As specified in the *OMC Primer*, the Ministry will normally require the following conditions (Section 5.2.2):

1. the receiving institution must be public;
2. the entire collection, consisting of both archaeological objects and field records, are to be transferred;
3. the receiving institution must have adequate storage facilities for both collections and field records;
4. the receiving institution must have reasonable researcher access policies and the capability to accommodate such researchers; and,
5. the receiving institution must agree that it cannot transfer or dispose of the collections and field records without provincial approval.

As a consequence of this provincial regulation, many small and some large collections are held by Consultant Archaeologists based in communities across Ontario who have in the past conducted work within the City of Windsor. While the Consultant Archaeologists are complying with provincial regulations, this dispersed responsibility for collection curation may not be the best practice in terms of responsible collection management. In addition, there are several public institutions within the City that currently hold archaeological collections amassed from both licensed archaeological surveys and excavation, as well as, materials recovered as a result of non-licensed activities.

It is recommended that the City of Windsor consider entering into a formal agreement with one or more public institutions located within the City to accept perpetual curatorial responsibility for archaeological collections (objects and documentation) generated as a result of licensed archaeological initiatives undertaken within the City. As part of this initiative, the City would have to clearly indicate its interests as a condition of development plans review process. Any curatorial agreement with a public institution would have to be approved by OMC and meet the Ministry’s minimal requirements (*OMC Primer*, Section 5.2.2).

Procedures:

<i>Management and Curation Agreement</i>	The City of Windsor enter into a formal agreement with one or more public institutions located within the City to accept perpetual curatorial responsibility for archaeological collections (objects and documentation) generated as a result of licensed archaeological initiatives undertaken within the City.
<i>Notification of Interest in Centralizing Collections</i>	Proponents and their agents (specifically Consultant Archaeologists) must be notified as to the City of Windsor’s interest in centralizing archaeological collections (objects and documentation) generated as a result of licensed archaeological initiatives undertaken within the City. Specific reference to this provision would be included in notice of an Archaeological Condition that has been applied to the project.
<i>Centralizing Existing Collections</i>	The City of Windsor in cooperation with OMC should identify all archaeological collections (objects and documentation) generated as a result of licensed archaeological initiatives undertaken within the City. The licensed archaeologists responsible for the curation of the individual collections should be contacted and encouraged to request the transfer of the Windsor collections in their care to an institution identified by the City and approved by OMC.
<i>Failure to Establish a Centralized Repository</i>	If a centralized repository for archaeological collections is not established, an agreement will be drafted with the proponent and their archaeological consultant allowing access to the collection for research or display purposes upon request from the City of Windsor.

5.3.7 Public Education/Awareness

As stated in the Terms of Reference for the City of Windsor Archaeological Master Plan Study, “...there is little public knowledge regarding the nature of the archaeological discoveries that have been made in Windsor.” It can further be suggested that there is only limited understanding of the significance and importance of the archaeological resources yet to be found within the City. Consequently, to achieve Council’s heritage conservation goal of “identification, recognition, protection, enhancement and proper

management of heritage resources” (*Official Plan*, Sec.9.1.1), it will be necessary to generate a greater level of knowledge and appreciation for the rich archaeological heritage of the Windsor area. These efforts must be directed not only at the general public but at the local development community (land owners, consultants and contractors) and the civic administration.

In order to generate immediate awareness on the part of landowners, it is recommended that individuals and corporations owning land within areas of High Archaeological potential be advised as to the status of their land and how it may affect them. Contact methods could include direct mailings, notices included with tax bills and media announcements.

The most effective tool to reach and educate the general public will be the media. Through media coverage and the advertising of special archaeological events, a large number of people can be informed about local archaeological projects and related initiatives. While caution must be exercised in the nature of information released to the public (See *Section 5.3.8*), the media can be a strong ally in the conservation effort.

Special archaeological events aimed at generating public awareness, could be arranged in conjunction with Consultant Archaeologists and researchers working in the City, the Can-Am Indian Friendship Centre, the Windsor Chapter of the Ontario Archaeological Society, local museums, and teaching staff at the University of Windsor, as well as the local public and separate school boards. Events could include the following:

- opportunities for site visitation during the course of an excavation;
- the viewing of on-site displays highlighting the archaeological process not just the artifacts that are recovered from the excavation;
- presentations to school groups, the public, as well as special interest group, focussing on the wealth and diversity of the City’s archaeological heritage;
- sponsorship of workshops highlighting archaeological interpretation of Precontact and historic Native, and early Euro-Canadian lifestyles and technologies;
- active participation in publically sponsored research/salvage archaeological projects;

A more focussed effort should be made to foster understanding and generate support for archaeological resource conservation within the development community. Currently, two, half day workshops are to be conducted to detail the results of the archaeological master plan study for land owners, consultants and contractors in the development community, and the civic administration. The workshops are to outline the following: the benefits of the new streamlined development review process established by the master plan study; the City’s policies and procedures regarding development in areas of archaeological potential; the stages, constraints and usual timing for a program of archaeological assessment and mitigation; and, the legal ramifications when dealing with archaeological resources. Discussions are to include aspects of both the *Heritage Act* and the *Cemeteries Act*.

Procedures:

<p><i>Identify Opportunities for Public Education and Involvement</i></p>	<p>The City of Windsor should convene a meeting of interested organizations such as the Can-Am Indian Friendship Centre, the Windsor Chapter of the Ontario Archaeological Society, local museums, and teaching staff at the University of Windsor and the local public and separate school boards to discuss opportunities for public education and involvement in archaeological conservation initiatives. The City should help coordinate the varied initiatives and encourage further interest on the part of these organizations.</p>
<p><i>Notification to Consultant Archaeologists and Researchers</i></p>	<p>The City of Windsor should encourage Consultant Archaeologists and researchers working in the City of Windsor to consider the potential for including public components into their projects.</p>

5.3.8 Media Announcements

Archaeological sites are an extremely fragile, nonrenewable resource which potentially hold significant information pertaining to the human and environmental history of the City, the Province and the Nation. In many instances, archaeological sites will also contain the skeletal remains of those who lived, died and were buried within these past communities. Indiscriminate release of information to the public through the media can result in unwanted attention and possible damage or looting at the site.

Due to the general sensitivity of archaeological resources, the provincial government carefully controls access to data pertaining to the location and contents of archaeological sites. The City also recognizes this need for sensitivity and security in the release of archaeological site information to the media.

In light of these concerns, a carefully worded media release should be prepared prior to the commencement of any municipally sponsored archaeological project. The release should be prepared by the City's media personnel in consultation with the Consultant Archaeologist and/or OMC staff to ensure both the accuracy and the sensitivity of the text and security of the site. In the case of encountering human remains, the approach described in *The Discovery of Human Remains - Best Practices* protocol (Appendix A) is recommended.

*Any media interest should be directed to the agency that has the authority over the burial site at the time of the media contact (i.e. police, Coroner's Office or Cemeteries Registrar). Media photography of the remains should be avoided: a publically displayed photograph of skeletal remains is both disrespectful of the deceased and offensive to representatives for the deceased (*The Discovery of Human Remains - Best Practices*, Page 1).*

Procedures:

<i>Media Release Pertaining to Municipal Projects</i>	<p>Prior to the commencement of a municipally sponsored archaeological project, City's media relations officer should draft a media release in consultation with the Consultant Archaeologist and/or OMC staff. The release should be reviewed with a concern for the accuracy and sensitivity of the text and the security of the site.</p> <p>In the event that human remains are encountered, all media inquiries should be directed to the authorized agency as per the approach outlined in <i>The Discovery of Human Remains - Best Practices</i> protocol (Appendix A).</p>
<i>Notification to Consultant Archaeologists</i>	<p>The City of Windsor should encourage Consultant Archaeologists working in the City of Windsor to carefully consider the potential impact of any media contact they have in conjunction with work in the City.</p>

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<i>The Discovery of Human Remains - Best Practices.</i>	Office of the Chief Coroner, July 15, 1998
<i>Ontario Cemeteries Act (Revised)</i>	Revised Statues of Ontario 1990 Chapter C-4
<i>Ontario Heritage Act</i>	Revised Statues of Ontario 1990, Chapter O-18, amended May 2005
<i>Planning Act</i>	Revised Statues of Ontario 1990, Chapter P-13
<i>Environmental Assessment Act</i>	Revised Statues of Ontario 2000, Glossary of Terms and Part A1.1
<i>Provincial Policy Statement</i>	Revised Statues of Ontario 2005, Part I & Section 2.6
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AO 1374, 1375 ca. 1790	Patrick McNiff	<i>Actual Survey of the Narrows, Lake Erie and Sinclair</i>
RG1-100, C-34 A28 1821		<i>Sandwich South Township Patent Plan</i>
RG1-100, C-34 A36 1797	Abraham Iredell	<i>Survey, Sandwich South Twp.</i>
RG1 B-11 1812?		<i>River Detroit "No.18"</i>
RG1-100 C-35 Map 46 After 1800		<i>Sandwich Town Site</i>
RG1-100 C-68 1889	George McPhillips	<i>Outline Plan of Town of Windsor</i>

RG1-100 C-81 1828		<i>Plan showing water lots in front of Lots 40-68, McNiff's Survey, Conc. I Town of Sandwich</i>
RG1-100 C-82 1828		<i>Plan showing water lots in front of Lots 63-93, McNiff's Survey, Conc. I Township of Sandwich</i>
RG1-100 C-83 1828		<i>Plan showing water lots in front of Lots 94-156, McNiff's Survey, Conc. I, Town of Sandwich</i>
R-E 1877	H.Walling	<i>Map of Essex County, Ontario. Publ. R.M.Tackleberry</i>

Windsor's Community Museum

M109 3/L 1815	Captain W.R.W. Owen	<i>A Survey of the River Detroit from Lake Erie to Lake St. Clair</i>
M173 3/RR early 19 th	T.M.	<i>County of Essex, Western District</i>
M214 3/RR 1922	G.F.Macdonald	<i>Fort Gowie property plan Land Petition G. No.7, No.18 (1805) National Archives Lot 76, Conc. I, Sandwich Township</i>
M380 6/L 1813		<i>Map of Detroit River Showing Military Positions in the Surrounding Areas.</i>
M389A 1826	John Farmer	<i>Map of Surveyed Part of the Territory of Michigan.</i>
M392 6/R 1868	O. Bartley	<i>Plan of the Moy Property, Lot XCIII and part XCII. XCIV, Con. I & II</i>
1800	A. Iredell	<i>untitled [survey of Sandwich Twp., Western District, details of Concession 1 along Detroit River]</i>
1857	Charles Pinney	<i>Map of the Town of Windsor, County of Essex, Canada West.</i>
1954		<i>The Badichon-Labadie Windmill on Hiram Walker Property (1808) [Lassaline-Montreuil]</i>
ca.1930		<i>Walker Airport</i>
1905	Owen McKay	<i>Plan showing the location of the Windsor & Tecumseh Electric Rialway Co's Line through portions of the City of windsor, Town of Walkerville and Township of Sandwich East.</i>
2000	WACAC	<i>Windsor Heritage Properties Inventory</i>

Ontario Ministry of Culture; Heritage and Libraries Branch

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Office of the Michigan State Archaeologist

State Archaeological Site Files

Robarts Library, University of Toronto

Canadian Topographic Map Series

1913, Surveyed 1909 Dept. of Militia & Defence 1 inch=1 mile (1/63,3600)

Belle River Sheet No. 47

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1939/40 Dept. Of National Defence (1/63 360)

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Windsor Archaeological Master Plan: Figure 1.0 - Environmental Factors for Modelling

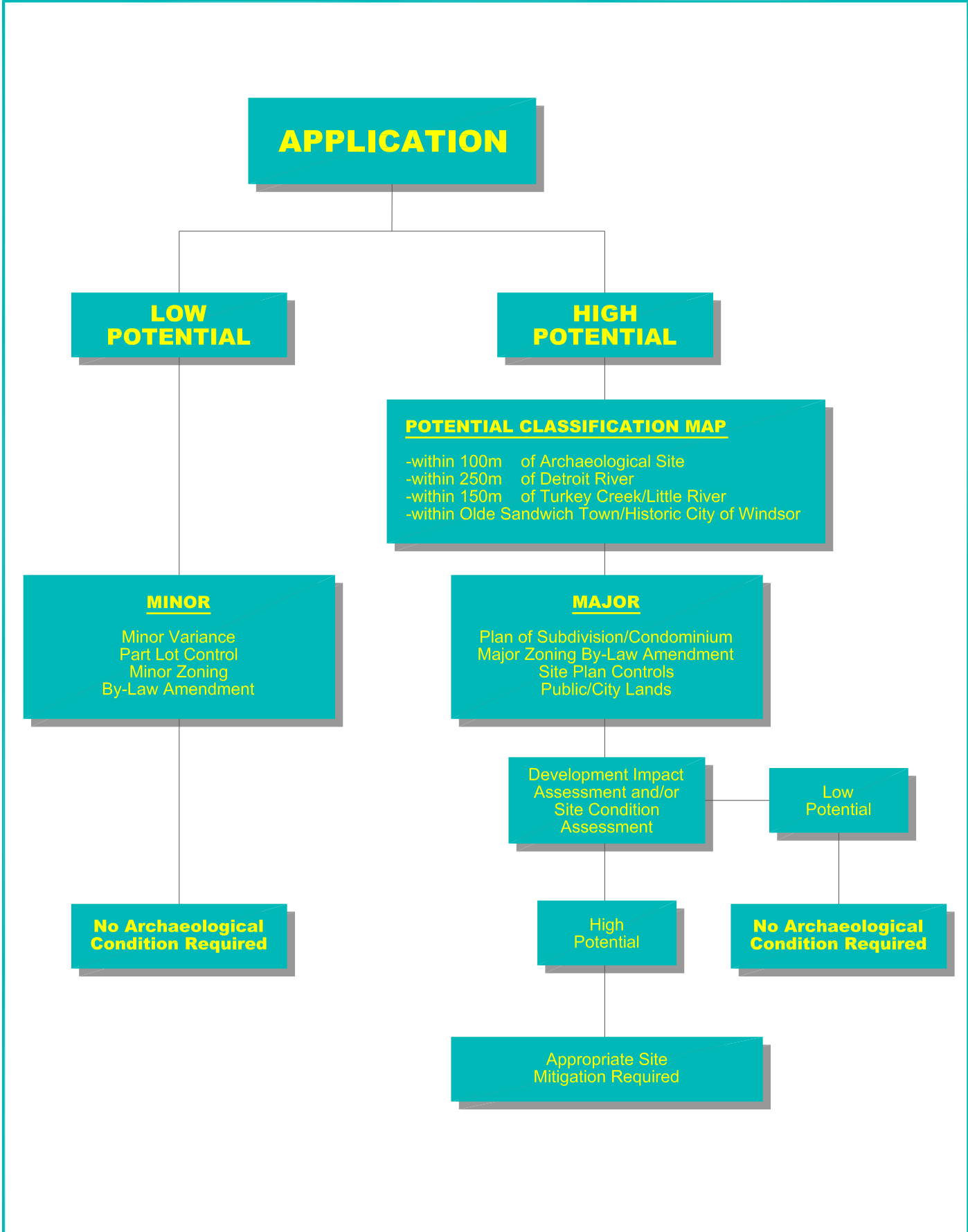
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/ For Residents/ Planning Policy/ Heritage Planning/ Windsor Archaeological Master Plan

Windsor Archaeological Master Plan: Figure 2.0 - Cultural Factors for Modelling

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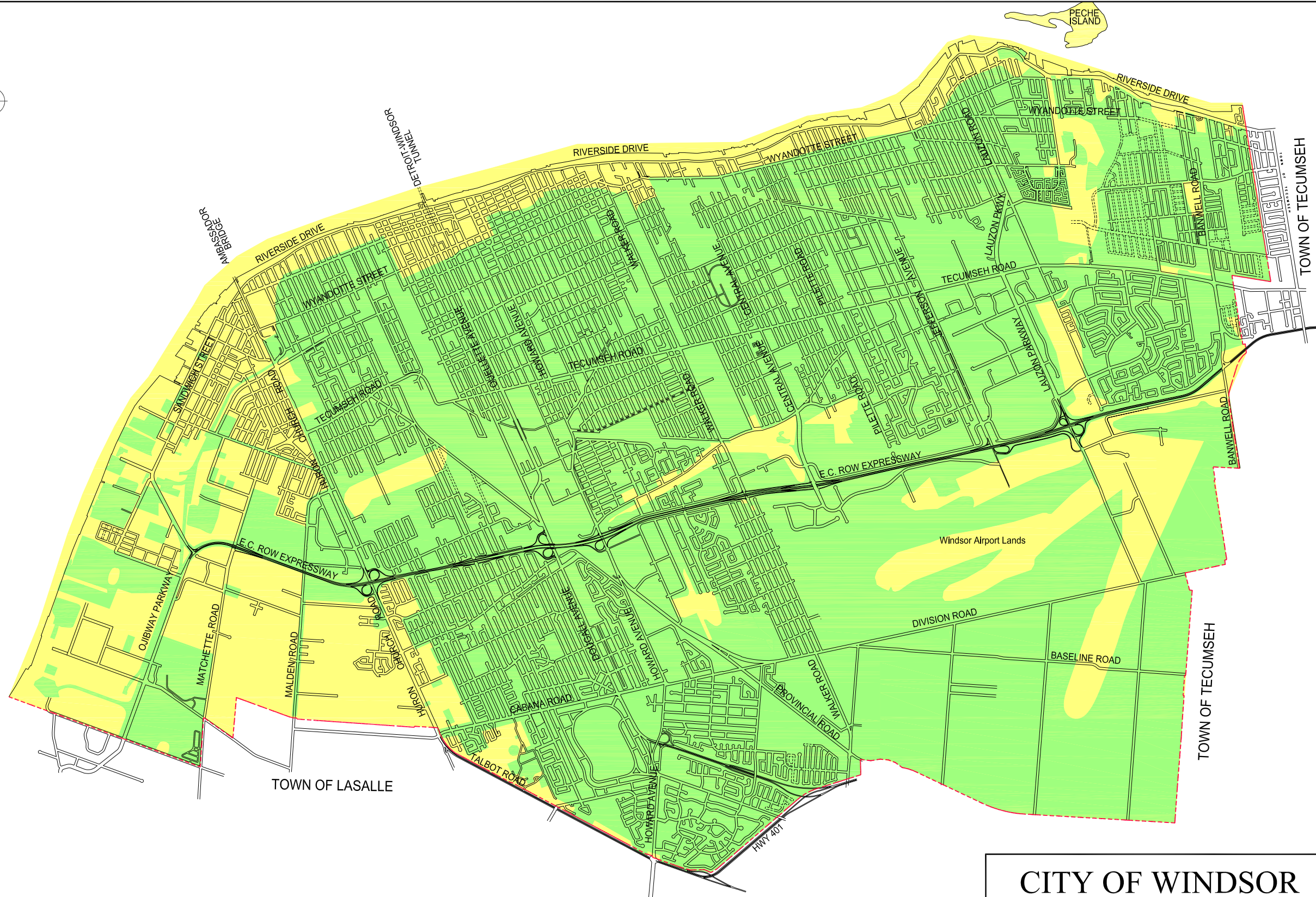
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Cultural Resource Management Group
Archaeological Master Plan
in the City of Windsor

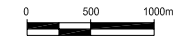
FIGURE 3.0
Archaeological Review of Development Applications

WINDSOR ARCHAEOLOGICAL MASTER PLAN: FIGURE 4 - ARCHAEOLOGICAL POTENTIAL



- LEGEND:**
- LOW POTENTIAL
 - HIGH POTENTIAL
 - CITY BOUNDARY (APPROXIMATE)

MAPPING BASED ON OBM FILES COMPILED BY PHOTOMAP AIR SURVEYS FROM 1985/86 PHOTOGRAPHY.



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APPENDIX A

THE DISCOVERY OF HUMAN REMAINS - BEST PRACTICES

APPENDIX A THE DISCOVERY OF HUMAN REMAINS - BEST PRACTICES

The signatory groups of the “Best Practices” guidelines are:

- First Nations Burial Committee of Toronto
- Toronto Police Service
- Ministry of Tourism, Culture and Recreation (MCTR) *Now Ministry of Culture (OMC)*
- Cemeteries Regulation Section of the Ministry of Consumer and Commercial Relations
- Ministry of Transportation
- Office of the Chief Coroner

Introduction

The following is designed to assist all those involved in responding to and addressing discoveries of human skeletal remains outside of a licensed cemetery. The advice is presented as a series of best practices among the many overlapping interests and jurisdictions of several ministries, agencies, police services and other government bodies that are triggered when human skeletal remains are uncovered. This approach has been developed with the support and approval of the First Nations Burial Committee of Toronto. The practices outlined here are equally applicable to discoveries of human remains across Ontario.

These best practices support the existing regulatory and statutory mechanisms in Ontario. Responsibility for a burial passes through a number of jurisdictions (i.e., Police, Coroner, Cemeteries Regulation Section) and the intent of this document is to ensure this flow is effective and seamless. This information should be read along with the attached flow chart outlining the mandatory process to be followed under existing statutes. Although the flow chart describes the process as being linear, in many instances events can and do happen simultaneously.

A Note on public Notification:

Getting through the entire discovery and disposition process when human remains are found will see the authority of the issue shift among several agencies. As such, until all investigations have been carried out and the disposition resolved, formal press releases or contacting the media should only occur if all affected authorities have concurred (i.e. police, coroner and Cemeteries Registrar). In addition, after all investigations have been completed, the concerns of the landowner and group acting as representative for the deceased (e.g. First Nation), should be considered before media contact. Premature media notification, particularly prior to having accurate identification of the deceased, will lead to misinformation, misplaced concerns being raised, and potentially a hardening of attitudes. This can make a final disposition agreement more difficult to reach.

Any media interest should be directed to the agency that has authority over the burial site at the time of the media contact (i.e. police, Coroner's Office or Cemeteries Registrar). Media photography of the remains should be avoided: a publicly displayed photograph of skeletal remains is both disrespectful to the deceased and offensive to representatives for the deceased.

A Note on Archaeology:

It is important to note that the discovery of human remains will occur in two basic contexts: either through accidental discovery by an individual in unexpected circumstances, or through discovery as part of an archaeological examination/excavation of a locale by a trained archaeologist, licensed by the Ministry of Tourism, Culture & Recreation (MTCR) under the Ontario Heritage Act. In the latter case, the archaeologist will possess the skills, knowledge and expertise to assist both the police and coroner in determining the age of the interment, as well as to assist the landowner in generating the information the Cemeteries Registrar will require to determine the nature, extent and cultural affiliation of the persons buried. His or her presence at the front end of the discovery process will greatly aid all authorities in making quick and accurate determinations, and as such should be relied on as much as possible in such circumstances.

Under the Coroner's Act:

1. A person finding skeletal material may first contact staff in an agency other than the police or coroner (e.g. MTCR or Ministry of Consumer & Commercial Relations (MCCR staff). When that occurs, the person is to be immediately instructed to report the find to the local police or coroner. An appropriate contact list (e.g. Regional Coroner's offices) should be maintained by all agencies that may be first contacted about such a discovery.
2. When the police are first contacted they will attend the scene, protect the site and contact the local coroner. The coroner, or the police on behalf of the coroner, will conduct an investigation to determine if:- a) the skeletal material is human and b) if the site represents a crime scene. The investigators will need to obtain all the information required to make a determination. However, efforts should be made at this stage to minimise site disturbance. AR bone and associated grave goods still embedded in the ground should not be disturbed unless removal is essential for the coroner to make a determination. Pokina, pullina, and digging up the bone in an uncontrolled manner can quickly destroy critical data essential to making accurate identifications.
3. Whenever possible, the police and coroner should seek the assistance of an archaeologist in conducting the investigation. This is especially critical since burials are archaeological deposits in their own right, and are often found as part of more extensive archaeological deposits. As such, confirming an association of the burial with a surrounding archaeological site will help determine whether or not the remains are part of a crime scene. Also, the archaeologist can help ensure that the larger heritage resource is not destroyed or damaged

during investigation of the skeletal material. MTCR staff can sometimes be called on to visit the scene with the police.

4. Archaeologists will consider issues such as the condition and discoloration of the bone, presence of artifacts around the discovery site, and knowledge of known archaeological sites in the area to determine chronological (and cultural) associations. If intact deposits are examined, features such as the presence/absence of a coffin, depth of remains, position of body, presence of grave goods, etc., will also assist the determination.
5. When skeletal material is found and it is not readily obvious that this material is either a burial or crime scene, coroners will often employ the services of a physical anthropologist or osteologist to examine the bone in detail. While the coroner requires only a basic determination of age (i.e. recent vs. historic/ancient) and nature of the interment, the physical anthropologist's study can also determine cultural affiliation (based on the presence/absence of specific skeletal traits), age of the individual at death, sex, and even funerary practices. This information will be essential for both the Cemeteries Registrar's investigation, as well as for the deceased's representative in determining the appropriate reinterment requirements. As such, latitude in allowing the physical anthropologist to complete a full, basic descriptive analysis of the skeletal material as a part of the coroner's investigation will greatly aid in addressing remaining issues associated with this process.
6. When the Coroner is satisfied the discovery site is not a crime scene, it is essential that he/she notifies the Registrar of Cemeteries of the discovery, and passes along any relevant information (e.g. contacts, results of any analyses, etc.). It is also essential that the landowner understand that he/she will need to preserve and protect the site from the point when the police are no longer involved, and until a disposition is made under the Cemeteries Act.

Under the Cemeteries Act

1. Under the Cemeteries Act the Registrar will be required to determine and formally declare what the locale is: either an irregular burial site (unintentional interment), or an unapproved cemetery or unapproved Aboriginal Peoples cemetery. When the information is not already in hand (i.e. based on archaeological findings or the results of the coroner's investigation) the landowner normally will be required to undertake an investigation. Such an investigation will generate the information necessary for the Registrar to make an accurate declaration.
2. In most cases, such investigations will be undertaken by a licensed and qualified archaeologist hired by the landowner. MCTR ensures that the Cemeteries Registry has a current list of such licensees which can be made available to the landowner.

3. The intent of the investigation is to provide the Cemeteries Registrar with the data necessary to make a declaration. As such, burial investigations will minimise normal archaeological fieldwork and reporting requirements. It will be determined following the Registrar's declaration and disposition agreement reached between landowner and deceased's representative whether disinterment is necessary.
4. The investigation for the Registrar must determine whether or not the interment(s) were intentional, and the basis on which this is made, the cultural affiliation of the deceased, and the defined limits of the area containing burials, the style and manner in which the remains are interred, and a description of the artifacts determined to form part of the burial site. It may also be necessary to determine the exact number of discrete burials present in the area. Excavation methods should maximise recovery of these data, while raising disturbances to the remains. Recording should also be limited to that required by the Registrar (e.g. emphasis on mapping location of burials in relation to property lines, existing structures, or other reference points). MTCR will advise licensed archaeologists of the appropriate archaeological methods.
5. During the investigation, the remains must be treated with respect and care. All artifacts found in the burial are to be considered grave goods, and should be treated as part of the burial, and kept with the skeletal remains. Burials must not be unnecessarily exposed to the elements or to casual viewing, and must be covered over as soon as possible following identification. The landowner continues to be responsible for preserving and protecting the site during this investigation, and until a disposition is made under the Cemeteries Act.
6. At the conclusion of the investigation a report must be submitted to the Registrar. This report will need to include the information required in Point 4. For sites that date to the last 200 years, historical research (e.g. land title search, newspapers, local informant interviews, etc.) may be required to answer some of the information points outlined in Point 4. This report will also serve to address the archaeologist's reporting requirements for the license issued by MTCR under the Ontario Heritage Act.
7. Once the Registrar can make a declaration, and the locale is determined to be an unapproved cemetery, he/she will locate a representative for the deceased. If the locale is an unapproved Aboriginal Peoples cemetery, the Registrar will contact the nearest First Nation Government. Another community of Aboriginal People whose members have a close cultural affinity to the interred person may also act as representative. As well, if agreed-to and established before-hand, a designated "Burials Committee" can serve as the first point of Aboriginal contact for the Registrar. If the burial is non-aboriginal, the Registrar will attempt to find a representative through media notification. Where no descendant is found, a representative of the same religious denomination as the person buried can act for the deceased. 8. The

- representative and landowner will agree to a disposition agreement outlining what is to be done with the burials. Where there is no agreement, binding arbitration is provided under the Cemeteries Act. Typically there are three options: 1) leave the remains intact and establish the site as a cemetery; 2) establish a cemetery nearby, remove the remains and reinter them there; 3) remove the remains and reinter them in an existing cemetery. The option selected with respect to an unapproved cemetery or unapproved Aboriginal Peoples cemetery will be negotiated between the landowner and representative for the deceased.
9. If the discovery is declared to be an irregular burial site, there are three options: 1) leave the remains intact and establish the site as a cemetery; 2) establish a cemetery nearby, remove the remains and reinter them there; 3) remove the remains and reinter them into an existing cemetery. The landowner will decide which option and is responsible for all costs.
 10. In respect to an unapproved cemetery or unapproved Aboriginal Peoples cemetery, if a disinterment/reburial option is selected, the burials will need to be fully uncovered, removed and reinterred with a minimum of damage and time. Costs associated with a disposition agreement will be negotiated by the landowner and representative. While the time it takes to complete this work will be subject to the wishes of the landowner and representative, factors such as the number and nature of interments, level of observations required by the representative for reinterment purposes, etc., will affect the length of time needed to complete the removal and reinterment. Consequently, in order to minimise time while maximising care and documentation, this work is best done by a licensed archaeologist under the direction of the disposition agreement.
 11. During removal, detailed observations will need to be made of the archaeological context of the burial to ensure that all associated remains and grave goods are fully recovered. Age at death and sex of the individual should also be noted. This information will assist in determining the appropriate methods of reinterment as well as to assist in determining what specific ceremonies need to accompany the reburial. Basic mapping can be used to aid in making these observations. No scientific analysis of the skeletal remains or grave goods can occur during this process without the consent of the representative of the deceased.
 12. Should the disposition agreement impact on adjacent archaeological remains, or should concerns be raised for these deposits during negotiations, MTCR will advise and work closely with the Cemeteries Registry and other concerned to determine what is the most appropriate course of action. MTCR will also assist in mediating any issues that might arise between the licensed archaeologist and other parties.

July 15, 1998

APPENDIX B

GLOSSARY OF ARCHAEOLOGICAL TERMS

APPENDIX B GLOSSARY OF ARCHAEOLOGICAL TERMS

Archaeologist:	Someone who studies the past by investigating the material remains left by previous cultures (generally the men have beards). There are a number of different types of archaeologists practising within Ontario. There are academics at universities; government archaeologists employed at the Ministry of Transportation, and at the Ministry of Tourism, Culture and Recreation; archaeologists at Museums such as the Royal Ontario Museum; students; and consulting archaeologists. Consulting archaeologists in Ontario are required by law to hold an archaeological license issued by MTCR.
Archaeology:	Is the discipline that studies the past. Archaeologists use artifacts, sites, settlement patterns, and regional studies to assist them in reconstructing past human cultures. It is not a subsection of palaeontology or geology.
Artifact:	An object that has been made, transported or modified by human beings. Examples would be pottery, projectile points, beads <i>etc.</i>
ASL	A measure of distance, standing for Above Sea Level.
Assemblage:	Refers to the collection of artifacts that was derived from a site. A researcher may be looking at a specific collection such as the ceramic assemblage from a site, or assemblage may be used in its most general terminology, referring to the whole of the site's artifact collection.
Assessment:	An archaeological assessment (Stage 2) is done by either visual means or through shovel testing. An assessment will determine if there are any significant archaeological finds on the property or not.
Axe or Adze:	Stone tools that were made by grinding rather than chipping, and generally called ground stone tools. Both are for wood working. The difference between an axe and adze is in the hafting and the bit shape. Axe bits are symmetrical, while adzes have the bit edge below centre.
B.C.	A measure of time, standing for Before Christ, and is considered to have started at the year zero.
Biface:	A general term used in lithic analysis to denote any stone tool that has been worked on both (two) faces. Projectile points, knives, preforms, and drills are examples of bifaces.
Borden Numbers:	The method by which all sites in Canada are recorded. It is a uniform system or code

that can be used across the country. Named after a British Columbian archaeologist, Charles E. Borden, the system has been in place since 1952. It is a grid system based on the National Topographic Series of maps. Each map is identified by a pair of capital letters, forming a grid sequence that is oriented south to north and east to west. Each Borden number consists of the two capital letters, two lower case letters and a number. The first capital letter represents the latitude axis, the first lower case the latitude interval (normally each letter is assigned to 10' intervals south of 62°N latitude). The second capital letter represents the longitude axis, the second lower case the longitude interval. Thus in Windsor, AbHs-11 would indicate the overall block of AH, and the bs would denote a more refined latitudinal and longitudinal designation, while "11" indicates that it is the eleventh site to be registered within this block.

- B.P. A measure of time, standing for Before Present, and is considered to have started at 1951, which is the year that radiocarbon assays were calculated.
- Burials: Specially dug pits excavated for the purpose of interring human remains. These burial pits may be found in special locales, such as graveyards or sacred sites, or may they may be part of a habitation locale. "Burial features can include pioneer family plots, ...[Native] village cemeteries, individual burials, ossuaries (group burial pits), cremations, burials of bundled bones, and pits containing discarded bone fragments. How an individual is placed in a burial feature, what items are included with the remains, and even where the burial is situated all represent decisions reflecting very personal, spiritual beliefs. For these reasons, burials accidentally uncovered during construction or other intrusive activities should be afforded the same respect and dignity given to burials in a modern cemetery: (MTCR 1997:Information page 5).
- Chert: "refers to all the bedded and nodular deposits in sedimentary rocks that consist of cryptocrystalline, microcrystalline, or microfibrinous forms of quartz" (Eley and von Bitter 1989:1). The term chert is generally a North American term, while flint is its European equivalent.
- C.R.M. Cultural Resource Management. The branch of archaeology in Ontario, that deals with the investigation of properties for development purposes. See Archaeologist.
- Debitage: The waste by-product of the manufacture of chipped stone tools. Also called chipping detritus, and flakes.

Euro-Canadian Sites:	Sites that were occupied by people of European descent. The types of sites include: early industrial; cabin sites; residential; special purpose sites; commercial; schools; and military sites. Site features are wide-ranging from privy pits, to earthworks, to root cellars.
Excavation:	“The excavation of an archaeological site is carried out by a licensed archaeologist to document the nature of the site occupation and find out what occurred there. Excavation methods range from the careful hand removal of soil and recording artifacts in place; the shovel screening of topsoil; to the use of heavy machinery to strip off topsoil and expose below-ground features, which are then recorded and excavated” (MTCR 1997:Information page 9).
Faunal Analysis:	The study of animal bones found on an archaeological site. Analysis of butchered remains aids in the understanding of past dietary patterns.
Faunal Artifact:	Any artifact that has been fashioned on bone. Artifacts include leisters, hooks, combs, awls, beads, toggles, gaming pieces, and carvings.
Feature:	“Cultural features are found on sites and are visible during excavation as either discolorations in the subsoil, or as a discrete concentration of artifacts. Features are generally holes or depressions in the ground which subsequently have been filled with soil, artifacts and other materials. Discoloration is usually due to organics present in the fill (plant or animal remains) which then decay, creating a very dark soil” (MTCR 1997:Information Page 3).
Floral Analysis:	The study of plant remains found on an archaeological site. Studies could include phytoliths, macro and micro-botanical specimens. Floral samples are usually obtained from features, after a sample has been taken and floated.
Floral Artifact:	Any artifact that comes from any part of a plant. Floral artifacts may include wood samples, seeds, corn kernels, and charcoal.
Flotation:	A recovery technique employed to recover heavy and light fraction material from an archaeological feature. A soil sample is taken from a feature, and then it is processed in water to recover material too small to have been recovered through standard screening techniques. Light fraction would include floral material.
Geology:	The science that studies the earth’s crust, its composition, its structure, and the history of its development.
Grinding Stone :	A stone tool that is utilized for grinding material, normally plant products. A grind stone could be used on a Native site for grinding corn. Another term that is used is “mano” meaning hand stone, and the object that the corn is being ground upon is called the “metate”.

- Groundstone:** A generalized term indicating usually a Native artifact that has been finished by grinding rather than chipping or pecking. Abraders, axes, adzes, celts, bannerstones (atlatl weights), and gorgets are groundstone artifacts.
- Hearth:** A type of feature where the presence of heat has been noted. Fire-reddened soil, the presence of FCR (fire-cracked rock), a ring of rocks are indicative of the presence of a hearth.
- Historic Sites:** A general term used mostly to connote Euro-Canadian sites, though this can cause some confusion, since there are also historic Native sites that represent occupations after contact with Europeans. Thus, historic sites may refer to either Euro-Canadian or Native occupations, and as such, should be identified as to which group they refer.
- Isostatic Rebound:** A geological term indicating an uplifting of the earth's crust as the glaciers receded. In Ontario, the melting of the ice resulted in the lessening of the weight upon the land, which caused a tilt upward to the north where the ice was receding. Isostatic rebound was greater during the time of melting, but still continues today. It is an important effect to know and calculate, since isostatic rebound changed the landscape by dramatically altering the drainage of the lakes and other waters in the Great Lakes basin.
- Lithic:** From the Greek "lithos", meaning stone; anything pertaining to, resembling, or executed in or on stone.
- Lithic Scatters:** Lithic scatters are usually small sites that contain only lithic material visible on the surface. No organic artifacts such as bone or wood have survived the long time between the site's occupation and its discovery. These types of sites are important since they document the first several thousand years of Native occupation in Ontario.
- Marine Archaeology:** A specialized branch of archaeology that deals with sites that are underwater. "Archaeological deposits found underwater can include submerged or underwater extensions of land-based ...[Native] sites which can contain artifacts such as intact ceramic vessels. Historic buildings or fortifications beside water, and structures like wharves or bridges, can also include a distribution of artifacts in the water below" (MTCR 1997:Information page 14). The most common type of underwater archaeological site is the shipwreck, which pertains not only to the actual vessel, but its furnishings, cargo, and personal effects (MTCR 1997:Information page 14).
- Mitigation:** Used interchangeably with the word "excavation", and is associated with Stage 4 CRM work.
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Multicomponent:	Refers to a site that has been occupied at least more than one time in the past. An area of land may have been settled by Paleo-Indians, and then in the Late Woodland period, resettled again. The material remains of both sets of cultures may be found on the same site, separated discretely in different stratigraphic layers or spatially in separate areas of the same site, or sometimes mixed together in the ploughzone.
Native Sites:	Sites occupied by the various Native groups throughout the centuries, from the Paleo-Indian time period through to contact and post-contact time periods.
Palaeontology:	The science or branch of biology that studies fossil plants and animals.
Post Mould:	Visible from the surface as a small, circular stain. When sectioned (cut in half), the profile is often long and tapered, indicating that the pole originally placed in the ground had a pointed end. Post moulds aid in determining the lay out of a village, showing the locations of housing, palisades, special function areas, and the internal organization of houses (storage areas, bunks).
Pottery:	Also called ceramics. Pottery artifacts are those made from clay. Pottery fragments are called sherds (shards). Native ceramic analysis may be categorized according to construction technique (coil, paddle & anvil), temper (grit, feldspar, shell), sherd type (rim fragment, body), vessel count, form and function. Historic pottery analysis may be analyzed utilizing body ware (coarse red earthenware, refined white earthenware, porcelain <i>etc.</i>), form (flatware, holloware), glazes, makers marks, function, decoration, and numerous other attributes.
Projectile Point:	A generic term that encompasses spearpoints, arrowheads and darts. The manufacturing techniques and material for projectiles includes chipped stone (cherts and other sedimentary rock), ground stone (igneous and sedimentary rocks), metals, bone, wood <i>etc.</i>
Registered Site:	An archaeological site which has been documented in accordance to the standards identified by the Ontario Ministry of Culture and included in the provincial data base of archaeological sites maintained by the Ministry.
Scraper:	A unifacial stone tool thought to have been used to process hides, taking off fat and sinew from the hide. Scrapers can be hafted or non-hafted, and can take a wide variety of forms such as beaked, side, thumb-nail (shaped), trianguloid and end scrapers.
Settlement Patterns:	Are the contextual data obtained from a site. The archaeologist uses the data to interpret where and what activities occurred on site. Activities include things such as processing food stuffs (<i>ie.</i> deer and fish), pottery making areas, stone tool manufacturing areas, household activities, and ritual or sacred ceremonies (MTCR 1997:Information page 4).

- Significance:** “The significance of an archaeological site arises from how valuable a contribution it can make to our understanding of the past. All sites are important, as they represent a buried testimonial to the people who once lived and shaped the heritage of this region. Sites are also important because, with so much of Ontario’s past lacking written documents, they are thus the only record we have to document much of our heritage. ... The significance of a site, then, is a recognition of just how critical it is that the site be documented prior to the development through extensive excavations, or protected from development impacts altogether” (MTCR 1997:Information Page 10).
- Site:** A site includes “the physical remains and contextual setting of any structure, event, activity, place, feature or object which, because of the passage of time, is on or below the surface of the land or water, and is important to understanding the history of a people or place” (MTCR 1997:1).
- Stages:** In Ontario, the CRM process of archaeology is divided up into four stages. Stage 1 is background research and determining the potential of a property; Stage 2 is the actual assessment; Stage 3 is conducted if any archaeological material is found during the assessment, and is designed to determine the extent and if possible, the cultural affiliation(s) of the site; Stage 4 (mitigation) is the full excavation of the site. There cannot be any more stages, since once the site has been excavated, there is nothing left of significance.
- Underwater
Archaeology:** See Marine Archaeology.
- Unifacial Tool:** A term used in lithic analysis to denote a stone tool that has been worked only on one surface or face.

APPENDIX C

REGISTERED SITE LOCATIONAL INFORMATION