Appendix D

Stage 1 Archaeological Assessment

Ministry of Citizenship and Multiculturalism (MCM)

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Ministère des Affaires civiques et du Multiculturalisme (MCM)

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Jul 22, 2023

Ruth Macdougall (P359)
Fisher Archaeological Consulting (FAC)
PO BOX 75 Elmwood ON N0G 1S0

RE: Entry into the Ontario Public Register of Archaeological Reports: Archaeological Assessment Report Entitled, "HOWARD/BOUFFARD MASTER DRAINAGE STUDY (PART LOTS 19 TO 35, CONCESSION 2 PETITE COTE, AND PART LOTS 1 &2 CONCESSION 3 PETITE COTE, GEOGRAPHIC SANDWICH WEST TOWNSHIP) TOWN OF LASALLE, ESSEX COUNTY, ONTARIO ARCHAEOLOGICAL STAGE 1: BACKGROUND STUDY", Dated Jul 13, 2023, Filed with MCM Toronto Office on N/A, MCM Project Information Form Number P359-0140-2022, MCM File Number 0009930

Dear Ms. Macdougall:

The above-mentioned report, which has been submitted to this ministry as a condition of licensing in accordance with Part VI of the *Ontario Heritage Act*, R.S.O. 1990, c 0.18, has been entered into the Ontario Public Register of Archaeological Reports without technical review.[1]

Please note that the ministry makes no representation or warranty as to the completeness, accuracy or quality of reports in the register.

Should you require further information, please do not hesitate to send your inquiry to Archaeology@Ontario.ca

cc. Archaeology Licensing Officer
Mark Hernandez,Dillon Consulting Limited
Greg Hayes,Dillon Consulting Limited
Peter Marra,Town of LaSalle

1*In no way will the ministry be liable for any harm, damages, costs, expenses, losses, claims or actions that may result: (a) if the Report(s) or its recommendations are discovered to be inaccurate, incomplete, misleading or fraudulent; or (b) from the issuance of this letter. Further measures may need to be taken in the event that additional artifacts or archaeological sites are identified or the Report(s) is otherwise found to be inaccurate, incomplete, misleading or fraudulent.*

FISHER ARCHAEOLOGICAL CONSULTING

HOWARD/BOUFFARD MASTER DRAINAGE STUDY
(PART LOTS 19 TO 35, CONCESSION 2 PETITE COTE, AND PART LOTS 1 & 2 CONCESSION 3 PETITE COTE, GEOGRAPHIC SANDWICH WEST TOWNSHIP)
TOWN OF LASALLE, ESSEX COUNTY, ONTARIO

ARCHAEOLOGICAL STAGE 1: BACKGROUND STUDY
FINAL REPORT
(Original)

PIF P359-0140-2022
13 July 2023

HOWARD/BOUFFARD MASTER DRAINAGE STUDY
(PART LOTS 19 TO 35, CONCESSION 2 PETITE COTE, AND
PART LOTS 1 & 2 CONCESSION 3 PETITE COTE, GEOGRAPHIC SANDWICH WEST TOWNSHIP)
TOWN OF LASALLE, ESSEX COUNTY, ONTARIO

ARCHAEOLOGICAL STAGE 1: BACKGROUND STUDY

FINAL REPORT
(Original)

Property Location:
Part Lots 19 to 35, Concession 2 Petite Cote, and
Part Lots 1 & 2 Concession 3 Petite Cote, Geographic Sandwich West Township)
Town of Lasalle, Essex County, Ontario

Submitted to:
Dillon Consulting Limited
&
Ontario Ministry of Citizenship and Multiculturalism

Prepared by:
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Archaeological Licence Number: Ruth Macdougall, P359
PIF#: P359-0140-2022
(PIF is valid)

13 July 2023

HOWARD/BOUFFARD MASTER DRAINAGE STUDY
(PART LOTS 19 TO 35, CONCESSION 2 PETITE COTE, AND
PART LOTS 1 & 2 CONCESSION 3 PETITE COTE, GEOGRAPHIC SANDWICH WEST TOWNSHIP)
TOWN OF LASALLE, ESSEX COUNTY, ONTARIO

ARCHAEOLOGICAL STAGE 1: BACKGROUND STUDY

FINAL REPORT

EXECUTIVE SUMMARY

Fisher Archaeological Consulting (FAC) was retained by Dillon Consulting Limited, Windsor office, to undertake the Stage 1: Archaeological Background Study for the proposed drainage project. The Study Area is located on part Lots 19 through 35, Concession 2 Petite Cote and part Lots 1 and 2, Concession 3 Petite Cote, geographic Township of Sandwich West, now the Town of LaSalle.

The archaeological condition was assigned by the Town of LaSalle as part of the Howard/Bouffard Master Drainage Study, which is following Master Plan Approach 2 under the Municipal Class Environmental Assessment (2023). The Master Plan builds on solutions developed through the Bouffard Howard Planning Districts Class Environmental Assessment Addendum (Dillon Consulting Limited, 2017). It does not appear that the earlier EA included any archaeological component. The Archaeological Stage 1: Background Study included a Property Inspection to determine the current conditions of the Study Area. FAC had permission from the proponent to conduct the Property Inspection, which was undertaken from public road rights of way.

The Study Area includes a series of existing open air drainage ditches and nearby agricultural lands located near Disputed Road and Bouffard Road, in LaSalle, Ontario. The Study Area combines both of the alterative solutions, each of which is designed to address current flooding issues in the area and accommodate increased stormwater flows as the area develops. Alternative 2 is a regional solution with open drains or buried pipes transporting water to large ponds. Alternative 3, in contrast, proposes the construction of a larger number of smaller ponds connected by drains or pipes that will direct the water to existing drains outside of the Study Area. The surroundings are primarily agricultural, with a few small woodlots. Exurban development, i.e. a strip of single family residences, is located on either side of Bouffard Road, and the Study Area crosses this strip development.

The Stage 1 Archaeological Background Study has determined that the Study Area has high potential for Indigenous archaeology as it is within 300 metres of tributaries of both Turkey Creek and River Canard. In addition, historic maps indicate that extensive wetlands were present near the Study Area, which is also an indicator of high Indigenous potential. One unregistered archaeological site overlaps the Study Area, this location was noted in the 2005 Windsor Archaeological Master Plan. The Study Area has high potential for Euro-Canadian archaeology as it is located within 100 metres of historic roads, and within an area of historic

settlement, as well as the above noted proximity to sources of water.

The Property Inspection noted one area of modern disturbance in the Town of LaSalle Public Works Yard as well as large stockpiles of earth nearby. These areas have had their archaeological potential reduced to low, following **Section 1.3.2** of the *Standards and Guidelines* (MCM 2011).

Large portions of the Study Area have previously been subjected to Stage 2: Assessment where nothing was found. The reports describing these portions and the work undertaken upon them have been accepted into the MCM Register of Archaeological Reports. As a result, no further archaeological work is required in these areas that are depicted on the recommendations figures.

High potential remains in the remainder of the Study Area, and these portions should be subjected to Stage 2: Assessment using appropriate methods described in the recommendations, below. Specific recommendations for each option are based on the data and discussion presented in this report. Recommendations for Alterative 2 are presented in ***Figures 10*** and ***11***, while those for Alternative 3 are presented in ***Figures 12*** and ***13***.

Therefore, based on the above information, FAC recommends the following:

1) For Alternative 2, that the portions of the Study Area identified on ***Figures 10*** and ***11*** as having archaeological potential require further archaeological work, and these should be subjected to Stage 2: Assessment following **Standard 2.1.1 Pedestrian Survey** where ploughing is feasible, and Stage 2: Assessment following **Standard 2.1.2 Test Pit Survey** where ploughing is not feasible;

2) Also, for Alternative 2, that the disturbed area and those portions of the Study Area that have already been subjected to Stage 2: Assessment as identified on ***Figures 10*** and ***11*** do not require further archaeological work;

3) For Alternative 3, that the portions of the Study Area identified on ***Figures 12*** and **13** as having archaeological potential require further archaeological work, and these should be subjected to Stage 2: Assessment following **Standard 2.1.1 Pedestrian Survey** where ploughing is feasible, and Stage 2: Assessment following **Standard 2.1.2 Test Pit Survey** where ploughing is not feasible;

4) Also, for Alternative 3, those portions of the Study Area that have already been subjected to Stage 2: Assessment as identified on ***Figures 12*** and ***13*** do not require further archaeological work.

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PROJECT PERSONNEL

Project Manager:	Ruth Macdougall (P359)
Project Licensee:	Ruth Macdougall
Background Research:	Jim Molnar, Ph.D. (P115)
Property Inspection:	Barbara Johnson (R1103)
Report Author:	Jim Molnar
Graphics:	Jim Molnar
Report Editor:	Jacqueline Fisher (P042)

NPD Table for the Howard/Bouffard Master Drainage Study,
Stage 1: Background Study

Permission was obtained to enter the property in the above report	Yes
The archaeological record will be curated at FAC's facilities	

Property Inspection Dates	Weather	Ground Conditions	Principal Investigator
November 23, 2022	Sunny, 6C	Dry	BJ
February 13, 2023	Sunny, 11C	Dry	BJ

HOWARD/BOUFFARD MASTER DRAINAGE STUDY
(PART LOTS 19 TO 35, CONCESSION 2 PETITE COTE, AND
PART LOTS 1 & 2 CONCESSION 3 PETITE COTE, GEOGRAPHIC SANDWICH WEST TOWNSHIP)
TOWN OF LASALLE, ESSEX COUNTY, ONTARIO

ARCHAEOLOGICAL STAGE 1: BACKGROUND STUDY

FINAL REPORT

1.0 PROJECT CONTEXT

The following is a Stage 1 report, prepared for review by the Ontario Ministry of Citizenship and Multiculturalism (MCM). Archaeological consultants licenced by MCM are required to follow the *Standards and Guidelines for Consultant Archaeologists* (MCM 2011) during land use planning as part of the evaluation of cultural heritage resources. This includes reporting all findings to MCM. There are four stages for archaeological work – Stages 1 to 4.

Stage 1 Background research and Property Inspection. The purpose of the Stage 1 archaeological study is two-fold. Firstly, it is to determine the potential for the presence of as-yet undocumented cultural heritage resources, and secondly, to determine whether known cultural heritage resources are extant on the subject lands.

Stage 2 Field work. Stage 2 is the actual field examination of high potential areas, and involves either surface survey or ploughed fields or shovel testing in areas that are undisturbed or cannot be cultivated.

Stage 3 Testing. The purpose of the Stage 3 is to ascertain the dimensions of the site, its cultural affiliation (if possible), and to evaluate its significance. If the site in question is determined to be archaeologically significant, then appropriate mitigation measures will be decided upon.

Stage 4 Mitigation. Stage 4 involves the mitigation of the development impacts to the archaeological site through either site excavation or avoidance (preservation).

Stage 1 determines the amount of Stage 2 work required. Stage 2 determines if Stage 3 is warranted, and Stage 3, in turn, determines if the archaeological resources are significant and so warrants proceeding to Stage 4, either a full excavation or preservation of the site. This report relates to the Stage 1 level of this archaeological process.

All work was conducted under archaeological licence P359. The Stage 1: Background Study pertains to project information number P359-0140-2022.

1.1 Development Context

Fisher Archaeological Consulting (FAC) was retained by Dillon Consulting Limited, Windsor office, to undertake the Stage 1: Archaeological Background Study for the proposed drainage project. The Study Area is located on part Lots 19 through 35, Concession 2 Petite Cote and part Lots 1 and 2, Concession 3 Petite Cote, geographic Township of Sandwich West, now the Town of LaSalle.

The archaeological condition was assigned by the Town of LaSalle as part of the Howard/Bouffard Master Drainage Study, which is following Master Plan Approach 2 under the Municipal Class Environmental Assessment (2023). The Master Plan builds on solutions developed through the Bouffard Howard Planning Districts Class Environmental Assessment Addendum (Dillon Consulting Limited, 2017). It does not appear that the earlier EA included any archaeological component. The Archaeological Stage 1: Background Study included a Property Inspection to determine the current conditions of the Study Area. FAC had permission from the proponent to conduct the Property Inspection, which was only undertaken from public road rights of way.

1.2 Archaeological Context

The Study Area includes a series of existing open air drainage ditches and nearby agricultural lands located near Disputed Road and Bouffard Road, in LaSalle, Ontario. The Study Area combines both of the alterative proposals for the project, each of which is designed to accommodate increased stormwater flows. Alternative 2 is a regional solution with open drains or buried pipes transporting water to large ponds, which then send the water outside of the Study Area. Alternative 3, in contrast, proposes the construction of a larger number of smaller ponds connected by drains or pipes that will direct the water to existing drains outside of the Study Area. The surroundings are primarily agricultural, with a few small woodlots. Exurban development, a strip of single family residences, is located on either side of Bouffard Road, and this area crosses the Study Area (***Figures 1*** and ***2***).

The following discussion details the environmental and cultural setting of the research area, providing a framework for conducting the archaeological potential survey of the Study Area. The environment section provides a physiographic background for the property, placing it in a geographic context.

1.2.1 Physiographic Features

The topography of southern Ontario is primarily the result of glacial and post-glacial action. Most of Essex County is covered by the physiographic region known as the St. Clair Clay Plains (Chapman and Putnam 1984: 147). Glacial Lakes Whittlesey and Warren once covered this area, leaving the land “smoothed by shallow deposits of lacustrine clay which settled in the depressions while the knolls were being lowered by wave action” (Chapman and Putnam 1984: 147). These shallow deposits were laid on top of clay till that overlies the limestone bedrock. The St. Clair Clay Plains region has little relief, lying between 172.5 and 210 metres a.s.l., with the exception of a moraine at Ridgetown (Chapman and Putnam 1984: 147).

Within this larger physiographic region lies the Essex Clay Plain, located between the basins of Lake Erie and Lake St. Clair that includes the Study Area. Much of the Essex Clay Plain has such imperfect drainage that dredged ditches and tile underdrains have been installed to provide satisfactory conditions for agriculture (Chapman and Putnam 1984: 149). Drainage ditches, and tiled fields are very common in this sector of the town of LaSalle.

The Study Area is approximately three kilometres south of a broad gravel beach ridge, which runs northwest-southeast for thirty kilometres from Windsor to Kingsville, one of the few areas of topographic relief in what is otherwise largely level terrain.

1.2.2 Soils

The underlying bedrock of the Study Area is limestone that belongs to the Middle Devonian-aged Dundee Formation (OGS 1991); there are no bedrock out-crops in the vicinity of the Study Area. Soils in the Study Area include Berrien sand, Colwood Fine Sand Loam and Toledo Silt Loam, each of which has poor drainage due to a layer of clay subsoil below the finer sand or silt (Richards *et al.* 1949: soil map).

Generally, a preference for settlement sites in all time periods would be on well-drained soils, rather than poorly-drained clay of muck soils. Soil type cannot, however, be used as the sole criterion for predictive modelling of site locations, as has been observed through archaeological survey and excavation.

1.2.3 Water Sources and Vegetation

Proximity to water sources is a key criterion when considering archaeological site potential. The availability of water is crucial to settlement viability, varied resources procurement, transportation, *etc.* A property located within 300 metres of a water source is considered of high archaeological potential in the *Standards and Guidelines* (MCM 2011: *Section 1.4.1 Standard 1 cii*).

The most prominent hydrological features in the region are Lakes St. Clair and Erie, which are connected by the Detroit River. The river is approximately five kilometres west of the Study Area. The north end of the Study Area is within 300 m of a tributary of Turkey Creek and the south end is within 300 m of a tributary of River Canard. The 1800 land patent map depicts a marsh near the north end of the Study Area (Lots 32-35) and a large cranberry meadow on the west side of the 2nd Concession from Lots 15 to 27. The 1824 land patent map shows the River Canard tributary extending north to Lot 22. This stream was subsequently developed into the Cahill Drain, which appears on early topographic maps and the 1954 air photo. Other drains were created in the early 20th century. For further details and references, see **Table 4**, below.

The Study Area is within the Carolinian Forest Region, typified by warmer-climate species than the Great Lakes-St. Lawrence Forest Region found in other areas of southern Ontario. Historically, common tree species would have included a wide variety of oaks, maples, beech, elm, basswood, ash, and butternut, as well as tulip tree, sassafras, hickory, and black walnut (Hosie 1979: 21). Historic vegetation was often

recorded during the initial township surveys in southern Ontario (Karrow and Suffling 2016). These records were compiled into a series of maps showing which tree species were most common at the time of survey. For Essex County, there are no records for the second concession, Petite Cote, while just to the east in the third concession, elm is the most common species (Findlay 1973). Elms are very well suited to wet swampy growing conditions.

1.2.4 Lithic Sources

Sources of siliceous stone - specifically chert - for making tools often served as focal areas for pre-Contact Indigenous peoples. There are no primary chert sources within the immediate vicinity of the Study Area. Kettle Point Formation (southeastern shore of Lake Huron) and Bayport (Saginaw Bay, Michigan) chert would have been accessible via water-based transportation routes, as would sources farther afield such as the Onondaga Formation along the northeast shore of Lake Erie (Eley and von Bitter 1989: 4).

1.2.5 Registered Archaeological Sites

FAC conducted a search for registered archaeological sites listed in the Ontario Archaeological Sites Database (OASD) located within one kilometre of the Study Area; the search returned five results (**Table 1**), representing both Indigenous and Euro-Canadian activity.

Table 1: Registered Sites within 1 km of the Study Area

Borden Number	Site Name	Time Period	Affinity	Site Type
AbHs-56	P9/10	Post-Contact		Farmstead
AbHs-67	Canard 1	Pre-Contact	Early Holocene	Findspot
AbHs-68	Canard 2	Pre-Contact	Early Holocene	Findspot
AbHs-71	Harmony 1	Pre-Contact	Late Holocene	Findspot
AbHs-72	Harmony 2	Pre-Contact	Late Holocene	Findspot

The five sites reflect the types of archaeological resources which may also be present in the current Study Area. These sites are all located to the east or north of the Study Area. The two Harmony sites are discussed in the next section.

Although the 2005 City of Windsor Archaeological Master Plan was focussed on Windsor itself, it did provide background information along its periphery, including portions of the Town of LaSalle that include the current Study Area. These data include the locations of unregistered archaeological sites recorded by Father John (Jack) R. Lee in the 1960s (CRM Group *et al*. 2005: 3-21) . Several of Lee's sites are located near Turkey Creek and its tributaries, although nothing more is known of these sites than their general locations

(Kenyon 1976). One site overlaps the northwest portion of the Study Area (***Supplementary Figure 1***; CRM Group *et al*. 2005: Cultural Factors for Modelling map).

1.2.6 Previous Archaeological Work

FAC performed a search for archaeological reports on file with MCM within the historic lots on which the Study Area is situated; the search returned eleven results. A number of these reports overlap with the current Study Area. The extent of these overlapping reports is depicted on ***Figure 8***. Standalone Stage 1 reports which were later covered by a Stage 2 report are not depicted on ***Figure 8***.

1) Fisher Archaeological Consulting (2009). *Laurier Parkway Realignment Project, LaSalle, Essex County, Ontario, Stage 1 Archaeological Background Study*. P0042-181-2009. Report on file with MCM.

The Stage 1 assessment undertaken by FAC, encompassed the right of way (ROW) of Laurier Parkway, a new road crossing the town of LaSalle. It crosses the current Study Area. The report determined that within the proposed road corridor high potential for archaeological sites existed within 300 m of the existing north-south drain, i.e. the current Study Area. As a result, Stage 2: Assessment was recommended in this high potential zone.

2) Fisher Archaeological Consulting (2010). *Laurier Parkway - Malden Road to Howard Avenue, LaSalle, Essex County, Ontario, Archaeological Stage 2: Assessment*. P0042-195-2009. Report on file with MCM.

This report describes the Stage 2: Assessment for the Laurier Parkway. The segment of corridor noted above was assessed by means of pedestrian survey at 5 m intervals. Nothing was found in the corridor within 300 m of the current Study Area. An isolated findspot was found more than 300 m from the current Study Area.

3) Cultural Resource Management Group Ltd. (2020) Harmony Lakes, 5085 Huron Church Line Road, Part of Lot 2, Concession 3, Geographic Township of Sandwich West, Town of Lasalle, Essex County, Ontario. P109-0082-2018. Report on File with MCM.

This report describes a Stage 1-2: Assessment for the Harmony Lakes proposed subdivision. It covered an area on the south side of Laurier Parkway, opposite the current Study Area. Three Indigenous findspots and two Euro-Canadian artifact scatters were noted. Two of the findspots were registered as archaeological sites (AbHs-71 and AbHs-72), each one a Madison projectile point. The Euro-Canadian artifact scatters were both found to post-date 1870, and so did not have any further CHVI. None of the findspots nor artifact scatters were within 300 m of the current Study Area. In addition, this report noted that the easternmost portion of the current Study Area required Stage 2: Assessment (See ***Figure 8***; CRM 2020a).

4) Cultural Resource Management Group Ltd. (2019). *Stage 1: Archaeological Assessment Report, Former Klingbyle Property Subdivision, Part of Lot 31, Concession 2, Geographic Township of Sandwich West, Town of LaSalle, Essex, County, Ontario*. PIF P109-0090-2019. Report on file with MCM.

This Stage 1 report overlaps a part of the current Study Area north of Bouffard Road, covering approximately 40 ha. The report determined that high potential for archaeological sites existed within the proposed subdivision, and recommended proceeding to Stage 2: Assessment (CRM Group 2019a).

5) Cultural Resource Management Group Ltd. (2019). *Stage 1: Archaeological Assessment Report, Homolka IIB Subdivision, Part of Lots 27 &28, Concession 2, Geographic Township of Sandwich West, Town of LaSalle, Essex County, Ontario*. PIF P109-0091-2019. Report on file with MCM.

This Stage 1: Background Study overlaps a part of the current Study Area north of Bouffard Road. The report determined that high potential for archaeological sites existed within the proposed subdivision, and recommended proceeding to Stage 2: Assessment (CRM Group 2019b).

6) Cultural Resource Management Group Ltd. (2019). *Stage 1: Archaeological Assessment Report, Holmolka and Holmolka IIa, Part of Lots 27, 28, & 29, Concession 2, Geographic Township of Sandwich West, Town of Lasalle, Essex County, Ontario*. PIF P109-00922019. Report on file with MCM.

This Stage 1: Background Study is on the other side of Bouffard Road from a portion of the Study Area. The report determined that high potential for archaeological sites existed within the proposed subdivision and recommended proceeding to Stage 2: Assessment (CRM Group 2019c).

7) Cultural Resource Management Group Ltd. (2019). *Stage 1: Archaeological Assessment Report, Leptis Magna Development, Part of Lots 21 to 24, Concession 2, Geographic Township of Sandwich West, Town of LaSalle, Essex County, Ontario*. PIF P109-0098-2019. Report on file with MCM.

This Stage 1: Background Study overlaps a part of the current Study Area south of Laurier Parkway. The report determined that high potential for archaeological sites existed within the proposed subdivision, and recommended proceeding to Stage 2: Assessment (CRM Group 2019d).

8) Cultural Resource Management Group Ltd. (2020). *Stage 1: Archaeological Assessment Report, Rinad - Disputed Road Subdivision, Part of Lots 30 to 33, Concession 2, Geographic Township of Sandwich West, Town of LaSalle, Essex County, Ontario*. PIF P109-0097-2019. Report on file with MCM.

This Stage 1: Background Study also overlaps a part of the current Study Area north of Bouffard Road. The report determined that high potential for archaeological sites existed within the proposed subdivision, and proceeding to Stage 2: Assessment was recommended (CRM Group 2020b).

9) Lincoln Environmental Consulting Corp. (2022) *Stage 2 Archaeological Assessment of the Rinad Subdivision in part of Lots 30-33, Concession 2, Township of Sandwich West, Town of LaSalle, Essex County, Ontario*. PIF P1131-0024-2021. Report on file with MCM.

This report covers the same Study Area as the previous report (CRM 2020), describing a Stage 2: Assessment on the property. Most of the property was assessed, except for two woodlots at the west side. Most of the remainder was open field that was subjected to pedestrian survey. Portions that could not be ploughed were shovel tested. No artifacts or archaeological sites were found (LEC 2022a).

10) Lincoln Environmental Consulting Corp. (2022) *Stage 1-2 Archaeological Assessment of 6804 Disputed Road in Part of Lot 25, Concession 2, Petite Cote Sandwich, Township of Sandwich West, Town of LaSalle, Essex County, Ontario*. P1131-0028-2022. Report on file with MCM.

This report covers a 20.3 ha property west of Disputed Road, which includes the ROW for Laurier Parkway. It overlaps with the FAC reports noted above (FAC 2009 and FAC2010), and it also overlaps with the current Study Area. The ploughable portions of the property were subjected to pedestrian survey, while the remainder had been previously disturbed by modern construction. No artifacts or archaeological sites were found (LEC 2022b).

11) Lincoln Environmental Consulting Corp. (2022) *Stage 1-2 Archaeological Assessment of the Proposed Leptis Magna, Subdivision in part of Lots 22, 23 & 24, Concession 2 Petite Cote, Township of Sandwich, Now City of Windsor, Essex County, Ontario*. P1289-0184-2021. Report on file with MCM.

This report covers a 63 ha property west of Disputed Road, south of Laurier Parkway. It overlaps with the current Study Area. The ploughable portions of the property were assessed by pedestrian survey, while very small portions were shovel tested or found to have been disturbed by modern construction. No artifacts or archaeological sites were found (LEC 2022c).

1.3 Historical Context[1]

1.3.1 Indigenous History

Indigenous peoples have been living in Ontario since time immemorial, something that is generally not acknowledged or reflected in the archaeological practice of subdividing the past. Discussions in the Ontario archaeological community have started to recognise the sharp divide between Indigenous and

[1]The following section is modified from previous FAC reports on file with MCM.

archaeological understandings of the past, and to acknowledge the negative effect that certain archaeological terminology has on the ongoing process of reconciliation (Hazell 2019; Hinshelwood 2019; Taylor-Hollings 2019). In light of this, FAC would like to discuss Indigenous history of southwestern Ontario using the designations Pleistocene and Holocene, recognizing that these also have limitations.

Table 2: Summary of Archaeological Chronology for Southern Ontario

	Date Range	Environment	Geological Event	Archaeological Signatures
Late Pleistocene/Early Holocene (13,000 - 9,000 cal. BP)				
Early	13,000 - 10,500 BP	- Tundra giving way to tamarack and spruce parkland	- Lake Algonquin in the Huron Basin	- Small sites associated with shorelines - Large fluted points such as Gainey, Barnes, and Crowfield - Use of primary sources of rock for making tools
Late	10,500 - 9,000 BP	- Red and jack pine forests, eventually replaced by white pine forests	- Low water stages in Great Lakes	- Small sites; lack of fluting of projectile points - Holcombe points - Hi-Lo points in south - Lanceolate points in the north
Middle Holocene (9,000 - 3,000 cal. BP)				
Early	9,000 - 5,500 BP	- White pine forests, eventually replaced by deciduous-dominant forests	- Low water stages in Great Lakes	- Groundstone tools - Bannerstones - Notched projectile points
Middle	5,500 - 4,500 BP	- Deciduous forests - Temporary disappearance of hemlock	- Nipissing high water levels	- Hammered copper tools - Bone tools - Appearance of fish weirs - Grouped burials
Late	4,500 - 3,000 BP	- Deciduous forests	- Essentially modern lake levels	- Groundstone artifacts: bird effigies, gorgets, net weights, grinding stones - Exotic traded materials showing extensive trade networks - Early cemeteries
Late Holocene (3,000 cal. BP - 1600 CE)				

	Date Range	Environment	Geological Event	Archaeological Signatures
Early Woodland	3000 BP - 400 BCE	- Deciduous forests, with more open areas of oak savanna and tallgrass prairie	- Essentially modern lake levels	- Consistently reinhabited warm season sites - Cemeteries established - Ceramics present (at first thick & friable, later thinner & fired at higher temperatures) - Small projectile points
Middle Woodland	400 BCE - 500 CE			- Coil-built ceramics - Sites with large middens - Lots of fish and deer remains - Elaborate burial customs
Late Woodland	500 - 1600 CE		- Beginning of the Little Ice Age	- Agriculture with the Three Sisters: maize, beans, and squash - Smoking pipes - Large, consistently re-inhabited warm season sites
Contact (Settler, 1600 CE - Present)				
	1600 CE - present	- Beginning of large-scale deforestation	- Essentially modern lake levels	- European trade goods - Evidence of disease - Large-scale social upheaval – mass movements of people across large territories -reduction of population -smaller footprints within older continuously-reinhabited sites

Late Pleistocene/Early Holocene

The First Peoples began to move into what is now southwestern Ontario as the ice sheet retreated and water levels in the Great Lakes basins lowered. As populations increased in southeastern North America around 13,000 years ago, small groups of people gradually moved north into a newly-revealed land (Chaput *et al.* 2015; Lothrop *et al.* 2016). The landscape that greeted them would have been open and cold, sparsely vegetated with tundra plants such as lichens and sedges, with spruce and tamarack trees growing up over time (McCarthy *et al.* 2015; Stewart 2013; Yu 2003). The spruce parkland was home to mammoth, mastodon, stag-moose, giant beaver, caribou, arctic fox and snowshoe hare, California condors, and many other boreal species which no longer call the area home (Ellis 2013; Stewart 2013; Storck and Spiess 1994). The first peoples would have moved across this landscape in small groups, following herds of migrating animals and searching for food in a post-glacial landscape that was constantly changing. As they moved across the landscape, they often followed the shoreline of Lake Algonquin or one of the waterways that

shifted across the clay plains, camping close to the water's edge: gathering nearby stones to support a portable shelter, cooking meals prepared from animals hunted, trapped, or fished that day, resharpening large fluted spear points or remaking them into smaller tools for other uses (Ellis 2013; Julig and Beaton 2015).

As time passed and the First Peoples became more familiar with the seasonal changes and the habits of local animals, they began to establish regular camps to return to on a seasonal basis. Some of these camps could have been at chert sources near Collingwood, to gather stone and prepare blanks to eventually turn into notched spear points; or at wetlands where waterfowl gathered annually to lay eggs and raise young; or river crossings where migrating herds of caribou were forced to slow down and bunch up (Ellis 2013).

Middle Holocene

As the climate warmed around 9,000 years ago, the land in southern Ontario became more hospitable and food resources more abundant. Some groups began to establish claims over specific areas of land and to follow the seasonal round within a more restricted territory, often within a particular watershed (Ellis 2013). One side effect was that access to the highest quality tool stone was no longer available to all groups (Fox 2013). Poorer quality local chert sources were sufficient for making everyday tools, but as a result the spear points and other lithic objects were never as finely made as those carried by earlier hunters (Ellis 2013; Fox 2013). Groundstone axes and adzes were added to the toolkit as coniferous forests established themselves in southern Ontario and the people made wooden dugout canoes and cooking troughs; other new groundstone tools were used to process a diversifying array of plant resources, or as weights for fishing nets (Ellis 2013; Kapches 2013).

Ways of life changed slowly over the next few millennia, as deciduous woodlands replaced the coniferous forests, and the post-glacial tundra became a distant cultural memory. Warmer waters in the Great Lakes, and stable stream and river beds provided new habitats for many of the fish species still found in the region today. These were caught using fish hooks made of bone or antler, or copper transported by canoe from the western end of Lake Superior (Ellis 2013; Fox 2013). Increasingly, large groups of people gathered together during spring and autumn fish spawning runs to catch fish in nets and to cooperate in the cleaning and processing of large catches (Needs-Howarth 2013). In parts of Ontario, fish weirs built at river narrows during this period were subsequently used for thousands of years; even when no longer used to harvest fish, the weirs still served as important gathering places for ceremonies and trading (Needs-Howarth 2013). More changes to food gathering came with the introduction of the bow and arrow, which allowed hunters to target smaller game with something other than traps and snares (Needs-Howarth 2013). A surplus of food, hides, or fur could be exchanged in trade or as gifts for exotic materials, allowing copper from Lake Superior, marine shells from the Atlantic coast and the Gulf of Mexico, and finely-made Onondaga chert bifaces from the Niagara Peninsula to find their way into the hands of people living in diverse parts of eastern North America (Ellis 2013; Fox 2013). By about 3,500 years ago, favoured resource sites on the seasonal round

were being re-inhabited year after year, with some groups beginning to establish cemeteries for their dead, marking ritually and territorially important places on the landscape (Ellis 2013; Spence 2013; Stewart 2013).

Late Holocene

Around 3,000 years ago, people in southern Ontario began to make low-fired ceramics, a change in technology which would eventually have a profound impact on ways of life. The earliest pots broke or wore out quickly, and so were made and used in the same camp and disposed of before moving on to a new location (Kapches 2013). They did not at first replace the string bags, birch bark containers, and skin sacks which were already being used as storage vessels but were instead used to cook foods at a simmer, allowing the integration of more plant foods into the diet (Kapches 2013; Williamson 2013).

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

Over the next several centuries, the daily life and sense of identity of those living in the Detroit River area became clearly different from those of people living farther east. Some of this was a result of the widespread influence of mound-building peoples in the Ohio and Mississippi river valleys, whose extensive trade networks introduced new materials such as Flint Ridge chalcedony for stone tools, and new ceremonies involving the construction of earthworks and burial mounds (Fox 2013;Watts 2016;Williamson 2013). These earthworks usually consisted of a circular or semicircular embankment with associated ditches and mounds, enclosing an open area “from around 100 m^2 to more than a hectare”; their use likely varied depending on time and context, providing defensive capabilities, an open space for trading, or for ceremonies (Watts 2016, p. 1).

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

Contact Period

The impacts of the European arrival in North America were felt in the Great Lakes region before any Europeans physically came to the region. Long-established exchange networks facilitated the spread of deadly new diseases, as well as new European trade goods such as kettles, pipes, glass beads, and metal tools, which were sought after for political gift giving at feasts and incorporated into burial customs (Jamieson 2013; Spence 2013; Williamson 2013). As some of these goods became more common they began to replace Indigenous-made artifacts, and by the 1650s, production of native ceramics had declined substantially, with clay pots being replaced by copper and brass trade kettles, and many of the knowledge keepers of the techniques of native ceramic manufacture lost to disease (Kapches 2013; Warrick 2013). Exchange networks across the Great Lakes established over the preceding millennia were reoriented towards Montreal, and Algonquian and Huron people from the Great Lakes region transported furs by canoe to trade with the French for ammunition, European textiles, and other goods (Middleton 2007).

One of the earliest European maps depicting Indigenous settlement in the Detroit River area is the 1641 "Novvelle France" map that shows locations of Great Lakes Indigenous peoples prior to the dispersals of the late seventeenth century (Heidenreich 1988, Steckley 1990). Peoples named just west of the Detroit and St. Clair Rivers include the Sauk and the Potawatomi (Steckley 1990:21). Other Algonquian-speaking peoples were living to the south and west in an area that is collectively marked "Gens du Feu" or Fire Nation. The two main Indigenous groups to establish permanent settlements in the Windsor area during the 1700s were the Odawa and the Huron/Wyandot (de Léry 1752 in CRM *et al.* 2002:2-14). Maps drawn in the 18th century depict the shifting locations of these villages (City of Windsor 2022: 30)

It was not until 1790 that a formal cession of Indigenous lands was drafted by Alexander McKee (an Indian Department agent) and 27 chiefs of the Ottawa, Potowatami, Huron, and Chippewa at Detroit. The Chippewas living on Point Pelee (Caldwell First Nation) were, however, not signatory to this treaty (Leclair 1988, CIRNAC 2014). McKee had "been instructed to purchase all the shoreline between Long Point on Lake Erie and the Chenal Ecarté River...which empties into the St. Clair River" (Surtees 1994:108). The chiefs agreed to the lands on the eastern side of the Detroit River to be surrendered, and retained two specific parcels of land – the Huron Reserve and the Huron Church Reserve (Surtees 1994:108; Lajeunesse 1960:171), which were to the south and the west of the Study Area, respectively. Today, the nearest First Nations on the Ontario side are Bkejwanong (Walpole Island), to the northeast on Lake St. Clair, and Caldwell, to the southeast on Lake Erie.

1.3.2 Euro-Canadian History

The Detroit River shoreline comprises the earliest continuous Euro-Canadian 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. In the mid-18th century, French families were

encouraged by the governor of Québec to settle and farm the land by the river in order to promote trade in Detroit (CRM *et al.* 2002:16). The French settlements lined the waterfronts of both the Detroit River and Lake St. Clair. At the end of the Seven Year's War, the British replaced the French as colonial administrators, but initially, there was little change to the Settler population. Following the American Revolution, United Empire Loyalists began moving into the region, and, in the late 18th and early 19th centuries, the British re-surveyed the area, gradually moving inland and encouraging settlement in the interior. Settlement by Euro-Canadians away from the shorelines began in the early1800s, initially along the Talbot Road, with the remaining lots and concessions colonized by Settlers by mid-century (**Figures 6a** and **6b**).

The Village of Windsor and the Town of Sandwich, on the Detroit River, were incorporated in 1854 and 1858 respectively, and in 1861, the remainder of the Township was divided into West, South, and East Sandwich (Neal 1909: 9). The growth of Essex County was also boosted by the introduction of railways in the latter half of the 1800s. With the arrival of the Great Western Railway and later the Canada Southern Rail Line, vast swathes of the county's interior were cleared of their forests and converted to agriculture (Morrison, 1954:7). The Town of LaSalle was established in 1991, replacing West Sandwich Township.

1.3.3 History of Lots 18 to 35, Concession 2 Petite Cote and Lots 1 & 2, Concession 3 Petite Cote, Sandwich West Township

The river lots of the Petite Cote south of Turkey Creek were settled by French families after 1750. This became the 1st Concession in the British survey of 1792, and by this time, the entire riverfront was taken up by farms (LaJeunesse 1962). Information regarding the lands that became incorporated into the lots of the 2nd and 3rd Concessions before 1800 is scarce. A search of the land registry abstract index (ONLand 2023) revealed the following.

Table 3. Summary of Deed Records for Lots in the Study Area

Lot	1824 Patent Map	Land Registry Abstract Index	Comments
Concession 2 Petite Cote			
19	--	Jacques Meloche, patent in 1831	
20	--	Jacques Cappeu, patent in 1826	
21	Michel Rochleau, deed	Michael Rocheleau, patent in 1824	
22	--	Jean Baptiste Gignac, patent in 1826	
23	--	Charles Boismier, patent in 1847	
24	--	Antoine Bouffard, patent in 1826	
25	--	Andre Derocher, patent in 1826	

Lot	1824 Patent Map	Land Registry Abstract Index	Comments
26	--	Antoine Lafferty, patent in 1826	
27	--	Jean Baptiste Bouffard, patent in 1826	
28	--	Achille A. Ouellette, patent in 1866	
29	--	Andrew Laferte, patent in 1838	
30	Antoine Langlois, deed	Angelique Langlois, patent in 1817	
31	--	Laurent Reaume, patent in 1840	
32	John Askin, deed	John Askin, patent in 1799	
33	John Snyder, deed	John Snyder, patent in 1803	
34	Wiliam Park, deed	William Park, patent in 1801	
35	--	--	- page missing from Land Registry Abstract Index
Concession 3 Petite Cote			
1	Colby, no deed	Patent surrendered, patentee not named	- lot was then sold in 1836 to John Herdman
2	Wm. Forsyth, deed	Jean Baptiste Meacor [sp.?], patent in 1832	

Only a few of the lots in the northern part of the Study Area had been patented between 1799-1803 and these were to English residents of nearby Sandwich Town. Afterwards, the remaining lots within the 2nd Concession were patented to people descended from the first French farmers. A great number of patents were issued in 1826; the last lot to be patented in the Study Area was in 1866.

1.3.4 Historical Plaques

A search of Ontario historical plaques revealed none in the vicinity of the Study Area.

1.3.5 Summary of Historical Visual Records Examined

A number of resources were consulted to determine the historical archaeological potential of the Study Area and to identify any modern disturbances. Resources included historic maps, street maps, and government topographic series maps. The following table summarizes the results.

Table 4: Summary of Visual Records Examined

Document	Date	Comments
Carte de la Riviere du Detroit, de Lery Archives du Ministere des Colonies, Paris	1749	- Study Area is depicted as forest - Petite Cote river lots are depicted north of Turkey Creek (outside of the Study Area)
Carte de la Riviere du Detroit depuis le Lac Erie jus`ques au Lac Ste. Claire, de Lery Burton Historical Collection, Detroit Public Library	1752	- No detail depicted within the Study Area - Petite Cote river lots are depicted north of Turkey Creek
Sandwich Township Land Patent Map, Map A40 Archives of Ontario, RG 1-100-0-0-2461	1800	- the 2nd Concession has been surveyed into narrow lots, some owners are named - a marshy area is depicted near the north end of the Study Area, Lots 32 to 35 - a cranberry meadow is depicted on the west side of the 2nd Concession from lots 15-27
Sandwich Township Land Patent Map, Map 26 Archives of Ontario, RG 1-100-0-0-2464	1824	- 1st, 2nd and 3rd Concessions Petite Cote are depicted - few deeds within the Study Area are noted (see Table 3) - the other lots have no owners or deeds noted - an unnamed stream reaches north up to lot 22 from River Canard
Map of Essex County, Ontario H.F. Walling, published by R.M. Tackaberry, Toronto, Ont. Ontario Historical County Map Project, University of Toronto ***Figure 5a***	1877	- Landowners' names are listed for each lot - Structures are not depicted - Watercourses are not depicted
Map of E & W Sandwich Townships *Illustrated Historical Atlas of the County of Essex* ***Figure 5b***	1880-1881	- There is little detail within the Study Area, few names are listed and few structures - Some structures are shown adjacent to Malden Road and Disputed Road, none are within the Study Area
Plan of the Townships of Sandwich - West, East and South M. McPhillips ***Figure 5c***	1905	- Landowners' names are listed for each parcel - Very few structures are depicted, none are within the Study Area - Both branches of the Cahill Drain are depicted

Document	Date	Comments
Amherstburg, NTS Sheet 40J 3 Dept of Militia and Defence Scale 1 : 63,360 ***Figure 6a***	1909	- Study Area is depicted as cleared agricultural land - Scattered trees are depicted near the Study Area - the lower section of Cahill Drain is present at the south end of the Study Area
Amherstburg, NTS Sheet 40J 3 Dept of Militia and Defence Scale 1 : 63,360	1939	- No change from previous NTS map
Air Photos of Southern Ontario Photo 422.831 Digital Archive @ McMaster University Library ***Figure 7***	1954	- Most of the Study Area is open agricultural fields - East and West Branches of Cahill Drain are present - Bouffard Road is present, but no houses have been built on either side of the road
River Canard, NTS Sheet 40J 3h Dept of Energy, Mines and Resources Scale 1 : 25,000 ***Figure 7c***	1962	- Study Area is depicted as cleared agricultural land - Both branches of Cahill Drain are depicted - Several houses have been built beside Bouffard Road, but none near the Study Area
River Canard, NTS Sheet 40J 3h Dept of Energy, Mines and Resources Scale 1 : 25,000 ***Figure 7d***	1974	- More houses have been built beside Bouffard Road, including adjacent to where the Study Area crosses Bouffard Road
Aerial Image Essex County Interactive Mapping	2000	- Similar to 1954 aerial photo, much of the Study Area is open agricultural fields
Amherstburg, NTS Sheet 40J6 (ed. 8) Natural Resources Canada Scale 1 : 50,000	2001	- No changes from previous NTS map
Aerial Image Essex County Interactive Mapping	2006	-Vollmer Road Recreation Complex under construction, overlapping the southwestern portion of the Study Area
Aerial Image Essex County Interactive Mapping	2013	- Laurier Parkway has been built, crossing the Study Area - LaSalle Public Works complex has been built, overlapping the southwestern portion of the Study Area

Document	Date	Comments
Google Earth Image DigitalGlobe ***Figure 2***	April 2016	- no changes from previous aerial image
Aerial Image Essex County Interactive Mapping	2019	- A portion of Lot 25 has been disturbed with machine tracks. The previous pattern of drainage tile and crop marks in the field has been obliterated at the proposed location of one of the ponds south of Laurier Parkway
Aerial Image Essex County Interactive Mapping	2022	- No changes from previous image

The Study Area is within the set of river lots that began to be settled after 1750, although a formal survey did not take place until decades later. The first patent within the Study Area was granted soon after in 1799, with the final patent granted in 1866. Middle and late 19th century maps indicate that all of the lots were taken up and used for agricultural purposes. Early 20th century mapping shows continued agricultural use of the land, with the development of a series of drains to improve the fields. By 1974, a series of houses has been built lining Bouffard Road where it crosses the Study Area. In the 21st century, the southwest portion of the Study Area was developed with a recreation complex, and public works yard. Laurier Parkway was built by 2013, crossing the Study Area. In 2019, the location of one of the ponds south of Laurier Parkway had been extensively disturbed by heavy machinery. This location was included in a subsequent archaeological assessment, where nothing was found (LEC 2022c). More archaeological assessments have been undertaken in recent years (See **Section 1.2.6**, above), and the results of these are discussed below.

2.0 STAGE 1 METHODOLOGY

Information about the archaeological potential of the Study Area was gathered from various sources. The archaeological potential for pre-Contact/historic Indigenous sites has been assessed using data collected from the Ontario Archaeological Sites Database (OASD), and from environmental data collected from geological environmental, and soils data, National Topographic System (NTS) maps, early surveyor notes, and a property inspection. Historic Euro-Canadian site potential has been assessed using data from the OASD system, and from primary sources including, but not limited to, Land Surveyor records, aerial photographs, NTS maps and other historic maps, and from secondary sources.

A property inspection was conducted as part of the Stage 1: Background Study. It consisted of a visit to the Study Area to gain first-hand knowledge of its geography, topography, and current conditions,

understanding that areas of low potential as a result of modern disturbance require no further archaeological work, as indicated in Section 1.2 of the *Standards and Guidelines* (MCM 2011)

3.0 ANALYSIS AND CONCLUSIONS

3.1 Analysis of Archaeological Potential

Determination of the archaeological potential of the Study Area relied on the information presented above. The *Standards and Guidelines* (MCM 2011) **Sections 1.3.1 and 1.4.1** indicate that the following features or characteristics indicate archaeological potential:

- Previously identified archaeological sites ✓(unregistered site)
- Water sources
    - Primary water sources (lakes, rivers, streams, creeks) ✓
    - Secondary water sources (intermittent streams, springs, marshes, swamps) ✓
    - Features indicating past water sources
    - Accessible or inaccessible shorelines
- Elevated topography (drumlins, plateaux, dunes)
- Pockets of well-drained sandy soil
- Distinctive land formations (waterfalls, caves)
- Resource areas
    - Food or medicinal plants (migratory routes, spawning areas) ✓
    - Scarce raw materials (copper, chert outcrops)
    - Early Euro-Canadian industry (fur trade, logging, prospecting)
- Early historic transportation routes (roads, rail, portages) ✓
- Areas of early Euro-Canadian settlement ✓
- Property listed on a municipal register or designated under the Ontario Heritage Act or that is a federal, provincial or municipal historic landmark or site
- Property that local histories or informants have identified with possible archaeological sites, historical events, activities, or occupations

Archaeological potential for Indigenous sites is based on environmental factors such as soil type and distance to water, and proximity to known sites and geographical features (such as trails or specific resources). Both the northernmost and southernmost portions of the current Study Area are within 300 metres of a primary watercourse, *i*.e. a tributary of Turkey Creek to the north and a tributary of River Canard to the south. In addition, the land patent maps indicate the presence of extensive wetlands near the middle portions of the Study Area. These wetlands would also have been locales for harvesting food or medicinal plants. Finally, the northwestern portion of the Study Area is near the location of an unregistered archeological site. As a result, the Study Area has high potential for Indigenous archaeological sites. Given the uncertainties in the

historic data, especially regarding the specific location and extent of wetlands, none of the Study Area can be said to have low potential because of distance from sources of water.

Archaeological potential for Euro-Canadian sites is based on the examination of historical records to determine location in relation to known areas of early Euro-Canadian settlement, historic transportation routes, and known features, in addition to the environmental factors noted above. The Study Area is in the middle of a series of long narrow farm lots that were surveyed in 1792 and granted in the following decades. The nearest historic roads, Disputed Road and Malden Road, bounded these farm lots. As a result, the Study Area has high potential for historic archaeological sites.

3.2 Property Inspection Results

The Property Inspection was conducted on the 23rd of November 2022 and the 13th of February 2023 to observe the topography and current state of the Study Area. The weather was sunny both days; lighting and ground conditions were excellent - there was no snow on the ground either day (see **NPD Table**). All work was recorded through photo-documentation, field notes, and mapping. The photo log can be found in the Table of Contents. The photo locations are indicated on ***Figure 9***.

The property inspection was undertaken from public road allowances and rights of way. One definable area of disturbance was noted in the Town of LaSalle Public Works Yard, where modern landscaping has taken place (**Plate 16**). In the back ground of **Plates 16** and **18,** there are large stockpiles of earth that have been placed where the southern pond of Alternative 2 will be located. It was not possible to determine their extent without direct access to this portion of the Study Area. Modern disturbance was also noted beside Laurier Parkway (**Plate 9**, foreground, **Plate 11**), but this area has already been archaeologically assessed and recommended for clearance.

Most of the Study Area was confirmed to be active agricultural fields. These are recommended for assessment by pedestrian survey where ploughing is feasible. See for example the fields depicted on **Plates 3, 12,** and **13**. Small portions of the Study Area where ploughing is not feasible will require assessment by shovel testing, for example where the Study Area crosses Bouffard Road (**Plates 7** and **8**), or portions adjacent to Laurier Parkway (**Plates 9** and **14**).

4.0 RECOMMENDATIONS

The Stage 1 Archaeological Background Study has determined that the Study Area has high potential for Indigenous archaeology as it is within 300 metres of tributaries of Turkey Creek and River Canard. In addition, historic maps indicate that extensive wetlands were present near the Study Area, which is also an indicator of high Indigenous potential. One unregistered archaeological site overlaps the Study Area. The

Study Area has high potential for Euro-Canadian archaeology as it is located within 100 metres of historic roads and within an area of historic settlement, as well as the above noted proximity to sources of water.

The Property Inspection noted one area of modern disturbance in the Town of LaSalle Public Works Yard as well as large stockpiles of earth nearby (**Plates 16** and **18**), and so these areas have had their archaeological potential reduced to low, following **Section 1.3.2** of the *Standards and Guidelines* (MCM 2011). The extent of disturbance will have to be confirmed and mapped during the Stage 2: Assessment of these areas.

Large portions of the Study Area have previously been subjected to Stage 2: Assessment (see ***Figure 8***), where nothing was found. The reports describing these portions and the work undertaken upon them have been accepted into the MCM Register of Archaeological Reports. As a result, no further archaeological work is required in these areas.

High potential remains in the remainder of the Study Area, and these portions should be subjected to Stage 2: Assessment using appropriate methods described in the recommendations, below. Specific recommendations for each option are based on the data and discussion presented in this report. Recommendations for Alterative 2 are presented in ***Figures 10*** and ***11***, while those for Alternative 3 are presented in ***Figures 12*** and ***13***.

Therefore, based on the above information, FAC recommends the following:

1) For Alternative 2, that the portions of the Study Area identified on ***Figures 10*** and ***11*** as having archaeological potential require further archaeological work, and these should be subjected to Stage 2: Assessment following **Standard 2.1.1 Pedestrian Survey** where ploughing is feasible, and Stage 2: Assessment following **Standard 2.1.2 Test Pit Survey** where ploughing is not feasible.

2) Also, for Alternative 2, that the disturbed area and those portions of the Study Area that have already been subjected to Stage 2: Assessment as identified on ***Figures 10*** and ***11*** do not require further archaeological work.

3) For Alternative 3, that the portions of the Study Area identified on ***Figures 12*** and **13** as having archaeological potential require further archaeological work, and these should be subjected to Stage 2: Assessment following **Standard 2.1.1 Pedestrian Survey** where ploughing is feasible, and Stage 2: Assessment following **Standard 2.1.2 Test Pit Survey** where ploughing is not feasible.

4) Also, for Alternative 3, those portions of the Study Area that have already been subjected to Stage 2: Assessment as identified on ***Figures 12*** and ***13*** do not require further archaeological work.

5.0 ADVICE ON COMPLIANCE WITH LEGISLATION

Standard 1

a) This report is submitted to the Minister of Citizenship and Multiculturalism as a condition of licensing in accordance with Part VI of the *Ontario Heritage Act*, R.S.O. 1990, c0.18. The report is reviewed to ensure that it complies with the standards and guidelines that are issued by the Minister, and that the archaeological fieldwork and report recommendations ensure the conservation, protection and preservation of the cultural heritage of Ontario. When all matters relating to archaeological sites within the project area of a development proposal have been addressed to the satisfaction of the Ministry of Citizenship and Multiculturalism, a letter will be issued by the minister stating that there are no further concerns with regard to alterations to archaeological sites by the proposed development.

b) It is an offence under Section 48 and 69 of the *Ontario Heritage Act* for any party other than a licenced archaeologist to make any alteration to a known archaeological site or to remove any artifact or other physical evidence of past human use or activity from the site, until such time as a licenced archaeologist has completed archaeological fieldwork on the site, submitted a report to the Minister stating that the site has no further cultural heritage value or interest, and the report has been filed in the Ontario Public Register of Archaeology Reports referred to in Section 65.1 of the *Ontario Heritage Act*.

c) Should previously undocumented archaeological resources be discovered, they may belong to a new archaeological site and therefore be subject to Section 48(1) of the *Ontario Heritage Act*. The proponent or person discovering the archaeological resources must cease alteration of the site immediately and engage a licensed consultant archaeologist to carry out archaeological fieldwork, in compliance with sec. 48(1) of the *Ontario Heritage Act*.

d) The Cemeteries Act, R.S.O. 1990 c. C.4 and the *Funeral, Burial and Cremation Services Act*, 2002, c.33 requires that any person discovering human remains must notify the police or coroner and the Registrar of cemeteries, Ministry of Public and Business Service Delivery (416 212-7499).

Standard 2

Archaeological sites recommended for further archaeological fieldwork or protection remain subject to Section 48(1) of the *Ontario Heritage Act* and may not be altered, or have artifacts removed from them, except by a person holding an archaeological licence.

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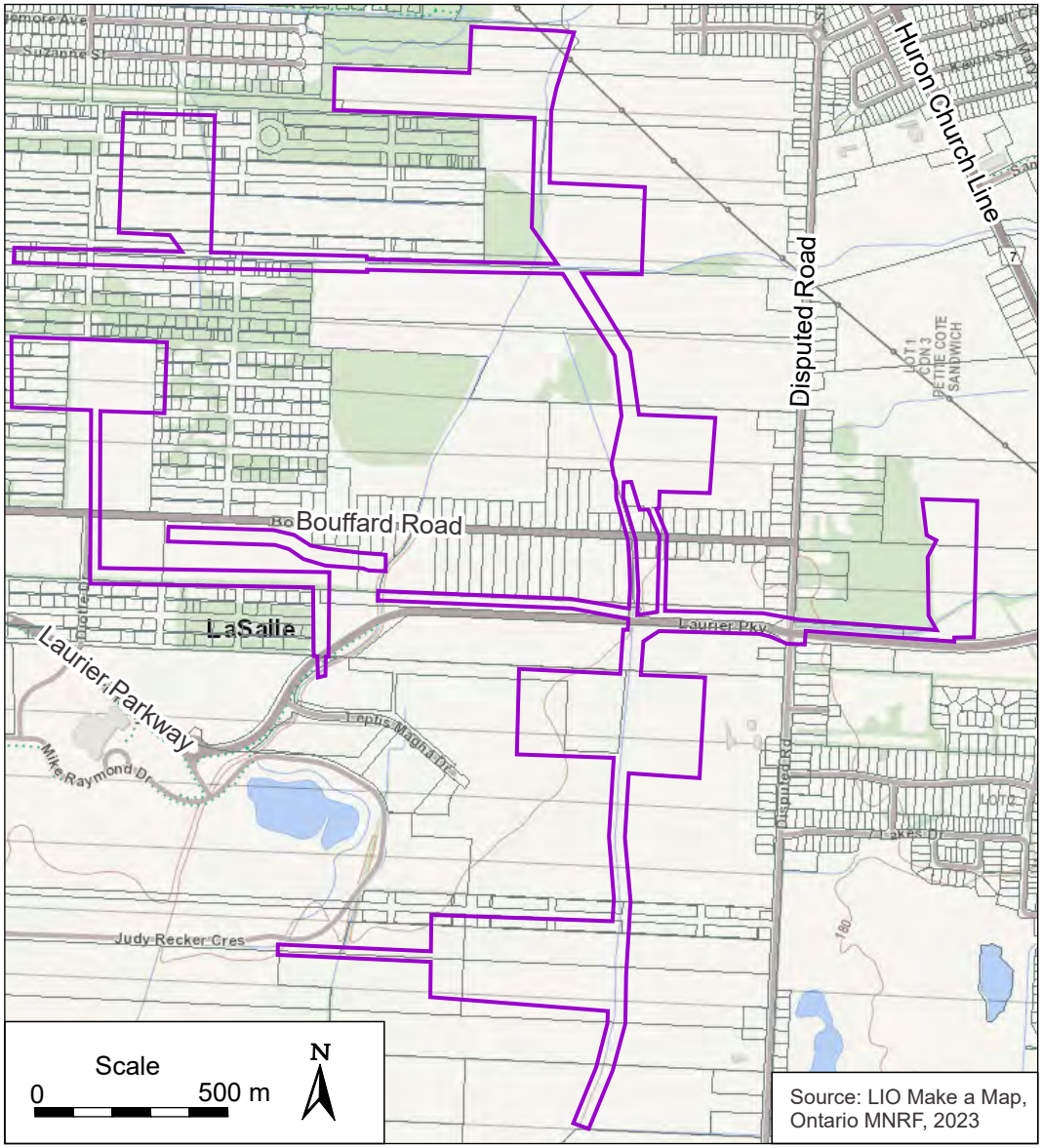
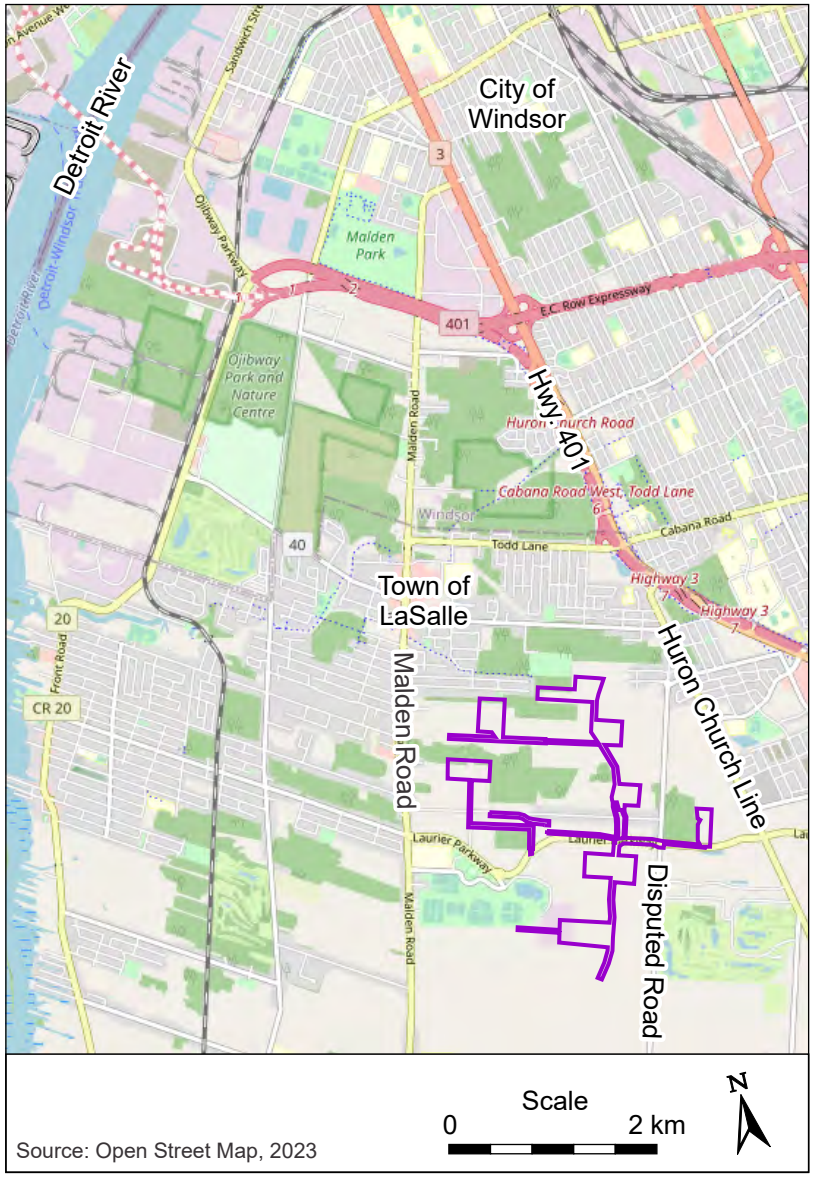




FAC

Date: 17/06/23

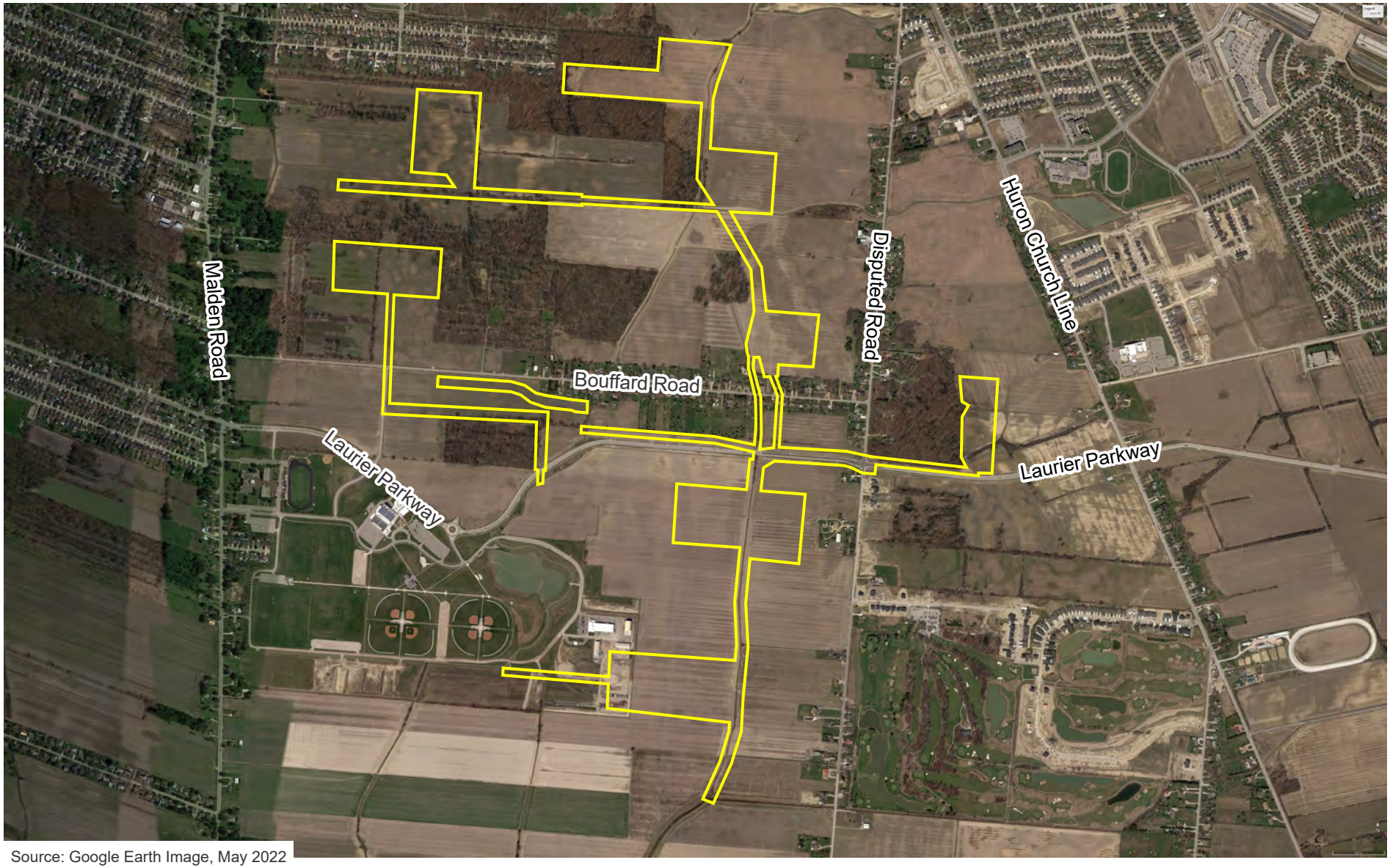
Designer:JM

KEY

Study Area, Alternatives 2 and 3 Combined

HOWARD/BOUFFARD DRAIN PROJECT, LaSalle, Essex County
Archaeological Stage 1: Background Study

Figure 1: Topographic Maps



Source: Google Earth Image, May 2022

FAC

Date: 17/06/23

Designer: JM

KEY

Study Area, Alternative 2 and 3 Combined

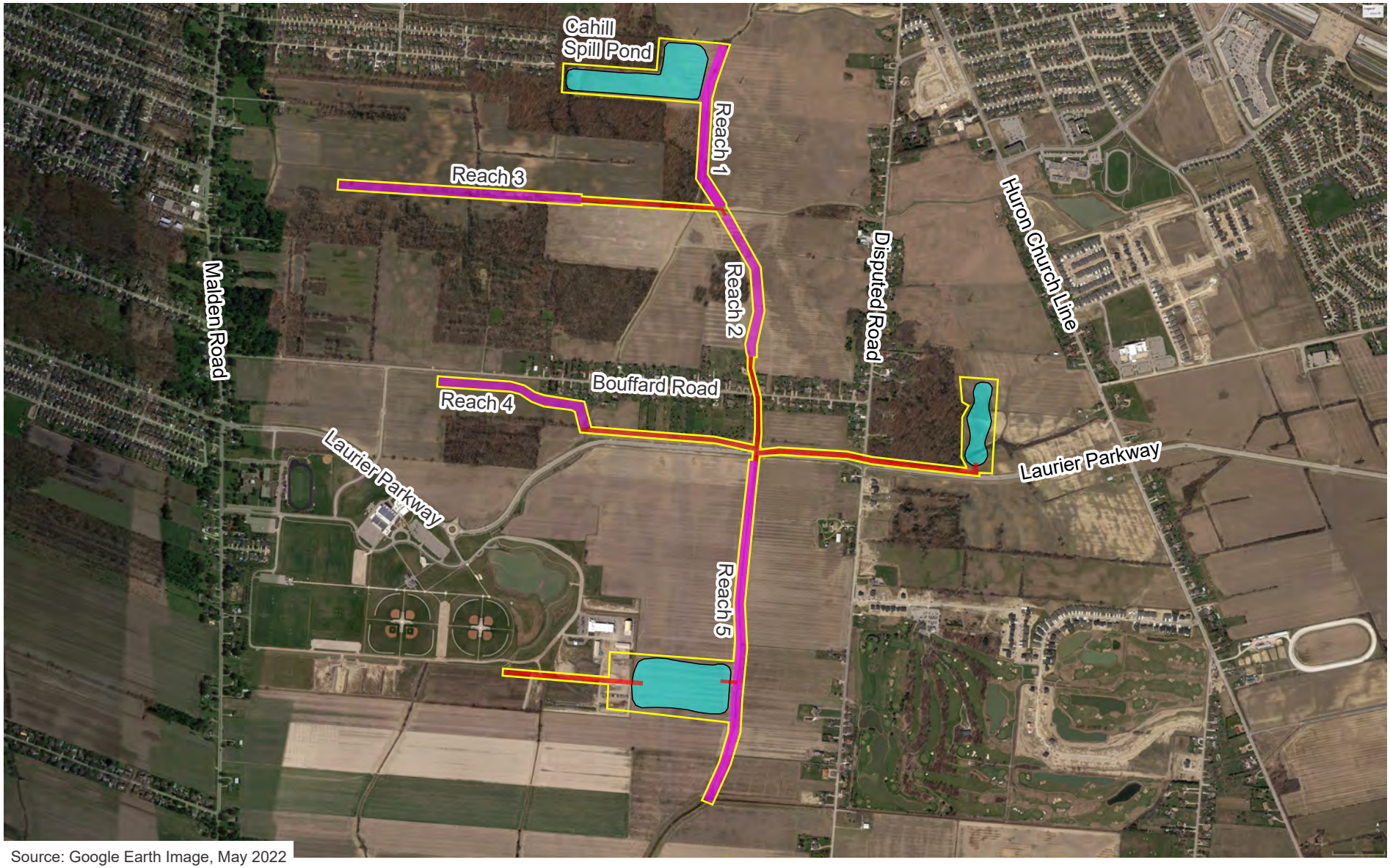
N

Scale

0 1 km

HOWARD/BOUFFARD DRAIN PROJECT,
Town of LaSalle, Essex County
Archaeological Stage 1: Background Study

Figure 2a: Aerial View of Study Area



Source: Google Earth Image, May 2022

FAC

Date: 22/03/23

Designer: JM

KEY

- Footprint of Alternative 2
- Open Reach
- Buried Pipe
- Stormwater Pond

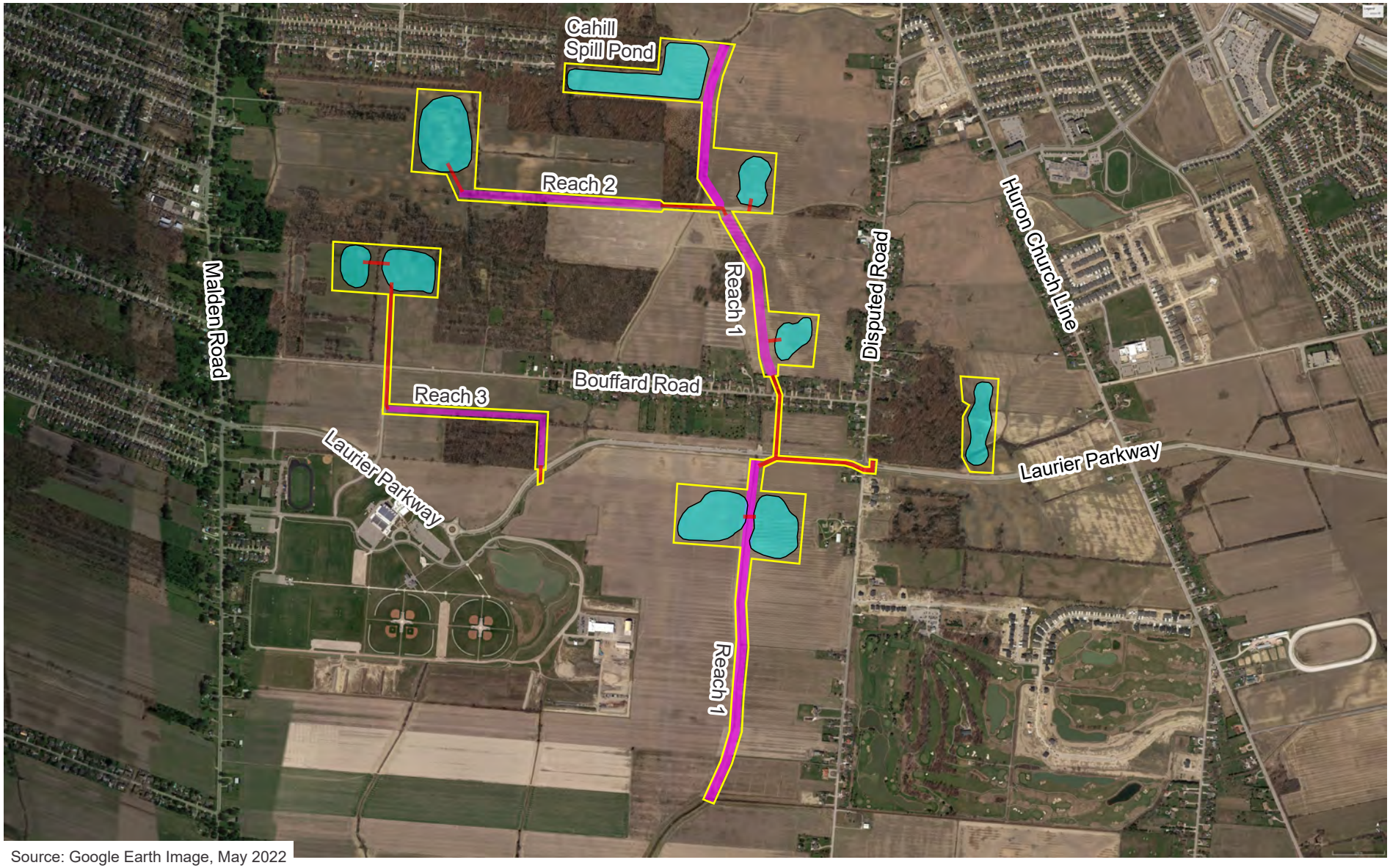
N

Scale

0 1 km

HOWARD/BOUFFARD DRAIN PROJECT,
Town of LaSalle, Essex County
Archaeological Stage 1: Background Study

Figure 2b: Aerial View of Alternative 2



Source: Google Earth Image, May 2022

FAC

Date: 17/06/23

Designer: JM

KEY

- Footprint of Alternative 3
- Open Reach
- Buried Pipe
- Stormwater Pond

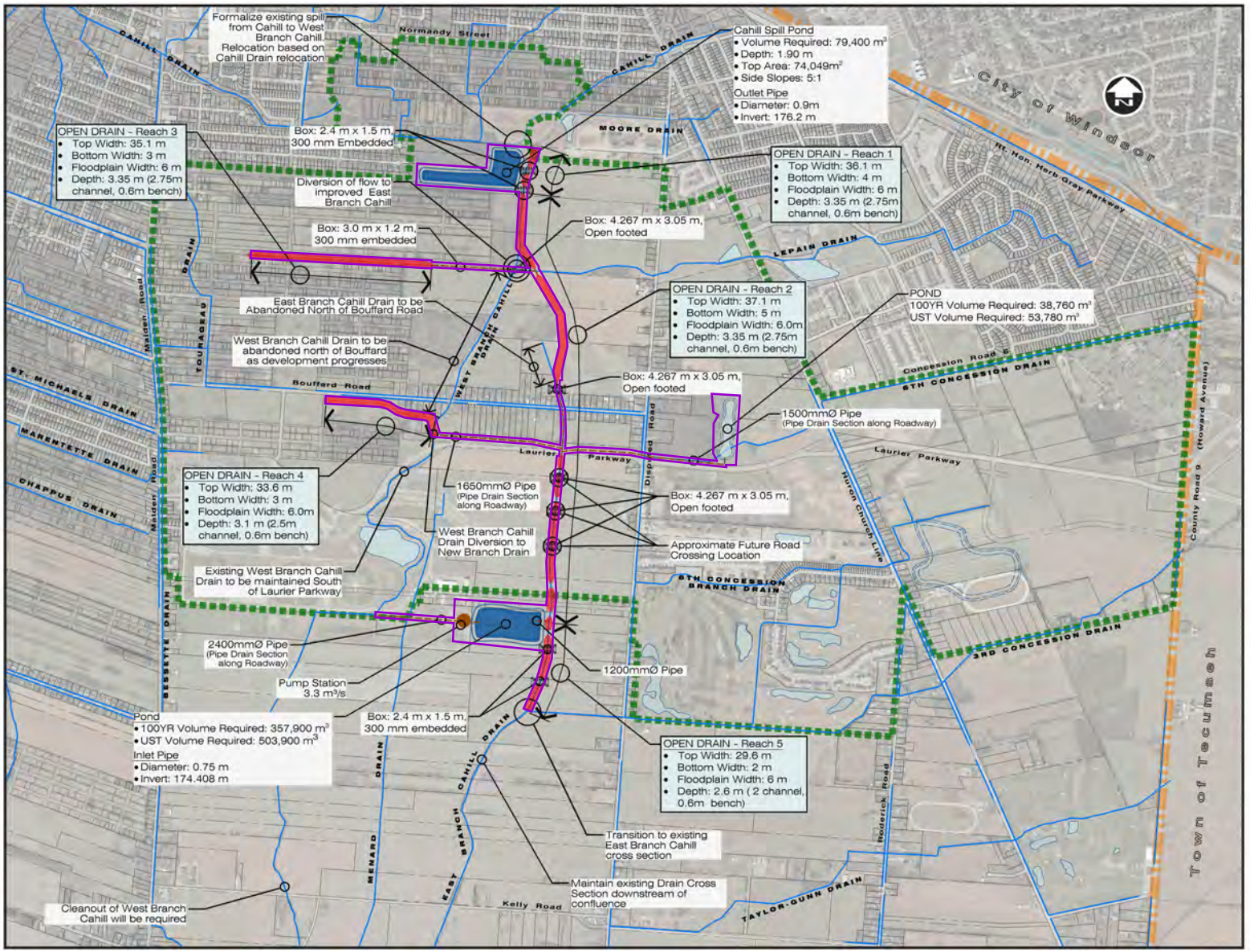
N

Scale

0 1 km

HOWARD/BOUFFARD DRAIN PROJECT,
Town of LaSalle, Essex County
Archaeological Stage 1: Background Study

Figure 2c: Aerial View of Alternative 3



HOWARD/BOUFFARD PLANNING AREA
Master Drainage Study

LEGEND
- MUNICIPAL BOUNDARY
- HOWARD/BOUFFARD STUDY AREA
- Pipe Drain Section
- Proposed Channel Alignment
- Potential Future Road/Bridge Location
- Pond Locations Identified in 2017 E.A. Addendum
- Proposed Pond Locations Newly Identified
- Existing Municipal Drains

NOTE:
Property is required along corridors to facilitate solution.

- Drain Crossing Locations Identifier
- CHANNEL DESCRIPTION IDENTIFIER

NOTE:
1. Drain alignments and extents to be refined through Detailed Design Process.
2. Number and locations of box culverts to be confirmed through Detailed Design.
3. Proportion of open and closed sections of each branch drain may be refined through Detailed Design.

DRAINS
3:1 Side Slopes (SS) Preferred.
4:1 Side Slopes (SS) may be required based on Geotechnical recommendations.

SCALE
0 0.2 0.5 1.0km

ALTERNATIVE 2

UPDATED REGIONAL SOLUTION

DATE: MARCH 2023
Dillon Proj.No. 18-8169-3000

DILLON CONSULTING
La Salle

FAC
Date: 22/03/23
Designer: JM

KEY
Footprint of Alternative 2

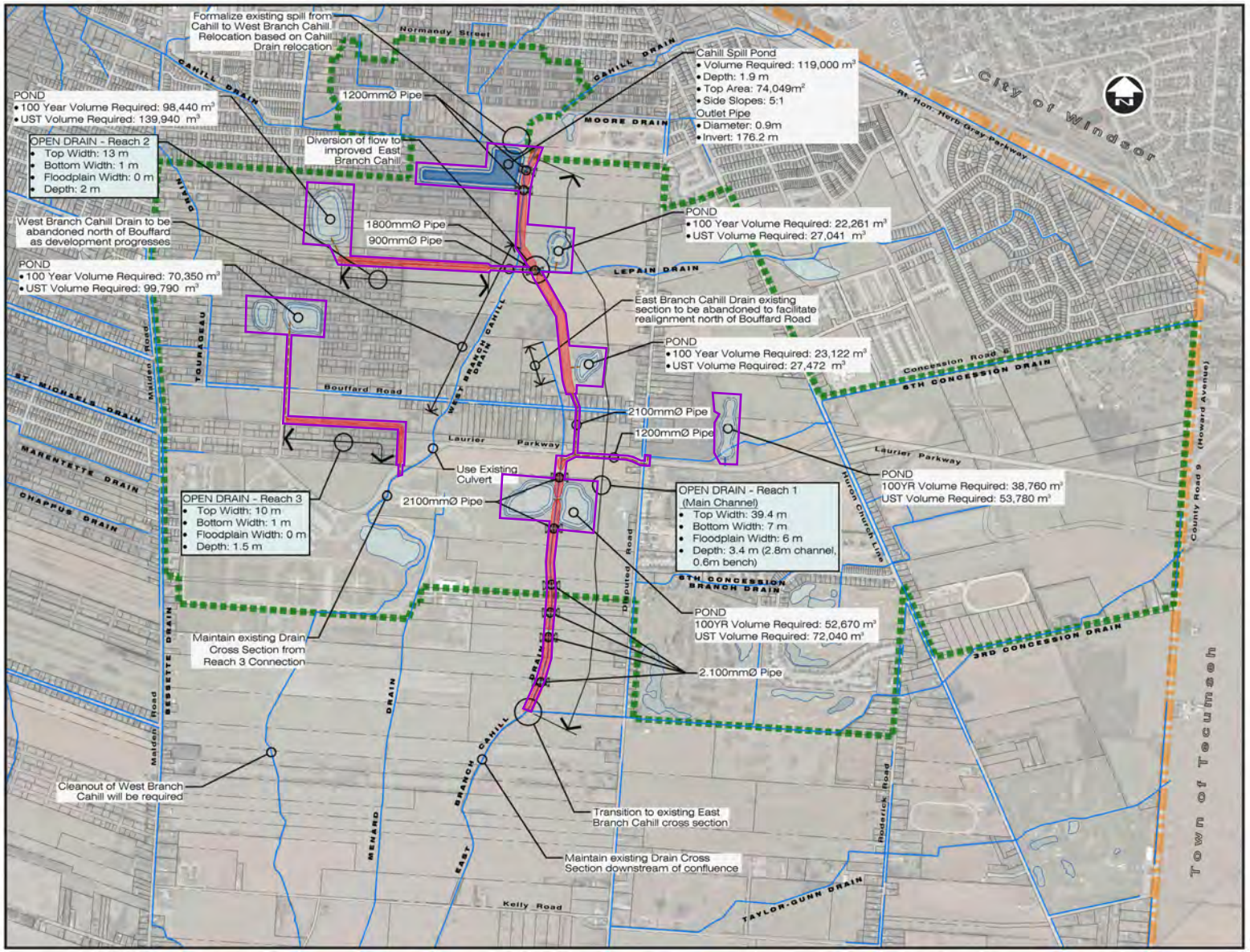
Map provided by proponent

N

Scale
0 1 km

HOWARD/BOUFFARD DRAIN PROJECT,
Town of LaSalle, Essex County
Archaeological Stage 1: Background Study

Figure 3a: Development Plan. Alternative 2



HOWARD/BOUFFARD PLANNING AREA
Master Drainage Study

LEGEND

- MUNICIPAL BOUNDARY
- HOWARD/BOUFFARD STUDY AREA
- Pipe Drain Section
- Proposed Channel Alignment
- Potential Future Road/Bridge Location
- Pond Locations Identified in 2017 E.A. Addendum
- Proposed Pond Locations Newly Identified
- Existing Municipal Drains

NOTE:
Property is required along corridors to facilitate solution.

- Drain Crossing Locations Identifier
- CHANNEL DESCRIPTION IDENTIFIER

NOTE:
1. Drain alignments and extents to be refined through Details Design Process.
2. Number and locations of box culverts to be confirmed through detailed design.
3. Proportion of open and closed sections of each branch drain may be refined through Detailed Design.

DRAINS

3:1 Side Slopes (SS) Preferred.

4:1 Side Slopes (SS) may be required based on Geotechnical recommendations.

SCALE 0 0.2 0.5 1.0km

ALTERNATIVE 3

UPDATED LOCAL SOLUTION

DATE: MARCH 2023
Dillon Proj.No. 18-8169-3000

MAY 30, 2023
Revisions made based on feedback from PIC#3

DILLON CONSULTING

LaSalle

FAC

Date:17/06/23

Designer: JM

KEY

Footprint of Alternative 3

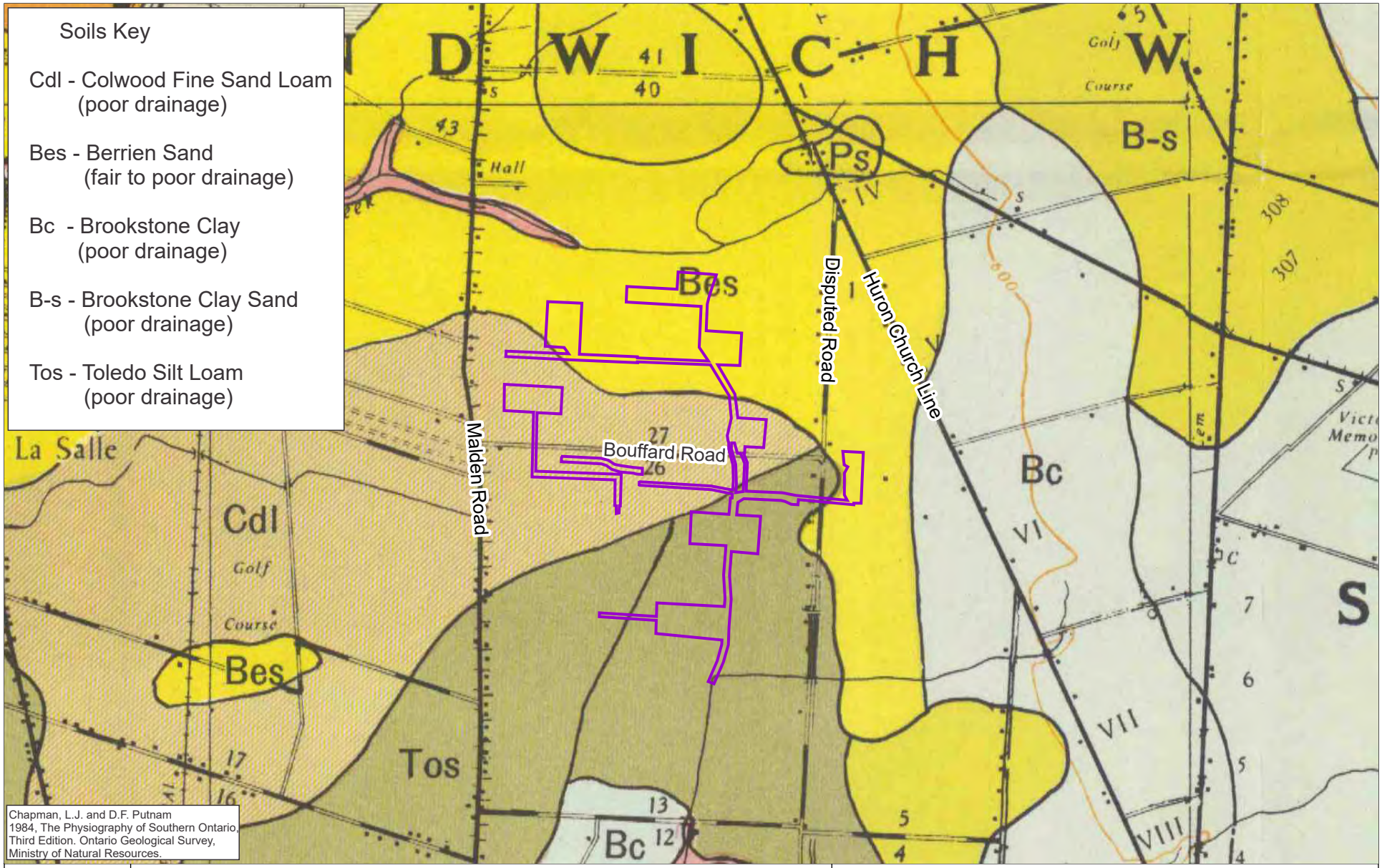
Map provided by proponent

N

Scale 0 1 km

HOWARD/BOUFFARD DRAIN PROJECT, Town of LaSalle, Essex County
Archaeological Stage 1: Background Study

Figure 3b: Development Plan. Alternative 3



FAC

Date: 17/06/23

Designer: JM

KEY

Study Area, Alternatives 2 and 3 Combined

N

Scale (Approx.)

0 1 km

HOWARD/BOUFFARD DRAIN PROJECT,
Town of LaSalle, Essex County
Archaeological Stage 1: Background Study

Figure 4: Soils Map

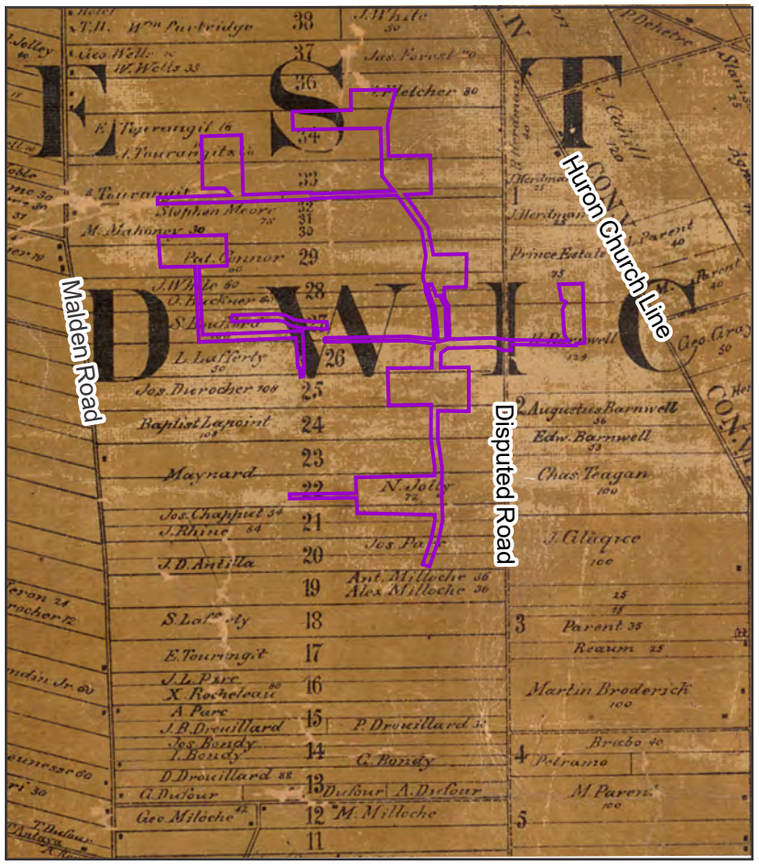


Fig. 5a: “Map of Essex County, Ontario,” H.F. Walling, Toronto (1877)

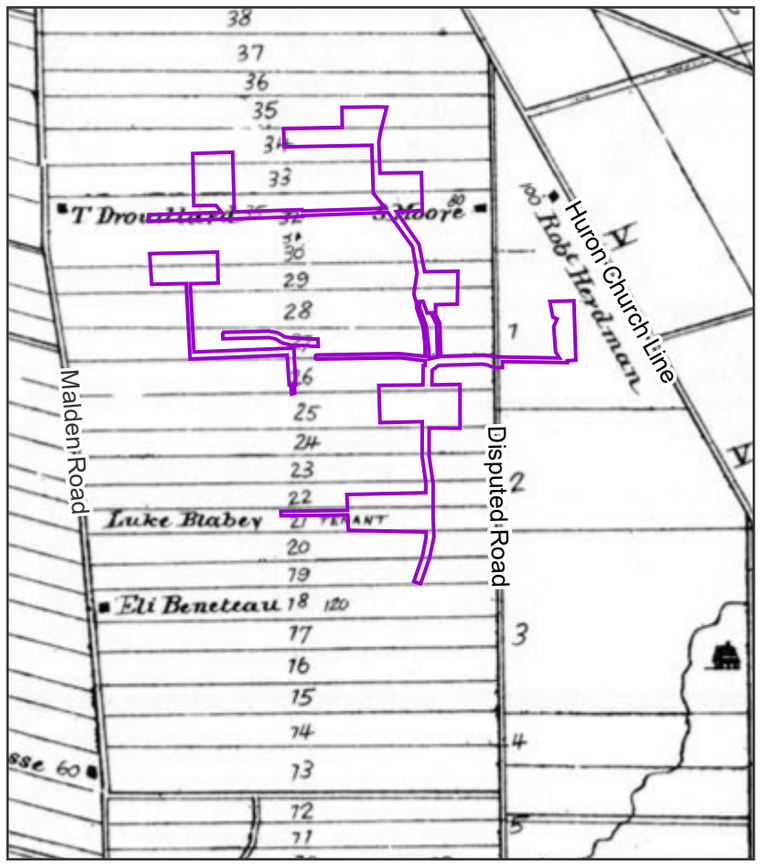


Fig. 5b: *Illustrated Historical Atlas of the Counties of Essex and Kent*, Belden & Co. (1881)

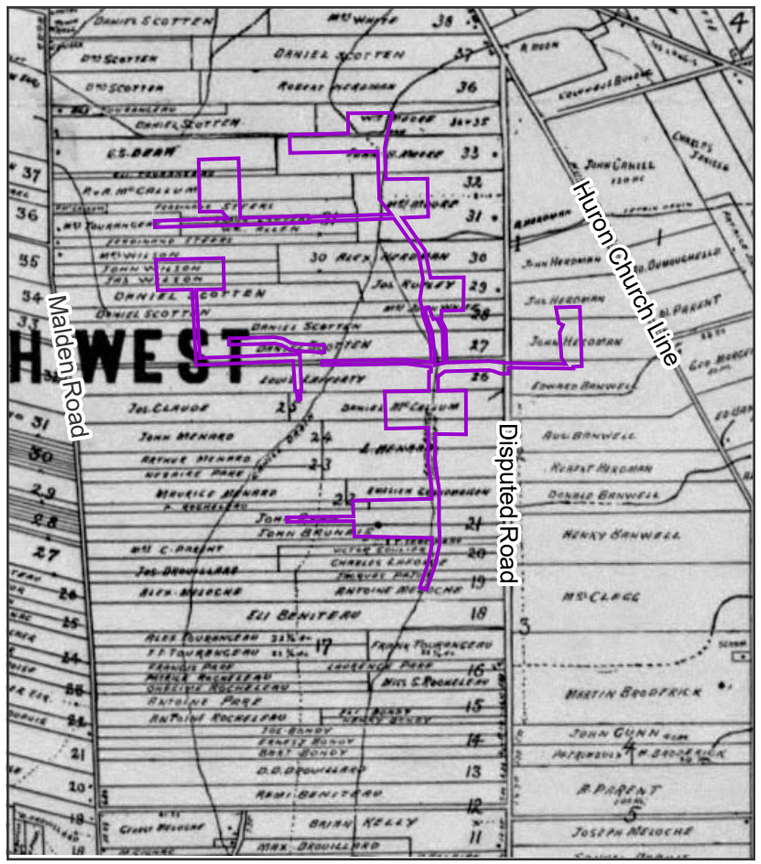


Fig. 5c: “Plan of the Townships of Sandwich-West, East, and South, the Towns of Walkerville, and Sandwich, and the City of Windsor,” G. McPhillips D.L.S. (1905)

FAC

Date: 17/06/23
Designer: JM

KEY

Study Area, Alternatives 2 and 3 Combined

N

Scale
0 2 km

HOWARD/BOUFFARD DRAIN PROJECT,
Town of LaSalle, Essex County
Archaeological Stage 1: Background Study

Figure 5: Historic Maps

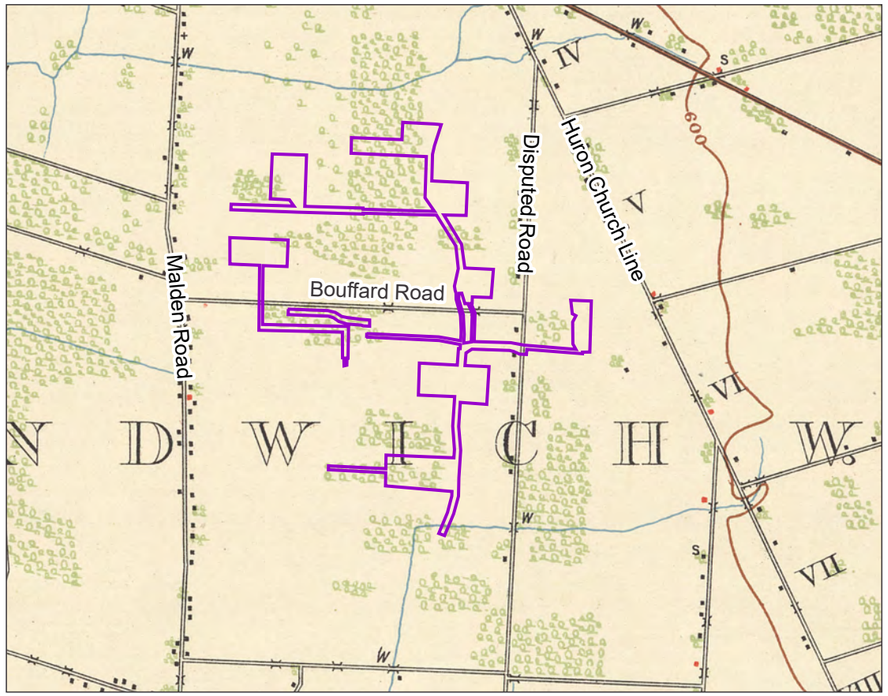


Figure 6a: NTS Map 40J3 Amherstburg, 1909, scale 1: 63,360

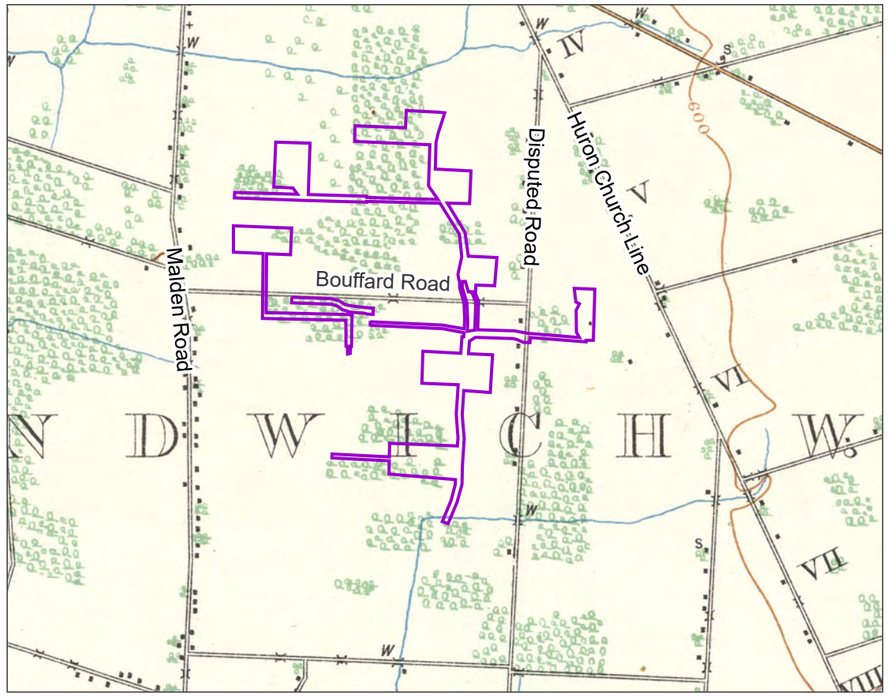


Figure 6b: NTS Map 40J3 Amherstburg, 1924, scale 1: 63,360

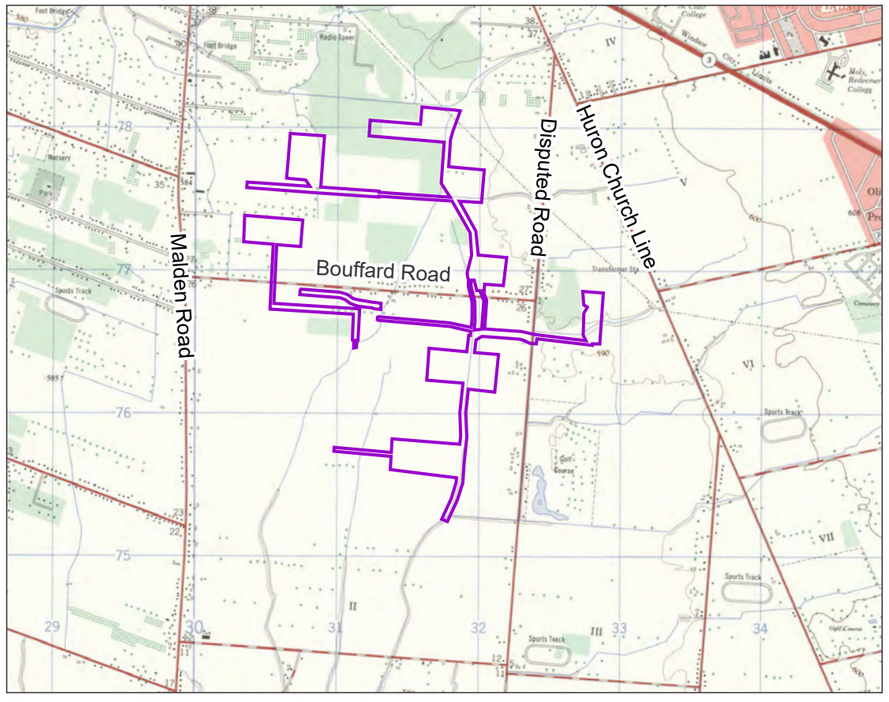


Figure 6c: NTS Map 40J3h River Canard, 1974, scale 1: 25,000

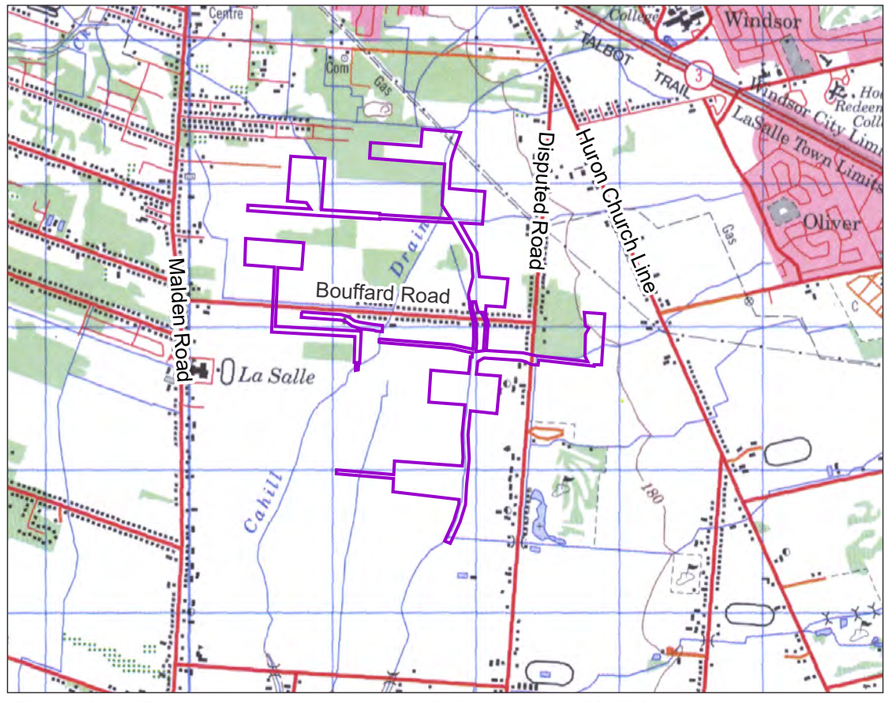


Figure 6d: NTS Map 40J3 Amherstburg, 2001, scale 1: 50,000

KEY

Study Area, Alternatives 2 and 3 Combined

FAC

Date: 17/06/23

Designer: JM

N

Scale

0 1 km

HOWARD/BOUFFARD DRAIN PROJECT,
LaSalle, Essex County
Archaeological Stage 1: Background Study

Figure 6: Superceded Topographic Maps

FAC

Date: 17/06/23

Designer: JM

KEY

Study Area, Alternatives 2 and 3 Combined

N

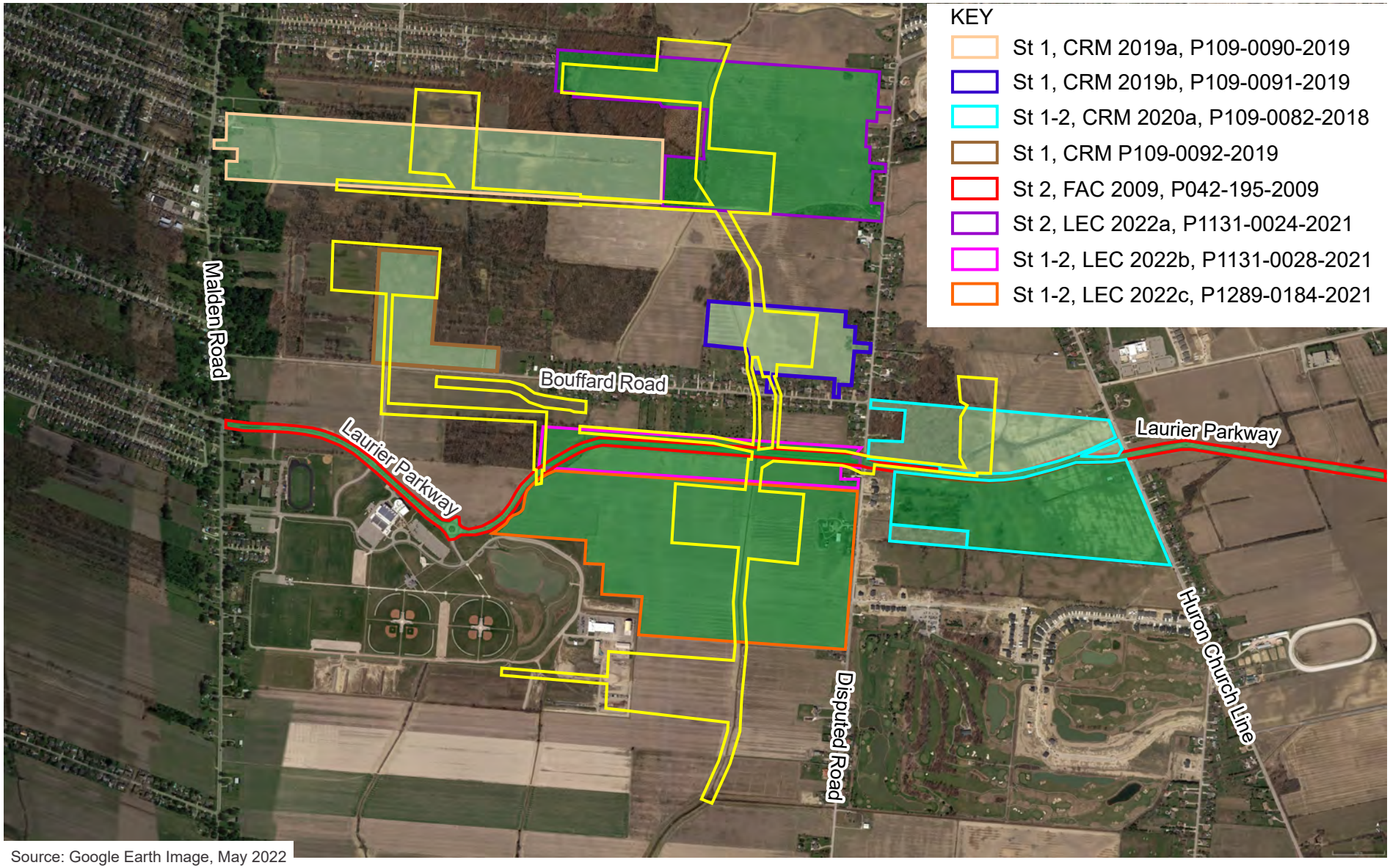
Scale

0 1 km

Source: McMaster Map Library

HOWARD/BOUFFARD DRAIN PROJECT,
Town of LaSalle, Essex County
Archaeological Stage 1: Background Study

Figure 7: 1954 Aerial Photo



Source: Google Earth Image, May 2022

FAC

Date: 22/03/23

Designer: JM

KEY

- Study Area, Alternatives 2 and 3 Combined
- Stage 1 Completed, Stage 2 Recommended
- Stage 2 Completed, Nothing Found, No Further Archaeological Work Recommended

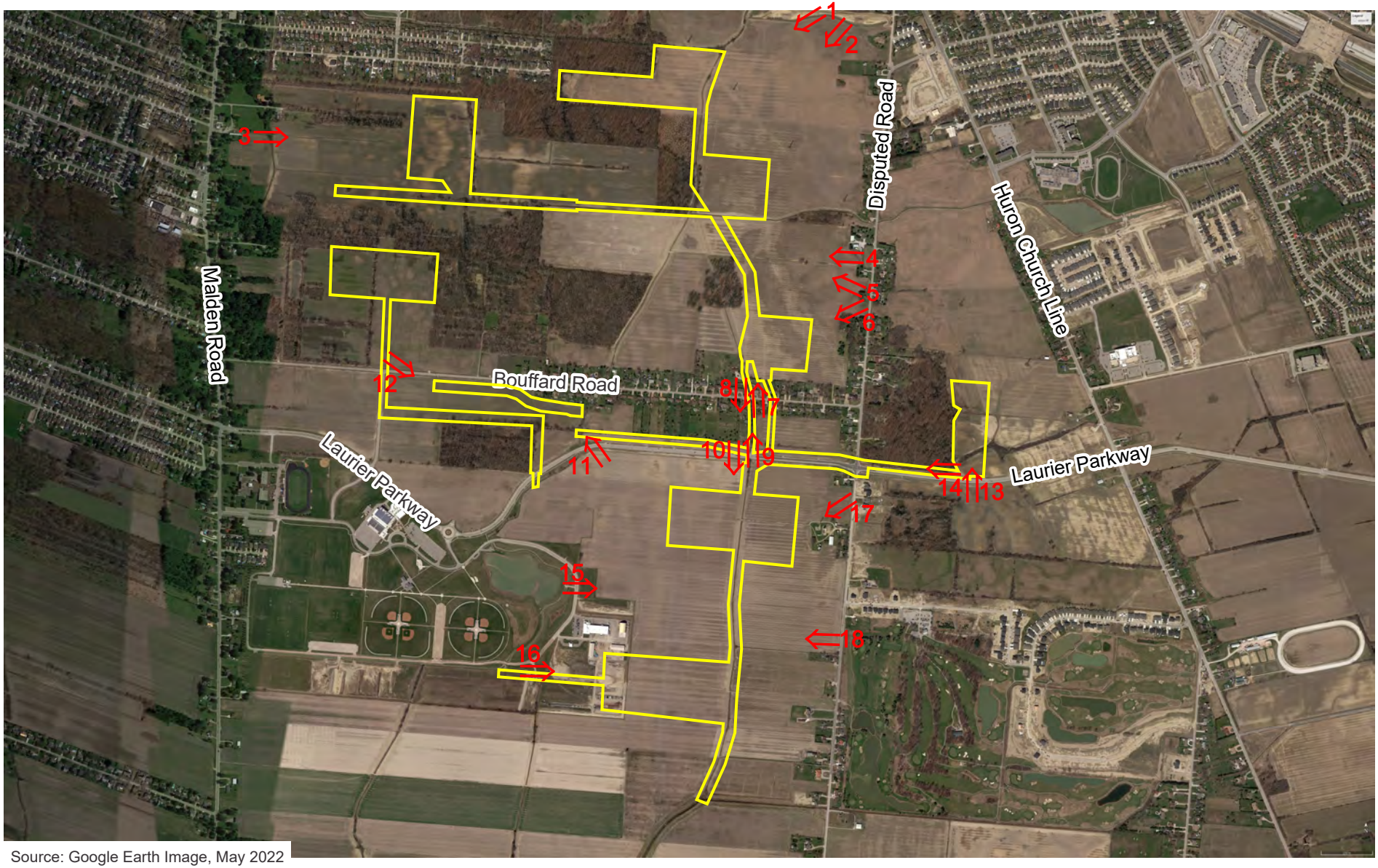
N

Scale

0 1 km

HOWARD/BOUFFARD DRAIN PROJECT,
Town of LaSalle, Essex County
Archaeological Stage 1: Background Study

Figure 8: Previous Archaeological Studies within the Study Area



Source: Google Earth Image, May 2022

FAC

Date: 22/03/23

Designer: JM

KEY

Study Area, Alternatives 2 and 3 Combined

1 ⇒ Photo arrow

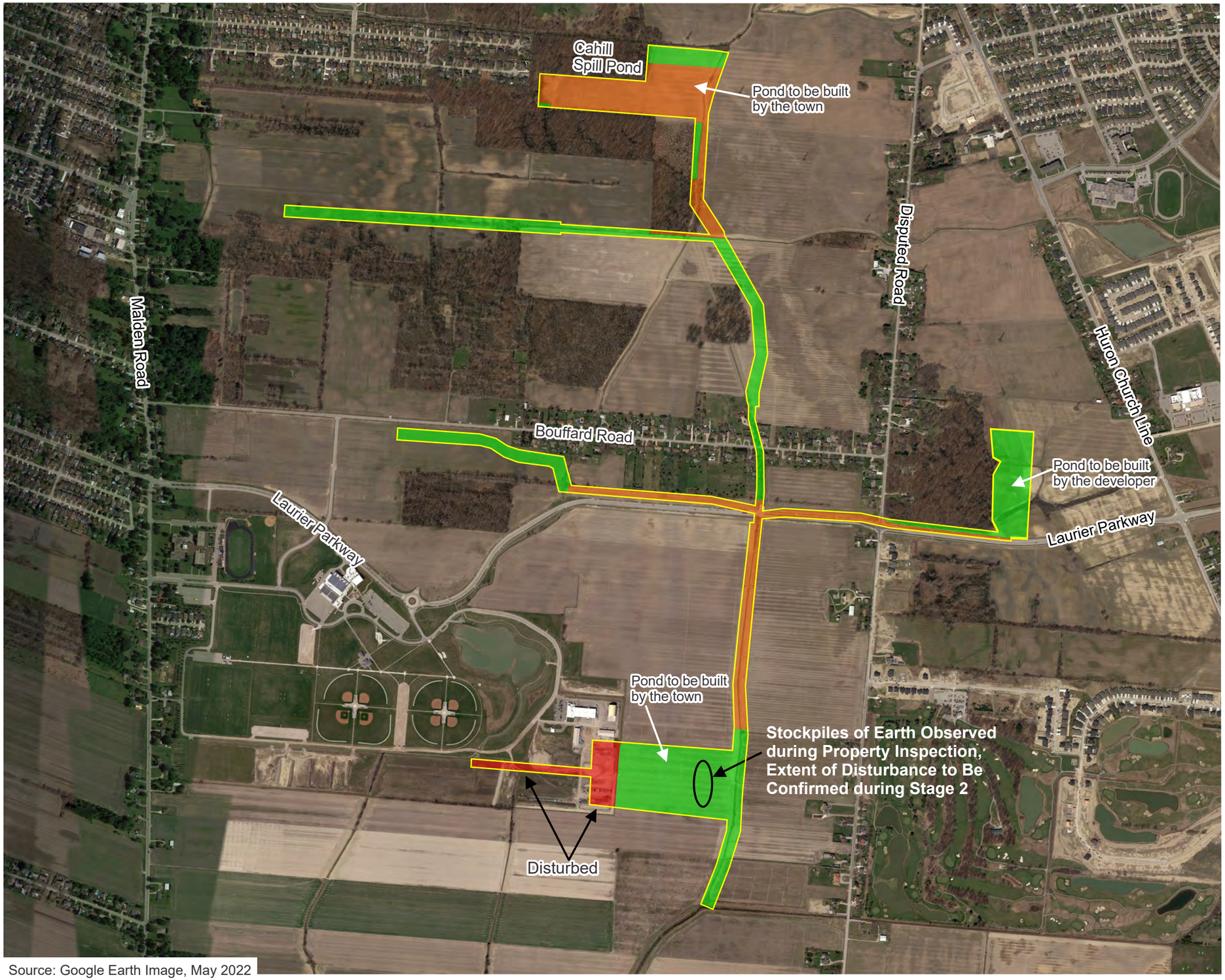
N

Scale

0 1 km

HOWARD/BOUFFARD DRAIN PROJECT,
Town of LaSalle, Essex County
Archaeological Stage 1: Background Study

Figure 9: Locations of Photo Plates



Source: Google Earth Image, May 2022

KEY

- Footprint of Alternative 2
  Note: One pond will be built by the developer (indicated), the remainder of the solution will be built by the town
- Disturbed by Modern Activities, No Further Archaeological Work Recommended
- Previously Subjected to Stage 2: Assessment, Nothing Found, No Further Archaeological Work Recommended
- Stage 2: Assessment Recommended by Pedestrian Survey where Ploughing Is Feasible, by Shovel Testing at 5 m Intervals where Ploughing Is Not Feasible

FAC

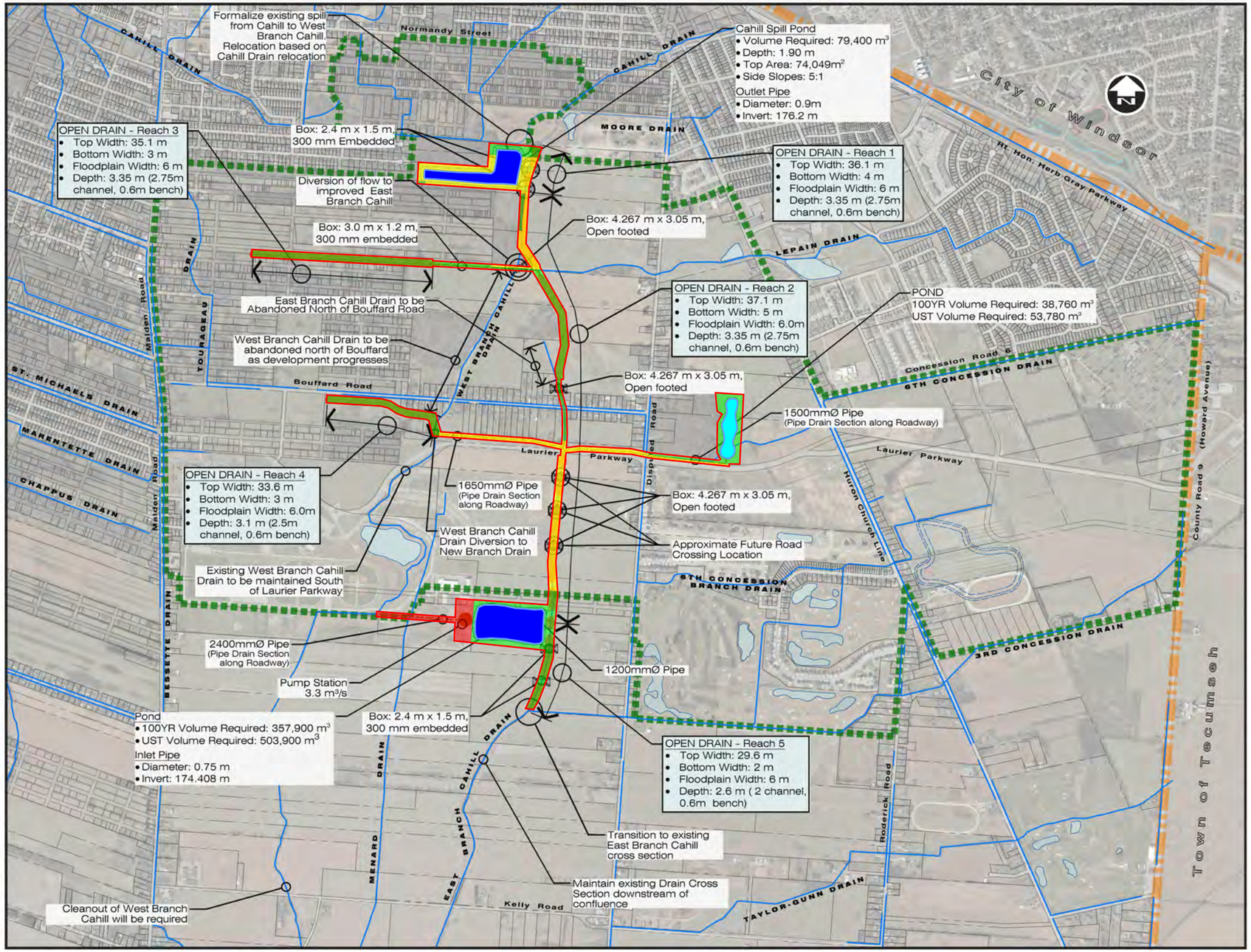
Date: 18/06/23
Designer: JM

N

Scale
0 500 m

HOWARD/BOUFFARD DRAIN PROJECT,
LaSalle, Essex County
Archaeological Stage 1: Background Study

Figure 10: Recommendations from Stage 1, Alternative 2



HOWARD/BOUFFARD PLANNING AREA

Master Drainage Study

LEGEND

- MUNICIPAL BOUNDARY
- HOWARD/BOUFFARD STUDY AREA
- Pipe Drain Section
- Proposed Channel Alignment
- Potential Future Road/Bridge Location
- Pond Locations Identified in 2017 E.A. Addendum
- Proposed Pond Locations Newly Identified
- Existing Municipal Drains

NOTE:
Property is required along corridors to facilitate solution.

- Drain Crossing Locations Identifier
- CHANNEL DESCRIPTION IDENTIFIER

NOTE:
1. Drain alignments and extents to be refined through Detailed Design Process.
2. Number and locations of box culverts to be confirmed through Detailed Design.
3. Proportion of open and closed sections of each branch drain may be refined through Detailed Design.

DRAINS

3:1 Side Slopes (SS) Preferred.

4:1 Side Slopes (SS) may be required based on Geotechnical recommendations.

SCALE
0 0.2 0.5 1.0km

ALTERNATIVE 2

UPDATED REGIONAL SOLUTION

DATE: MARCH 2023
Dillon Proj.No. 18-8169-3000

DILLON CONSULTING

LaSalle

FAC

Date: 18/06/23

Designer: JM

KEY

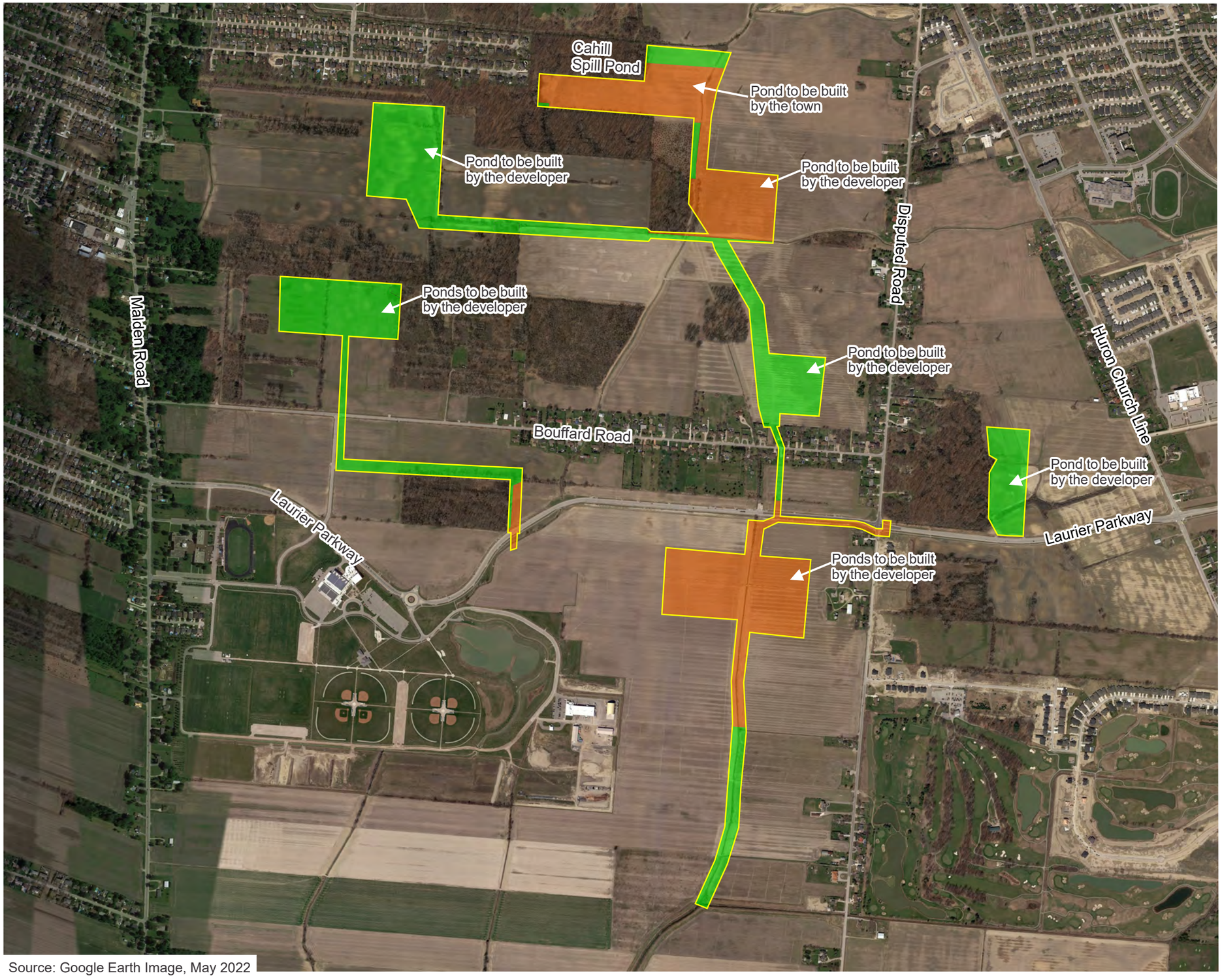
- Footprint of Alternative 2
- Pond to Be Built by Town
- Pond to Be Built by Developer
- Previously Subjected to Stage 2: Assessment, Nothing Found, No Further Archaeological Work Recommended
- Stage 2: Assessment Recommended by Pedestrian Survey where Ploughing Is Feasible, by Shovel Testing at 5 m Intervals where Ploughing Is Not Feasible
- Disturbed by Modern Activities, No Further Archaeological Work Recommended

N

Scale
0 1 km

HOWARD/BOUFFARD DRAIN PROJECT,
LaSalle, Essex County
Archaeological Stage 1: Background Study

Figure 11: Recommendations from Stage 1, Alternative 2 Development Plan



Source: Google Earth Image, May 2022

KEY

Footprint of Alternative 3
Note: All ponds except for Cahill Spill Pond will be built by the developers (indicated), the remainder of the solution will be built by the town

Previously Subjected to Stage 2: Assessment, Nothing Found, No Further Archaeological Work Recommended

Stage 2: Assessment Recommended by Pedestrian Survey where Ploughing Is Feasible, by Shovel Testing at 5 m Intervals where Ploughing Is Not Feasible

FAC

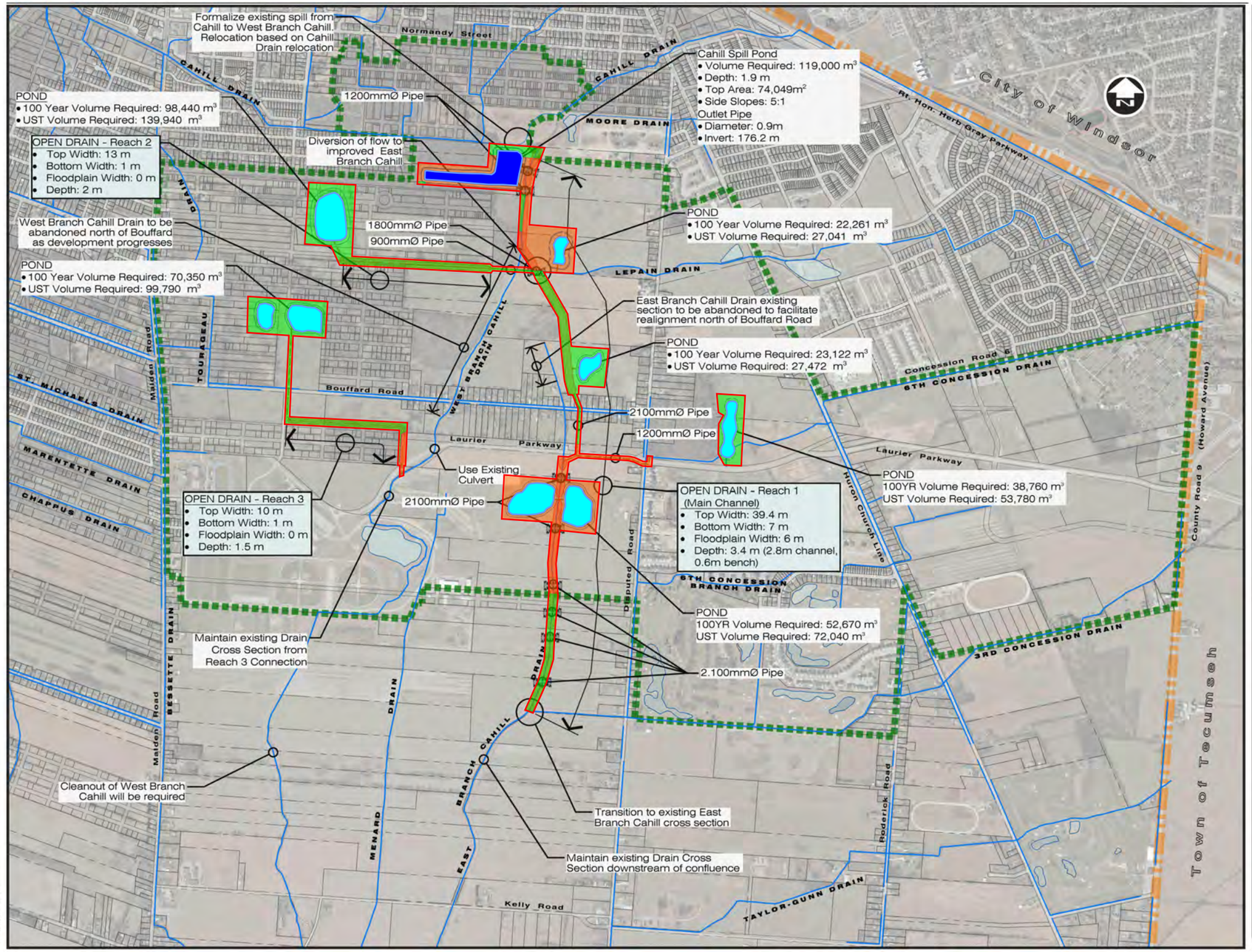
Date: 18/06/23
Designer: JM

N

Scale
0 500 m

HOWARD/BOUFFARD DRAIN PROJECT,
LaSalle, Essex County
Archaeological Stage 1: Background Study

Figure 12: Recommendations from Stage 1, Alternative 3



HOWARD/BOUFFARD PLANNING AREA

Master Drainage Study

LEGEND

- MUNICIPAL BOUNDARY
- HOWARD/BOUFFARD STUDY AREA
- Pipe Drain Section
- Proposed Channel Alignment
- Potential Future Road/Bridge Location
- Pond Locations Identified in 2017 E.A. Addendum
- Proposed Pond Locations Newly Identified
- Existing Municipal Drains

NOTE:
Property is required along corridors to facilitate solution.

- Drain Crossing Locations Identifier
- CHANNEL DESCRIPTION IDENTIFIER

NOTE:
1. Drain alignments and extents to be refined through Details Design Process.
2. Number and locations of box culverts to be confirmed through detailed design.
3. Proportion of open and closed sections of each branch drain may be refined through Detailed Design.

DRAINS

3:1 Side Slopes (SS) Preferred.

4:1 Side Slopes (SS) may be required based on Geotechnical recommendations.

SCALE
0 0.2 0.5 1.0km

ALTERNATIVE 3

UPDATED LOCAL SOLUTION

DATE: MARCH 2023
Dillon Proj.No. 18-8169-3000

MAY 30, 2023
Revisions made based on feedback from PIC#3

DILLON CONSULTING

LaSalle

FAC

Date: 18/06/23

Designer: JM

KEY

- Footprint of Alternative 3
- Pond to Be Built by Town
- Pond to Be Built by Developer
- Previously Subjected to Stage 2: Assessment, Nothing Found, No Further Archaeological Work Recommended
- Stage 2: Assessment Recommended by Pedestrian Survey where Ploughing Is Feasible, by Shovel Testing at 5 m Intervals where Ploughing Is Not Feasible

N

Scale
0 1 km

HOWARD/BOUFFARD DRAIN PROJECT,
LaSalle, Essex County
Archaeological Stage 1: Background Study

Figure 13: Recommendations from Stage 1, Alternative 3 Development Plan

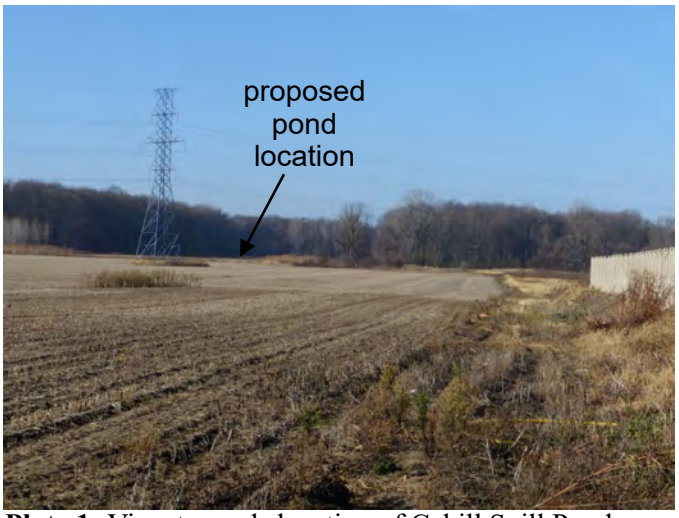


Plate 1: View towards location of Cahill Spill Pond; facing SW (Photo 186).

Plate 2: View towards the northern part of the Study Area in background; facing SW (Photo 179).

Plate 3: View towards the northwestern portion of the Study Area, location of a pond from Alternative 3; facing E (Photo 703).

Plate 4: View from Disputed Road towards the Study Area in the background; facing W (Photo 194).

Plate 5: View from Disputed Road towards the Study Area in the background; facing NW (Photo 179).

Plate 6: View from Disputed Road towards the Study Area in the background, facing W (Photo 180).

Plate 7: View north from Bouffard Road, the Alternative 2 Study Area runs between the driveway on the left and the house on the right; facing N (Photo 174).

Plate 8: View south from Bouffard Road, the Alternative 2 Study Area runs between the driveway on the left and the house on the right; facing S (Photo 176).

Plate 9: View north from Laurier Parkway, a pumping station is to the right; facing N (Photo 197).

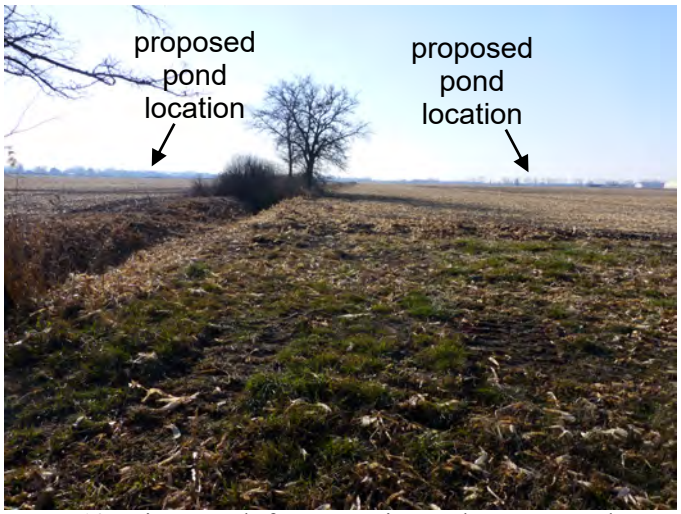


Plate 10: View south from Laurier Parkway towards the location of twin ponds in Alternative 3; facing S (Photo 208).

Plate 11: View from Laurier Parkway; facing NW (Photo 209).

Plate 12: View of western portion of the Study Area, facing SE (Photo 171).

Plate 13: View of eastern pond location, north of Laurier Parkway; facing N (Photo 653).

Plate 14: View of the north side of Laurier Parkway; facing W (Photo 661).

Plate 15: View towards the southern part of the Study Area in background, north of the LaSalle works yard; facing E (Photo 224).

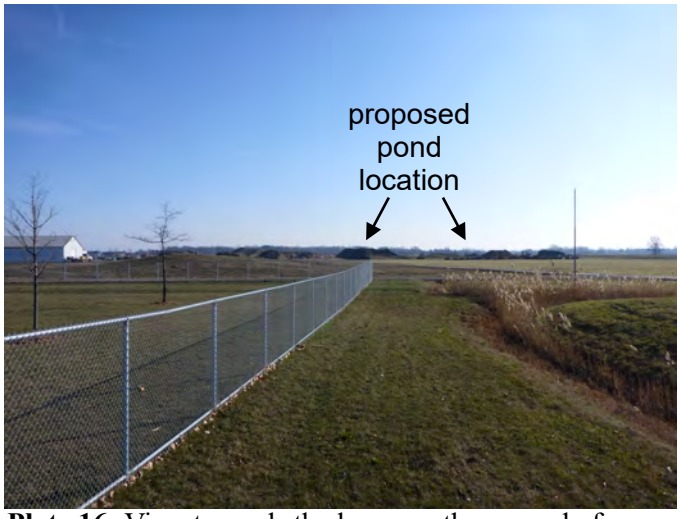


Plate 16: View towards the large southern pond of Alternative 2. Modern disturbance in foreground. Note the large stockpiles of soil near the location of the pond; facing E (Photo 218).

Plate 17: View towards the southern part of the Study Area from Disputed Road; facing SW (Photo 237).

Plate 18: View towards the large southern pond of Alternative 2. Note the large stockpiles of soil near the location of the pond, facing W (Photo 245).